

Capital Area Transportation Authority

**East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing
East Lansing, Michigan**

**PROJECT MANUAL
CATA Invitation to Bid (ITB) # 2013-107
DLZ Project No. 1341.6517.70**



**Bid Set Dated
May 30, 2013**

Prepared By:
DLZ MICHIGAN, INC.
1425 Keystone Ave
Lansing, MI 48911
(517) 393-6800 FAX (517) 272-7390

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SECTION 001113 – INVITATION FOR BID (IFB)

Notice is hereby given that sealed bids will be received:

BY THE OWNER: Capital Area Transportation Authority (CATA)
4615 Tranter Street
Lansing, Michigan 48910

FOR: East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing
1240 South Harrison Road
East Lansing, Michigan 48823

AT: Capital Area Transportation Authority (CATA)
Attn: Purchasing
4615 Tranter Street
Lansing, Michigan 48910

UNTIL: **Wednesday, June 26, 2013 at 10:30 AM**, Eastern Standard Time
Bids received after that time will be returned unopened.

BID OPENING: The sealed Bids will be publicly opened on Wednesday, June 26, 2013 at 10:30 AM, at the Capital Area Transportation Authority (CATA).

WORK SUMMARY: The phased demolition of four buildings, removal of site utilities and surface improvements, and the construction of temporary parking, driveways, utility yard, and building pad on the site of the multi-modal transit center. The transit center/temporary transit center shall remain in full-operation throughout demolition/improvements. Access shall be maintained for all public, private and fleet vehicles throughout construction.

All work for the complete demolition/construction of the project will under a single prime contractor through a firm fixed price contract with the Owner based on bids received and awarded. CATA's *Construction Standard Terms and Conditions of Procurement* shall apply to this contract.

The Owner reserves the right to accept or reject any bid and to waive any irregularities in bidding. No bidder may withdraw his bid for a period of one hundred eighty (180) calendar days after the date set for bid opening.

Construction/demolition shall be in full accordance with the Bidding and Contract Documents, which can be viewed online at www.cata.org and are on file with the Architect and may be examined by prospective bidders at the following location:

OFFICE OF THE ARCHITECT: DLZ Michigan, Inc.
1425 Keystone Avenue
Lansing, Michigan 48911
Contact: Eric T. Beaulieu, AIA
Email: ebeaulieu@dlz.com

Bid Documents (Plans and Specifications) are available on a non-refundable basis for the actual cost of reproduction (\$65.00 per set). The Bid Documents are available from Commercial Blueprint, 3125 Pinetree Road, Lansing, Michigan 48911; phone, (517) 372-8360; www.commbblue.com. Purchase of the Bid Documents is to be done directly with the printer. The bidder shall obtain and utilize the full set of Bid Documents since these documents were developed as a system and individual plans or specifications may not be all inclusive of the bid scope or requirements. Only full sets will be distributed.

Wage Rates shall be not less than the prevailing wage rates as determined by the Secretary of Labor, also known as ***Davis-Bacon Act Rates***. Refer to the wage scale included in the Project Manual.

Disadvantaged Business Enterprises (DBE) and Small Business Enterprises (SBE) are encouraged to bid on this project. Any applicable DBE firm's certifications must be included in the proposal. Cost Proposals must list the amount and activity of the service provided by the DBE firm, as applicable. Information on becoming certified as a Disadvantaged Business Enterprise is available from Michigan Department of Transportation (MDOT) at the following website address: <http://mdotjboss.state.mi.us/UCP/>

Bid security in the amount of five percent (5%) of the bid must accompany each bid in accordance with the Instructions to Bidders. Bid security shall be a certified check or bid bond. All bid bonds shall be made payable to the Capital Area Transportation Authority.

The successful bidders will be required to furnish Contract Performance and Payment Bonds for 100% of their contract amount prior to execution of contracts. Bonds shall be maintained in accordance with Michigan Law. Bonds shall be in full force and effect for a period of at least 12 months after the Date of Substantial Completion of the Contract. Should the contractor's bonding company give notice of cancellation; the contractor will be responsible for securing new bonds prior to termination.

Bid proposals shall be properly and completely executed on the bid form provided in Section 00 41 13, Bid Form and shall include all referenced supplemental forms and certifications. Six original copies of the bids shall be submitted.

A **Pre-Bid Meeting** will be held on **Monday, June 10, 2013 at 12:00 PM** Eastern Standard Time at Room 102 of the Angell Building on the campus of Michigan State University, 166 Service Road, East Lansing, Michigan 48823. The meeting will be immediately followed by a tour of the project site. Representatives of the Owner and Architect will be present to discuss the project, bidding requirements and information, and project sequencing requirements. All prospective bidders are strongly encouraged to attend.

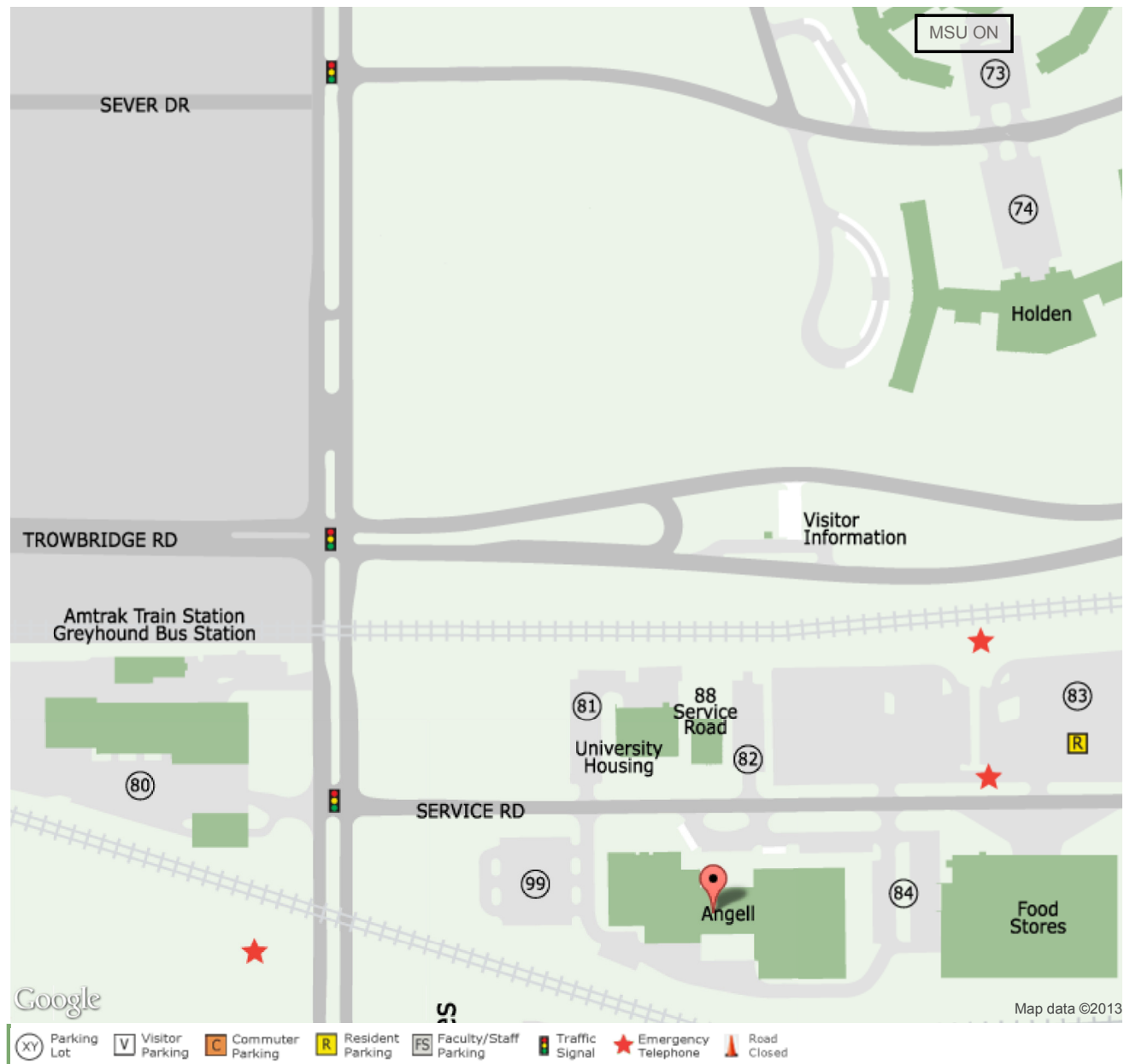
Recommended parking for the Pre-Bid Meeting:

Lot 80:

This is the lot that surrounds the existing Amtrak train station, intercity bus station, and other buildings located at 1240 S Harrison Rd, East Lansing, MI 48823. Please park only in marked parking spaces located at the edges of the designated parking area to allow buses a clear pathway to enter, exit, and circulate the facilities.

Please **do not** park in the access drive to the Angell Building or in Lots 81, 82, 84, or 99. Doing so may result in a ticket from MSU Parking Services.

END OF SECTION 001113



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SECTION 00 21 13 - INSTRUCTIONS TO BIDDERS

A. Identification

As used in these specifications, the words Owner, Architect, Contractor, and Project shall mean the following:

OWNER: Capital Area Transportation Authority (CATA)
4615 Tranter Street
Lansing, Michigan 48910

ARCHITECT: DLZ Michigan, Inc.
1425 Keystone Avenue
Lansing, Michigan 48911
ATTN: Eric T. Beaulieu, AIA

CONTRACTOR: Bidding Contractor for Contract (Bidder) along with their Sub-contractors and Suppliers.

PROJECT: East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing
1240 South Harrison Road
East Lansing, Michigan 48823

B. Definitions and Communications

1. All definitions set forth in *AIA A201-2007 General Conditions of the Contract for Construction* and CATA's *Construction Standard Terms and Conditions of Procurement* are applicable to these Instructions to Bidders. If there are discrepancies in the terms and conditions, then CATA's standard terms and conditions shall govern. Refer to Section 007213 for additional information.
2. All communications for the administration of the contract shall be as set forth in the General Conditions and, in general, shall be through the Architect.
 - a. The Architect shall designate a single point of contact for this project:
Eric T. Beaulieu, AIA, Project Manager, ebeaulieu@dlz.com

C. Bidding Documents

1. The bidding documents are the bidding and contract requirements, the specifications, the drawings, and any addenda issued prior to receipt of bids.
2. Documents are on file and may be examined or obtained for bidding purposes as stated in the Invitation for Bid (IFB).

D. Addenda during Bidding

1. Written addenda shall be issued to plan holders of record, as maintained by Commercial Blueprint, 3125 Pinetree Road, Lansing, Michigan 48911; phone, (517) 372-8360; www.commbblue.com, for Contractors that have purchased a set of Contract Documents. Addenda shall also be posted on the CATA website, www.cata.org.
2. All addenda issued prior to the time and date set for termination of bidding shall become a part of the bidding documents and bidders shall list by number and date on the form of proposal, all addenda which have been received by him prior to submittal of his bid. The lump sum proposal amount shall include all work described by all such addenda. It shall be the bidder's responsibility to determine that he has received all addenda; no extra costs will be allowed by failure of the bidder to do so.
3. Contractors must submit written Requests for Information (RFI) and clarifications to the Architect no later than on Monday, June 19, 2013 at 12:00 PM Eastern Standard Time. RFI's must be submitted via email to DLZ, Attn: Eric Beaulieu, at ebeaulieu@dlz.com
4. All information, clarifications and interpretations will be made by a written addendum, if appropriate.
5. No oral, telephonic, fax, or email instructions or information shall be binding on the Owner, Architect, or bidder unless confirmed by an addendum.

F. Bidder's Representation

1. The bidder has carefully examined the documents and is informed of the limitations and conditions of the summary of work as presented in Section 01 10 00 and shall include in their bid a sum to cover the cost of such items. The Bidder shall report to the Architect, any errors, inconsistencies, or ambiguities discovered.
2. The bidder has carefully examined all documents, including documents outside specific trade of work and acknowledges coordination of specific work to create a complete functional and generational system.
3. The Bidder shall visit the site of the Work and thoroughly inform himself as to the actual conditions and requirements of the Work, including risks, means of access, restrictions, regulations, labor and materials required, and all other conditions and factors, local and otherwise, which affect the prosecution and completion of the Work and the cost thereof, including the availability and cost of labor, availability of material, and available facilities for transportation, and handling and storage of materials and equipment. It must be understood and agreed that all such factors have been properly investigated and considered in the preparation of the Bid submitted, as there will be no subsequent financial adjustment to the Contract awarded hereunder, which is based on the lack of such prior information or its effect on the cost of the Work.

4. The Bidder shall also thoroughly examine and be familiar with the Project and by such other means as he prefers to determine exact nature and scope of the work and requirements of the Owner.
5. Bidders are directed to "Specific Provisions" of this Project Document for requirements relative to the Contract, which may affect the cost of the work.
6. Each bidder by making his bid represents that he has visited the site and familiarized himself with the local conditions under which the work is to be performed.
 - a. No additional costs of any type will be allowed by the failure of the bidder to avail himself of the privilege of a complete and thorough on site inspection.
8. In addition to the specific references made in these bidding requirements and instructions, the bidder(s) shall be bound by the provisions of the executed contracts, the conditions of contract, the drawings, the specifications, and all addenda issued prior to and all modifications made after, execution of the contract. Subcontractors shall be bound by all of the obligations of the Contractor(s). Wherever in the specifications the Contractor is obligated to the Owner, the Contractor's subcontractor(s) and supplier(s) shall be obligated to the Contractor and the Owner in a like manner.

G. Bid Security

1. Provide bid security in the form of a Bid Bond AIA Document A310 or bonding company comparable form, or a certified check for five percent (5%) of bid; including all additive alternates, **made payable to Capital Area Transportation Authority**.
 - a. Certified checks provided with bid securities of all unsuccessful bidders will be returned promptly after an award has been made, or in the event that all bids are rejected. The bid security of the successful bidder will be returned when satisfactory performance and payment bond has been furnished and the contract executed. If the successful Contractor refuses to enter into a contract with the Owner, or fails to obtain contract performance and payment bonds, he may have to forfeit his bid security, not as a penalty, but as liquidated damages.

H. Preparation of Bids

1. Six (6) original copies of the Bids shall be submitted on the Bid Form found in Section 004113, including all associated bid forms and certifications.
2. Bids shall be completely and correctly filled out using ink or typewriter, with signatures in ink.
 - a. Prices shall be stated both in figures and in writing and in the event of a discrepancy between the writing and the figures, the written amount shall govern.
3. Bids shall be signed personally by the bidder, by a partner or by duly authorized officer for a corporation, and shall give the bidder's business address and telephone number.

- a. Certified copies of resolutions or power of attorney authorizing the various individuals to sign the bid shall be enclosed with the bid.
 - b. If the bidder is a corporation, the Bid shall be signed, in ink, in the name and under the seal of the corporation by a duly authorized officer of the corporation, with the designation of his official capacity, and properly attested. The Bid shall show the state in which the corporation is chartered. If it is a foreign corporation, the Bid shall show whether or not it is licensed to transact business in the State of Michigan.
 - c. If the bidder is a partnership, the Bid shall be signed, in ink, in the name under which the organization is doing business, by a partner of the firm.
 - d. If the bidder is a sole proprietorship, he shall sign the Bid, in ink, in person or by agent, stating the name, if any, under which he is doing business.
 - e. In every case, the Bid shall show the present business address of the bidder, at which address communications will be received and service of notices accepted.
 - f. When Bids are signed by an agent of the bidder, a power of attorney evidencing his authority to act as the bidder's agent shall accompany the Bid.
5. Any interlineation, alteration, or erasure may be grounds for rejection of the bid. Bids shall contain no recapitulation of the work to be done.
 - a. Bidders are advised that an improper execution of the Bid may result in the disallowance of the bid, therefore, extreme care should be used in executing their Bids.
6. Bids shall be based on the materials, construction and equipment named or described in the specifications and on the drawings, and any addenda issued prior to receipt of bids.
7. In general, Bids that contain omissions, erasures, alterations, or additions not called for, conditional or alternate bids not called for, or that are irregular in any way, or Bids otherwise regular which are not accompanied by the required bid bond specified herein may be rejected as informal or insufficient. No partial bids will be considered unless requested specifically.
8. Bids shall be accompanied by the following supplemental documents, all properly signed and notarized.
 - a. Experience Questionnaire
 - b. Plan and Equipment Questionnaire
 - c. Non-Collusion Affidavit
 - d. Financial Statement
 - e. Buy America Affidavit
 - f. Certification Regarding Lobbying
 - g. Certification Regarding Debarment and Suspension
 - h. Certification Regarding DBE's
 - i. Proposed List of Subcontractors, Suppliers, and Manufacturers
 - j. Proposed Schedule of Values
 - k. Certified Check or Bid Bond (signed by Surety and Principal)
 - l. Iran Economic Sanctions Act Certificate
9. Bidders shall submit to the Architect a complete list of subcontractors, suppliers, and manufacturers furnishing and/or installing materials and products specified on this project.

The list shall be complete with name of subcontractor or supplier, contact name, addresses, city, state, zip code, telephone, and fax numbers. List of subcontractors is subject to Architect's and Owner's review and acceptance.

10. Materials or labor are not directly noted in the Project Documents, but are necessary to the proper completion of the project for the obvious intent thereof, the bidder shall understand the same to be implied and shall provide for them in his bid price as fully as if they were noted and described.
11. Bidders shall submit to the Architect a proposed Schedule of Values in enough detail to facilitate evaluation of the Bid. Include line items for each subcontract amount in excess of two percent of the Bid amount.

I. Bid Submittal

1. Proposals shall be sealed in an opaque envelope marked with the bidder's name and business address, and bearing the following caption:

a. **“SEALED BID ENCLOSED”**

b. Identify the Project title:

East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

c. Proposals shall be addressed to:

Capital Area Transportation Authority (CATA)
Attn: Purchasing
4615 Tranter Street
Lansing, Michigan 48910

2. Bid submittal shall include **six (6)** complete sets of original bid form documents.

J. Modification of Bids

1. Written modifications of Bids will be considered only if received prior to the time stated for receipt of Bids. Submit written modifications in a sealed envelope, identified as required for Bids except that the Phrase “Modification of Bid” shall be used. Modifications made orally or by telephone, fax, or email will not be considered.
2. Bidders are cautioned that, in case of modification involving an increase in the base bid sum, the bid deposit shall be ample or be increased to cover the new base bid sum or the entire Bid may be rejected.

K. Withdrawal of Bids

1. Bids may be withdrawn at any time prior to the scheduled time for receipt of bids.

- a. Withdrawn bids may not be resubmitted.
- b. Bids shall not be withdrawn for a period of at least one hundred eighty (180) calendar days after bid opening without consent of the Owner.

M. Awarding of Contracts

1. It is the intention of the Owner to award contracts to the successful bid package contractor who submits the lowest responsible and responsive bid. Included in evaluation will be the Bidder's past history of performance.
2. The party to whom a Contract is awarded will be required to execute the Contract and provide the Performance and Payment Bond and Certificate of Insurance within ten (10) calendar days from the date when the Notice of Award is delivered to the Bidder. All forms and documents are subject to review and approval by the Owner's attorney.
3. The Contract shall be executed in three (3) original documents. In case of failure of the Bidder to execute the Contract and provide the required Bonds and Certificates of Insurance, the Owner may, at his option, consider the Bidder in default, in which case the Bid Bond accompanying the bid shall become the property of the Owner.

N. Taxes, Permits, Inspections etc.

1. The Contractor shall be obligated to pay all retail sales tax for all materials.
2. Contractors shall be obligated to obtain and pay for all required permits and inspections necessary by governing agencies.

Q. Mechanic's Lien

1. No claim for mechanic's lien shall be filed by the Contractor or anyone against the Owner's real estate. Contractor hereby agrees to include a provision similar to this provision in all subcontracts relating to the improvement herein described and to require subcontractors to include similar provisions in their sub-contracts.

R. Bidder's Qualifications

1. Bidder's attention is directed to the Section 00 72 13 "General Conditions".

S. Contract Time And Liquidated Damages

1. Bidder's attention is directed to the Sections "Project Bid Form", "Contractor's Agreement Form", and "General Conditions".

T. Federal Contract Clauses

1. **See Section 00 21 13, Exhibit 'A'.**

END OF SECTION 00 21 13

EXHIBIT A

SECTION 00 21 13-A – Federal Contract Clauses

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7. Lobbying
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10. Clean Air
11. Davis-Bacon Act
12. Copeland Anti-Kickback Acts
13. Contract Work Hours and Safety Standards Act
14. No Government Obligation to Third Parties
15. Program Fraud And False Or Fraudulent Statements And Related Acts
16. Termination
17. Government-wide Debarment and Suspension (Nonprocurement)
18. Civil Rights Requirements
19. Breaches and Dispute Resolution
20. Disadvantaged Business Enterprises (DBE)
21. Bonding Requirements
22. Incorporation of Federal Transit Administration (FTA) Terms
23. Americans with Disabilities Act of 2008

EXHIBIT A

1. Fly America Requirements - 49 U.S.C. §40118; 41 CFR Part 301-10

- a. The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

EXHIBIT A

2. Buy America - 49 U.S.C. 5323(j); 49 CFR Part 661

- a. The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

Certification requirement for procurement of steel, iron, or manufactured products.

Certificate of Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.5.

Date _____

Signature _____

Company Name _____

Title _____

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date _____

Signature _____

Company Name _____

Title _____

EXHIBIT A

3. Cargo Preference - 46 U.S.C. 1241; 46 CFR Part 381

- a. Use of United States-Flag Vessels - The contractor agrees: a. to use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; b. to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading.) c. to include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

4. Seismic Safety – 42 U.S.C. 7701 et seq. 49; CFR Part 41

- a. The contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. The contractor also agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.

5. Energy Conservation – 42 U.S.C. 6321 et seq. 49 CFR Part 18

- a. The contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

6. Clean Water – 33 U.S.C. 1251

- a. (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. . The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
- b. (2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

EXHIBIT A

7. Lobbying - 31 U.S.C. 1352; 49 CFR Part 19; 49 CFR Part 20

- a. Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.] - Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

EXHIBIT A

APPENDIX A, 49 CFR PART 20--CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

(To be submitted with each bid or offer exceeding \$100,000)

The undersigned [Contractor] certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq.*)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq.*, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date

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8. Access to Records and Reports – 49 U.S.C. 5325; 18 CFR 18.36 (i); 49 CFR 633.17

- a. The following access to records requirements apply to this Contract:
1. Where the Purchaser is not a State but a local government and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C. F. R. 18.36(i), the Contractor agrees to provide the Purchaser, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 C. F. R. 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.
 2. Where the Purchaser is a State and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 633.17, Contractor agrees to provide the Purchaser, the FTA Administrator or his authorized representatives, including any PMO Contractor, access to the Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311. By definition, a major capital project excludes contracts of less than the simplified acquisition threshold currently set at \$100,000.
 3. Where the Purchaser enters into a negotiated contract for other than a small purchase or under the simplified acquisition threshold and is an institution of higher education, a hospital or other non-profit organization and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 19.48, Contractor agrees to provide the Purchaser, FTA Administrator, the Comptroller General of the United States or any of their duly authorized representatives with access to any books, documents, papers and record of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.
 4. Where any Purchaser which is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 U.S.C. 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. 5302(a)1) through other than competitive bidding, the Contractor shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.
 5. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
 6. The Contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Contractor agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR 18.39(i)(11).
 7. FTA does not require the inclusion of these requirements in subcontracts.

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9. Federal Changes – 49 CFR Part 18

- a. Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between Purchaser and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

10. Clean Air – 42 U.S.C. 7401 et seq; 40 CFR 15.61; 49 CFR Part 18

- a. (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq . The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
- b. (2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.
- c.

11. Davis-Bacon Act

(1) Minimum wages - (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the

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workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

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(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(v)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(v) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(2) Withholding - The Capital Area Transportation Authority shall upon its own action or upon

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written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the Capital Area Transportation Authority may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records - (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Capital Area Transportation Authority for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

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(1) That the payroll for the payroll period contains the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5 and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees - (i) Apprentices - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice

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performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees - Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity - The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Subcontracts - The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit

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Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(6) Contract termination: debarment - A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(7) Compliance with Davis-Bacon and Related Act requirements - All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(8) Disputes concerning labor standards - Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(9) Certification of eligibility - (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

12. Copeland Anti-Kickback Acts - 40 USC 3141, et seq.; 18 USC 874

(1) Compliance with Copeland Act requirements - The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

13. Contract Work Hours and Safety Standards - 40 USC 3701(b)(1)(B)(iii) and (b)(2); 29 CFR 5.2(h); 49 CFR 18.36(i)(6)

(1) Overtime requirements - No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages - In the event of any violation of the

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clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

(3) Withholding for unpaid wages and liquidated damages - The (write in the name of the grantee) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

(4) Subcontracts - The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

14. No Obligation by the Federal Government

(1) The Purchaser and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

(2) The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

15. Program Fraud And False Or Fraudulent Statements And Related Acts – 31 U.S.C. 3801 Et Seq.; 49 CFR Part 31 18 U.S.C. 1001; 49 U.S.C. 5307

(1) The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining

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to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

(2) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

(3) The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

16. Termination – 49 U.S.C. Part 18; FTA Circular 4220.1F

a. Termination for Convenience (General Provision) The (Recipient) may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Government's best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to (Recipient) to be paid the Contractor. If the Contractor has any property in its possession belonging to the (Recipient), the Contractor will account for the same, and dispose of it in the manner the (Recipient) directs.

b. Termination for Default [Breach or Cause] (General Provision) If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the (Recipient) may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

c. Opportunity to Cure (General Provision) The (Recipient) in its sole discretion may, in the case of a termination for breach or default, allow the Contractor [an appropriately short period of time] in which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions.

d. Waiver of Remedies for any Breach In the event that (Recipient) elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such

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waiver by (Recipient) shall not limit (Recipient)'s remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.

e. Termination for Default (Construction) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract or any extension or fails to complete the work within this time, or if the Contractor fails to comply with any other provisions of this contract, the (Recipient) may terminate this contract for default. The (Recipient) shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. In this event, the Recipient may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Recipient resulting from the Contractor's refusal or failure to complete the work within specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Recipient in completing the work.

f. Termination for Convenience of Default (Cost-Type Contracts) The (Recipient) may terminate this contract, or any portion of it, by serving a notice or termination on the Contractor. The notice shall state whether the termination is for convenience of the (Recipient) or for the default of the Contractor. If the termination is for default, the notice shall state the manner in which the contractor has failed to perform the requirements of the contract. The Contractor shall account for any property in its possession paid for from funds received from the (Recipient), or property supplied to the Contractor by the (Recipient). If the termination is for default, the (Recipient) may fix the fee, if the contract provides for a fee, to be paid the contractor in proportion to the value, if any, of work performed up to the time of termination. The Contractor shall promptly submit its termination claim to the (Recipient) and the parties shall negotiate the termination settlement to be paid the Contractor.

17. Government-Wide Debarment And Suspension (Nonprocurement) – 49 CFR Part 29; Executive Order 12549

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by Capital Area Transportation Authority. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to Capital Area Transportation Authority, the Federal Government may pursue available remedies, including

EXHIBIT A

but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

18. Civil Rights Requirements - 29 U.S.C. § 623; 42 U.S.C. § 2000; 42 U.S.C. § 6102; 42 U.S.C. § 12112; 42 U.S.C. § 12132; 49 U.S.C. § 5332; 29 CFR Part 1630; 41 CFR Parts 60 et seq.

(1) Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

(a) Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(b) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(c) Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630,

EXHIBIT A

pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(3) The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

19. Breaches And Dispute Resolution – 49 CFR Part 18; FTA Circular 4220.1F

Disputes - Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in writing by the authorized representative of (Recipient)'s [title of employee]. This decision shall be final and conclusive unless within [ten (10)] days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the [title of employee]. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the [title of employee] shall be binding upon the Contractor and the Contractor shall abide by the decision.

Performance During Dispute - Unless otherwise directed by (Recipient), Contractor shall continue performance under this Contract while matters in dispute are being resolved.

Claims for Damages - Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefor shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.

Remedies - Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the (Recipient) and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the (Recipient) is located.

Rights and Remedies - The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the (Recipient), (Architect) or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

20. Disadvantaged Business Enterprise (DBE) – 49 CFR Part 26

This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs*. The national goal for participation of Disadvantaged Business Enterprises (DBE) is 10%. The agency's overall goal for DBE participation is 3%. A separate

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contract goal of 0.24% DBE participation has been established for this procurement.

b. The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as Capital Area Transportation Authority deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph (see 49 CFR 26.13(b)).

c. Bidders/offerors are required to document sufficient DBE participation to meet these goals or, alternatively, document adequate good faith efforts to do so, as provided for in 49 CFR 26.53. Award of this contract is conditioned on submission of the following concurrent with and accompanying sealed bid:

1. The names and addresses of DBE firms that will participate in this contract;
2. A description of the work each DBE will perform;
3. The dollar amount of the participation of each DBE firm participating;
4. Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
5. Written confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment; and
6. If the contract goal is not met, evidence of good faith efforts to do so.

Bidders must present the information required above as a matter of responsiveness with initial proposals(see 49 CFR 26.53(3)).

d. The contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor's receipt of payment for that work from the Capital Area Transportation Authority. In addition, the contractor is required to return any retainage payments to those subcontractors within 30 days after incremental acceptance of the subcontractor's work by the Capital Area Transportation Authority and contractor's receipt of the partial retainage payment related to the subcontractor's work.

e. The contractor must promptly notify Capital Area Transportation Authority, whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of Capital Area Transportation Authority.

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21. BONDING REQUIREMENTS

<u>Applicability</u>	<u>to</u>	<u>Contracts</u>

For those construction or facility improvement contracts or subcontracts exceeding \$100,000, FTA may accept the bonding policy and requirements of the recipient, provided that they meet the minimum requirements for construction contracts as follows:

a. A bid guarantee from each bidder equivalent to five (5) percent of the bid price. The "bid guarantees" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

b. A performance bond on the part to the Contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

c. A payment bond on the part of the contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment, as required by law, of all persons supplying labor and material in the execution of the work provided for in the contract. Payment bond amounts required from Contractors are as follows:

(1) 50% of the contract price if the contract price is not more than \$1 million;

(2) 40% of the contract price if the contract price is more than \$1 million but not more than \$5 million; or

(3) \$2.5 million if the contract price is more than \$5 million.

d. A cash deposit, certified check or other negotiable instrument may be accepted by a grantee in lieu of performance and payment bonds, provided the grantee has established a procedure to assure that the interest of FTA is adequately protected. An irrevocable letter of credit would also satisfy the requirement for a bond.

Flow Down

Bonding requirements flow down to the first tier contractors.

Bid Bond Requirements (Construction)

(a) Bid Security

A Bid Bond must be issued by a fully qualified surety company acceptable to (Recipient) and listed as a company currently authorized under 31 CFR, Part 223 as possessing a Certificate of Authority as described thereunder.

(b) Rights Reserved

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In submitting this Bid, it is understood and agreed by bidder that the right is reserved by (Recipient) to reject any and all bids, or part of any bid, and it is agreed that the Bid may not be withdrawn for a period of [ninety (90)] days subsequent to the opening of bids, without the written consent of (Recipient).

It is also understood and agreed that if the undersigned bidder should withdraw any part or all of his bid within [ninety (90)] days after the bid opening without the written consent of (Recipient), shall refuse or be unable to enter into this Contract, as provided above, or refuse or be unable to furnish adequate and acceptable Performance Bonds and Labor and Material Payments Bonds, as provided above, or refuse or be unable to furnish adequate and acceptable insurance, as provided above, he shall forfeit his bid security to the extent of (Recipient's) damages occasioned by such withdrawal, or refusal, or inability to enter into an agreement, or provide adequate security therefor.

It is further understood and agreed that to the extent the defaulting bidder's Bid Bond, Certified Check, Cashier's Check, Treasurer's Check, and/or Official Bank Check (excluding any income generated thereby which has been retained by (Recipient) as provided in [Item x "Bid Security" of the Instructions to Bidders]) shall prove inadequate to fully recompense (Recipient) for the damages occasioned by default, then the undersigned bidder agrees to indemnify (Recipient) and pay over to (Recipient) the difference between the bid security and (Recipient's) total damages, so as to make (Recipient) whole.

The undersigned understands that any material alteration of any of the above or any of the material contained on this form, other than that requested, will render the bid unresponsive.

Performance and Payment Bonding Requirements (Construction)

The Contractor shall be required to obtain performance and payment bonds as follows:

(a) Performance bonds

1. The penal amount of performance bonds shall be 100 percent of the original contract price, unless the (Recipient) determines that a lesser amount would be adequate for the protection of the (Recipient).

2. The (Recipient) may require additional performance bond protection when a contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. The (Recipient) may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(b) Payment bonds

1. The penal amount of the payment bonds shall equal:

(i) Fifty percent of the contract price if the contract price is not more than \$1 million.

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(ii) Forty percent of the contract price if the contract price is more than \$1 million but not more than \$5 million; or

(iii) Two and one half million if the contract price is more than \$5 million.

2. If the original contract price is \$5 million or less, the (Recipient) may require additional protection as required by subparagraph 1 if the contract price is increased.

Performance and Payment Bonding Requirements (Non-Construction)

The Contractor may be required to obtain performance and payment bonds when necessary to protect the (Recipient's) interest.

(a) The following situations may warrant a performance bond:

1. (Recipient) property or funds are to be provided to the contractor for use in performing the contract or as partial compensation (as in retention of salvaged material).

2. A contractor sells assets to or merges with another concern, and the (Recipient), after recognizing the latter concern as the successor in interest, desires assurance that it is financially capable.

3. Substantial progress payments are made before delivery of end items starts.

4. Contracts are for dismantling, demolition, or removal of improvements.

(b) When it is determined that a performance bond is required, the Contractor shall be required to

obtain performance bonds as follows:

1. The penal amount of performance bonds shall be 100 percent of the original contract price, unless the (Recipient) determines that a lesser amount would be adequate for the protection of the (Recipient).

2. The (Recipient) may require additional performance bond protection when a contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. The (Recipient) may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) A payment bond is required only when a performance bond is required, and if the use of payment bond is in the (Recipient's) interest.

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(d) When it is determined that a payment bond is required, the Contractor shall be required to obtain payment bonds as follows:

1. The penal amount of payment bonds shall equal:

(i) Fifty percent of the contract price if the contract price is not more than \$1 million;

(ii) Forty percent of the contract price if the contract price is more than \$1 million

but not more than \$5 million; or

(iii) Two and one half million if the contract price is increased.

Advance Payment Bonding Requirements

The Contractor may be required to obtain an advance payment bond if the contract contains an advance payment provision and a performance bond is not furnished. The (recipient) shall determine the amount of the advance payment bond necessary to protect the (Recipient).

Patent Infringement Bonding Requirements (Patent Indemnity)

The Contractor may be required to obtain a patent indemnity bond if a performance bond is not furnished and the financial responsibility of the Contractor is unknown or doubtful. The (recipient) shall determine the amount of the patent indemnity to protect the (Recipient).

Warranty of the Work and Maintenance Bonds

1. The Contractor warrants to (Recipient), the Architect and/or Engineer that all materials and equipment furnished under this Contract will be of highest quality and new unless otherwise specified by (Recipient), free from faults and defects and in conformance with the Contract Documents. All work not so conforming to these standards shall be considered defective. If required by the [Project Manager], the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

2. The Work furnished must be of first quality and the workmanship must be the best obtainable in the various trades. The Work must be of safe, substantial and durable construction in all respects. The Contractor hereby guarantees the Work against defective materials or faulty workmanship for a minimum period of one (1) year after Final Payment by (Recipient) and shall replace or repair any defective materials or equipment or faulty workmanship during the period of the guarantee at no cost to (Recipient). As additional security for these guarantees, the Contractor shall, prior to the release of Final Payment [as provided in Item X below], furnish separate Maintenance (or Guarantee) Bonds in form acceptable to (Recipient) written by the same corporate surety that provides the Performance Bond and Labor and Material Payment Bond for this Contract. These bonds shall secure the Contractor's obligation to replace or repair defective materials and faulty workmanship for a minimum period of one (1) year

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after Final Payment and shall be written in an amount equal to ONE HUNDRED PERCENT (100%) of the CONTRACT SUM, as adjusted (if at all).

22. Incorporation Of Federal Transit Administration (FTA) Terms – FTA Circular 4220.1F

Incorporation of Federal Transit Administration (FTA) Terms - The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any Capital Area Transportation Authority requests which would cause Capital Area Transportation Authority to be in violation of the FTA terms and conditions.

23. Americans with Disabilities Act of 2008

All provisions of the Americans with Disabilities Act of 1990 (ADA), including changes made by the ADA Amendments Act as amended in 2008 (P.L. 110-325), which became effective on January 1, 2009 shall hereby be incorporated.

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SECTION 00 22 13 – SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

A. Wage Scale:

1. Contractor will be required to pay laborers, workmen, mechanics and other employees on the work under this contract not less than the common construction wage determined in accordance with the provisions of the Davis-Bacon Act of March 3, 1931, chapter 411, 46 Statute, as amended. **Refer to Exhibit 002213-A.**
2. Contractor, and each subcontractor, is to submit a notarized letter certifying that the wages they will be paying on this project comply with the Federal law.
3. Contractor, and each subcontractor, shall submit all certified payrolls on a monthly basis, concurrent with each Application for Payment (certified payrolls shall correspond with the period covered by the Application for Payment).

B. Construction Schedule:

1. The following schedule is provided to indicate anticipated start and finish date milestones. The construction schedule may not vary from date(s) indicated without written consent of the Owner. Contractor is solely responsible for scheduling construction activities to achieve specified dates(s).
2. The actual construction schedule may not vary from what is indicated due to material or manpower availability. In no event shall the construction schedule be allowed to be used as a basis for additional compensation for actual construction activities earlier or later than indicated on the Construction Schedule.
3. Substantial completion must be achieved by September 30, 2013. All necessary premium time to complete the work within this timeframe shall be included within the bid. This includes all overtime, holidays, nights, and weekends.
4. Below schedule represents anticipated dates of construction activities:

Anticipated Construction Schedule	
Pre-Bid Meeting	June 10, 2013
RFI's Due	June 19, 2013
Bid Opening	June 26, 2013
Notice of Intent to Award	July 2, 2013
Contractor to Issue MDEQ 10-Day Notice	July 3, 2013
Award and Execute Contract	July 17, 2013
Notice to Proceed	July 18, 2013
Milestone Date – Temporary building facilities to be prepared for installation of temporary station	August 9, 2013
Milestone Date – Turn over designated portion of site to MSU for soil remediation activities	September 16, 2013
Substantial Completion	September 30, 2013

C. Incurring Costs:

- a. The Bidder shall bear all costs associated with the preparation and submission of its Bid. CATA is not liable for any cost incurred by any party prior to signing of a contract with that party and then only upon written authorization from CATA to proceed with the project.

D. FTA and MDOT Required Clauses

- a. The Contractor will comply with all relevant procurement and contract requirements of the Federal Transit Administration (“FTA”) and the Michigan Department of Transportation (“MDOT”). See for example FTA Best Practices procurement Manual, Appendix A.1 and FTA Circular 4220.1E.
- b. The website address of the Federal Transit Administration is www.fta.dot.gov.
- c. The website address of the Michigan Department of Transportation is www.michigan.gov/mdot.
- d. The Contractor shall furnish to CATA upon request, certificates of compliance with all such laws, rules and regulations. The Contractor shall, at its own expense, be responsible for obtaining all necessary permits and licenses required for performance of the Contract.
- e. All contractual provisions required by MDOT or mandated by FTA as set forth in FTA Circular 4220.1E, are hereby incorporated by reference. The Contractor shall not perform any act, fail to perform any act or refuse to comply with any CATA requests which would cause CATA or the Contractor to be in violation of FTA or MDOT terms and conditions.

E. Disadvantaged and Small Business Enterprises

- a. Disadvantaged Business Enterprises (“DBE”) and Small Business Enterprises (SBE’s) are encouraged to bid on this project. Any applicable DBE firm’s certifications must be included in the proposal. Cost Proposals must list the amount and activity of service provided by the DBE firm, as applicable. Information on becoming certified as a Disadvantaged Business Enterprise is available from Michigan Department of Transportation (“MDOT”) at the following website address:
<http://mdot270.state.mi.us:8080/UCP/HomePageServlet>.

F. Compliance with Laws

- a. The Contractor shall comply with all federal, state, and local laws, ordinances, codes, rules, regulations, and orders, including, but not limited to:
 - i. Motor Carrier Safety Act, 1963 P A 181, as amended.
 - ii. Motor Bus Transportation Act, 1982, P A 432, as amended.
 - iii. Rules and Regulations of the Department of Transportation may promulgate to accomplish the purpose of 1990 P A 339.
 - iv. Motor Safety Carrier Regulations, being 49 CFR, Parts 387, 390-393, 395-397, and 399 including appendices C, D, E, and G.
 - v. Drug-Free Workplace Act of 1988.

- vi. Procedures for Transportation Workplace Drug Testing Progress, 49 CFR 40.
- vii. Physical Qualification Requirements of 49 CFR 391.41 to 391.49.
- viii. Debarment Certification per 49 CFR 29; Appendix C must be signed by Respondent and included in proposal submittal.
- ix. Surface Transportation Assistance act of 1982 ("Buy America Act"); Appendix D must be signed by Respondent and included in proposal submittal.
- x. Lobbying Disclosure Act of 1985; Appendix E must be signed by Respondent and included in proposal submittal
- xi. Non-Discrimination Clause per 49 CFR, Part 26.
- xii. Prohibition of Discrimination per 1976 P A 453, Public Acts of 1976.

G. Ownership

- a. All original documents, calculations, and work product produced by CONTRACTOR, whether produced on paper or electronic media or otherwise in performance of this Agreement, shall be the property of CATA. CONTRACTOR shall have the right to retain a copy of such documents, calculations, and work product. CONTRACTOR shall make available to CATA copies of all CONTRACTOR correspondence, notes, and other papers relating to the work, upon request of CATA. All works of original authorship created in the scope of this Agreement are "works made for hire", as that term is used in connection with the U.S. Copyright Act. To the extent that by operation of law CONTRACTOR retains any intellectual property rights to any work product, CONTRACTOR hereby irrevocably assigns and licenses to CATA all right, title, and interest in such work product, including copyrights and patents, and agrees to execute such assignments and licenses as may be required in the opinion of CATA's legal counsel to confirm this provision. The work product produced by CONTRACTOR in the performance of services under this Agreement is intended for use by CATA solely for the purpose intended. Any use or reuse of such work product by CATA for any purpose other than its intended purpose shall be at the sole risk of CATA and without any liability or responsibility of CONTRACTOR. To the extent that the work product produced by CONTRACTOR contains standard design or construction details or other standardized material previously developed by CONTRACTOR in its professional architectural, engineering, and planning practices, then CONTRACTOR shall have the right to reuse any such material on other projects for other clients or persons without the prior knowledge or permission of CATA and without the payment of any compensation to CATA, provided that the reuse or continued use of such material contains no CATA identifying information or confidential information.

H. News Releases

- a. News releases pertaining to this RFP or the services, study, data, or project to which it relates will not be made without prior written CATA approval, and then only in accordance with the instructions from CATA's Executive Director.

I. Audit and Inspection of Records

- a. In the case of all negotiated contracts, and contracts for construction, reconstruction, or improvement of facilities and equipment which were entered into under other than competitive bidding procedures, the Contractor agrees that the grantee, the Comptroller General of the United States, or any of their duly authorized representative shall, for the purpose of audit and examination, be permitted to inspect all work, materials, payrolls, and other data and records, and accounts with regard to the project. Further, the Contractor agrees to maintain all required records for at least three (3) years after grantees make final payments and all other pending matters are closed.

J. Complaints or Protests

- a. CATA's Procurement Protest Procedures are available from CATA's Purchasing and Contracts Manager.

END OF SECTION 00 22 13

General Decision Number: MI130084 05/24/2013 MI84

Superseded General Decision Number: MI20120084

State: Michigan

Construction Type: Building

County: Ingham County in Michigan.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Modification Number	Publication Date
0	01/04/2013
1	02/08/2013
2	03/08/2013
3	05/10/2013
4	05/24/2013

ASBE0047-002 07/02/2011

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 28.47	15.63

BOIL0169-001 01/01/2012

	Rates	Fringes
BOILERMAKER.....	\$ 31.88	25.89

BRMI0009-009 08/01/2011

	Rates	Fringes
BRICKLAYER		
Bricklayer.....	\$ 27.32	15.87
Terrazzo and Tile Finisher..	\$ 18.18	11.64
Terrazzo and Tile Setter....	\$ 21.53	13.66

FOOTNOTE:

Paid Holiday: Fourth of July, if the worker was employed by the contractor in any period of seven working days before said holiday within the current calendar year.

CARP1004-004 07/01/2012

	Rates	Fringes
CARPENTER (Soft Floor Layer, Including Carpet & Resilient Flooring).....	\$ 23.97	16.30

CARP1004-018 07/01/2012

Rates	Fringes

CARPENTER, Includes
 Acoustical Ceiling
 Installation, Drywall
 Hanging, Form Work, and Metal
 Stud Installation.....\$ 23.97 16.30

 CARP1102-002 06/01/2012

	Rates	Fringes
MILLWRIGHT.....	\$ 31.07	27.64

 ELEC0252-001 06/04/2012

Townships of Bunker Hill, Leslie, Onodaga & Stockbridge

	Rates	Fringes
ELECTRICIAN		
Alarm Installation & Low		
Voltage Wiring.....	\$ 25.60	13.14
Excludes Alarm		
Installation and Low		
Voltage Wiring.....	\$ 38.98	20.18

 ELEC0665-004 06/01/2011

Townships of Alaiedon, Aurelius, Delhi, Ingham, Lansing, Leroy,
 Locke, Meridian, Vevay, Wheatfield, White Oak and Williamson

	Rates	Fringes
ELECTRICIAN		
Alarm Installation & Low		
Voltage Wiring.....	\$ 22.78	15.07
Excludes Alarm		
Installation & Low Voltage		
Wiring.....	\$ 30.48	18.65

 ENGI0324-012 07/01/2012

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1.....	\$ 28.99	20.20
GROUP 2.....	\$ 28.74	20.20
GROUP 3.....	\$ 27.64	20.20
GROUP 4.....	\$ 22.84	20.20
GROUP 5.....	\$ 22.24	20.20
GROUP 6.....	\$ 19.79	20.20
GROUP 7.....	\$ 18.09	20.20

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: \$1.50
 per hour above the group 1 rate. Crane operator with main
 boom and jib 400' or longer: \$3.00 per hour above the group
 1 rate.

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July,
Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane operator with main boom and jib 400', 300', or
220' or longer.

GROUP 2: Crane operator with main boom and jib 140' or
longer, tower crane, gantry crane, whirley derrick

GROUP 3: Concrete Pump; Crane; Highlift; Hoist; Loader;
Roller; Scraper; Stiff Leg Derrick; Trencher

GROUP 4: Bobcat/Skid Loader; Broom/Sweeper; Fork Truck (over
20' lift)

GROUP 5: Boom Truck (non-swinging)

GROUP 6: Fork Truck (20' lift and under for masonry work)

GROUP 7: Oiler

* IRON0025-001 03/01/2013

	Rates	Fringes
IRONWORKER		
REINFORCING.....	\$ 28.30	24.60
STRUCTURAL (Excluding Metal Building Erection)....	\$ 33.29	25.34

LABO0499-012 08/01/2012

	Rates	Fringes
LABORER		
Common or General; Grade Checker; Mason Tender - Brick; Mason Tender - Cement/Concrete; Pipelayer; Sandblaster.....	\$ 21.38	12.17

PAIN0845-001 05/09/2013

	Rates	Fringes
PAINTER: Brush, Roller, Spray and Paperhanging.....	\$ 21.74	11.50
PAINTER: Drywall Finishing/Taping.....	\$ 23.80	12.59

PLAS0016-011 06/01/2012

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 24.64	12.88

PLUM0333-006 06/01/2012

	Rates	Fringes
PIPEFITTER, Includes HVAC Pipe and Unit Installation.....	\$ 32.34	19.68
PLUMBER, Excludes HVAC Pipe and Unit Installation.....	\$ 32.34	19.68

FOOTNOTE:

Paid Holidays: Memorial Day, Independence Day and Labor Day,
if the employee works the work day preceding and following
the holiday unless proven illness or injury prevents the
employee from working.

ROOF0070-003 06/01/2011

	Rates	Fringes
ROOFER.....	\$ 23.88	13.22

SFMI0669-001 01/01/2013

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 30.64	17.12

SHEE0007-004 05/01/2012

	Rates	Fringes
SHEET METAL WORKER (Including HVAC Duct Installation; Excluding HVAC System Installation).....	\$ 27.10	18.79

SUMI2011-009 02/01/2011

	Rates	Fringes
IRONWORKER, ORNAMENTAL.....	\$ 18.48	7.93
LABORER: Landscape & Irrigation.....	\$ 8.00	0.00
METAL BUILDING ERECTOR.....	\$ 16.92	6.32
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 21.34	7.57
OPERATOR: Bulldozer.....	\$ 20.63	8.21
OPERATOR: Grader/Blade.....	\$ 22.00	6.29
OPERATOR: Tractor.....	\$ 19.10	8.48
TRUCK DRIVER: Dump Truck.....	\$ 16.00	7.26
TRUCK DRIVER: Lowboy Truck.....	\$ 14.50	0.44

TRUCK DRIVER: Tractor Haul
 Truck.....\$ 13.57 1.18

WELDERS - Receive rate prescribed for craft performing
 operation to which welding is incidental.

Unlisted classifications needed for work not included within
 the scope of the classifications listed may be added after
 award only as provided in the labor standards contract clauses
 (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification
 and wage rates that have been found to be prevailing for the
 cited type(s) of construction in the area covered by the wage
 determination. The classifications are listed in alphabetical
 order of "identifiers" that indicate whether the particular
 rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with
 characters other than "SU" denotes that the union
 classification and rate have found to be prevailing for that
 classification. Example: PLUM0198-005 07/01/2011. The first
 four letters , PLUM, indicate the international union and the
 four-digit number, 0198, that follows indicates the local union
 number or district council number where applicable , i.e.,
 Plumbers Local 0198. The next number, 005 in the example, is
 an internal number used in processing the wage determination.
 The date, 07/01/2011, following these characters is the
 effective date of the most current negotiated rate/collective
 bargaining agreement which would be July 1, 2011 in the above
 example.

Union prevailing wage rates will be updated to reflect any
 changes in the collective bargaining agreements governing the
 rates.

0000/9999: weighted union wage rates will be published annually
 each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived
 from survey data by computing average rates and are not union
 rates; however, the data used in computing these rates may
 include both union and non-union data. Example: SULA2004-007
 5/13/2010. SU indicates the rates are not union majority rates,

LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

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SECTION 00 41 13 – PROJECT BID FORM

PART 1 -GENERAL

1.1 BID

- A. To the Capital Area Transportation Authority (CATA), hereinafter called “Owner”, for the East Lansing Multi-Modal Transit Center Building Demolition and Site Clearing, hereinafter called the “Project”.
- B. The Undersigned, as Bidder, declares as follows:
 - 1. The only parties interested in this Bid as Principals are named herein;
 - 2. This Bid is made without collusion with any other person, firm, or corporation;
 - 3. No officer, agent, or employee of the Owner is directly or indirectly interested in this Bid;
 - 4. The Bidder has carefully examined the site of the proposed Work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed Work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this Bid, and he has carefully read and examined the Project Documents comprised of the Project Manual and Plans, the proposed Contract, any and all addenda, and knows and understands the terms and provisions thereof;
 - 5. The Bidder understands that information relative to subsurface and other conditions, natural phenomena, existing pipes and other structures (surface or subsurface) has been furnished only for his information and convenience without any warranty or guarantee, expressed or implied, that the subsurface and other conditions, natural phenomena, existing pipes and other structures (surface or subsurface) actually encountered will be the same as those shown on the Plans or in any of the Project Documents and he agrees that he shall not use or be entitled to use any such information made available to him through the Project Documents or otherwise obtained by him in his own examination of the site, as a basis of or ground for any claim against the Owner or the Architect arising from or by reason of any variance which may exist between the aforesaid information made available to or acquired by him and the subsurface or other conditions, natural phenomena, existing pipes and other structures (surface or subsurface) actually encountered during the construction work, and he has made due allowance therefore in this bid and;
 - 6. The Bidder understands that the quantities of work tabulated in this Bid or indicated in the Project Documents are only approximate and subject to increase or decrease as deemed necessary to complete the project.

- C. The undersigned, as Bidder, agrees that, if this Bid is accepted, he will contract with the Owner, as provided in the Project Documents, this Bid Form being part of said Project Documents, and that he will perform all the work and furnish all the materials apparatus, appliances, tools, supplies and all other things required by the Project Documents in the manner and within the time therein prescribed and according to the requirements therein set forth, and that he will take in full payment therefore the lump sum or unit price applicable to each item of the Work.
- D. Bidders must bid on each item included in the Contract, including Base Bid and all Alternative Bid items associated with the Project. All entries in the entire Bid must be made clearly and typed or hand-written in ink, prices must be written in both words and figures. Bidders shall insert extended item prices obtained from quantities and unit prices. In the event that there is a discrepancy between the prices in words and figures, the bid price written in words shall govern. In the event of mathematical errors in the Bid, the Bid total will be the corrected sum of: 1) the lump sum prices as bid, and 2) the product of the written unit prices as bid multiplied by the quantities stated.
- E. As a part of the Bid, the Bidder shall complete the following Itemized Bid Schedule, including in the appropriate item, all project costs associated with the item including equipment, materials, bonds, insurance policies, and other miscellaneous costs. A bid price for each item fairly reflecting the cost of that item must be provided such that the total of all items shall equal the total price bid.
- F. In submitting this Bid, it is understood that the Owner reserves the right to reject any and all bids. It is agreed that this Bid may not be withdrawn for a period of ninety (90) days.
- G. The Undersigned, as Bidder, further agrees that for extra work, if any, performed in accordance with the terms and provisions of the Project Documents, he will accept compensation as stipulated therein in full payment for such extra work.
- H. If the Bidder is awarded the Contract for this work, the undersigned agrees to achieve a Date of Substantial Completion within **seventy five (75) calendar days** from Notice to Proceed, and a Date of Final Completion no later than fifteen (15) calendar days thereafter. Further, Bidder agrees to achieve the interim milestone dates indicated on the Drawings and the Supplemental Instructions to Bidders.
- I. If the Owner shall accept this Bid by issuance of a Standard Form of Agreement Between Owner and Contractor, AIA Document A101, the Bidder will duly execute and acknowledge the Agreement and furnish the required bonds and certificates of insurance and deliver same to the Owner within ten (10) calendar days of receipt. The Owner within ten (10) calendar days of receipt of same will execute the Agreement and return to the Bidder a copy thereof.
- J. Should the Bidder fail to fulfill any of his agreements as hereinabove set forth, the Owner shall have the right to retain as liquidated damages the bid security.
- K. The Bidder, by submittal of this Bid, agrees with the Owner that the amount of the bid security deposited with this Bid fairly and reasonably represents the amount of damages

the Owner will suffer due to the failure of the Bidder to fulfill his agreements as above provided.

All Bids will be submitted on the enclosed bid form. Insert language accordingly; complete in its entirety.

BIDDER REMINDER LIST

	YES	NO
Have you included Base Bid amount as part of your Bid?		
Have you completed each paragraph of Part II, Section A, Experience Questionnaire?		
Have you answered the questions in Part II, Section B Plan and Equipment Questionnaire?		
Non-Collusion Affidavit.		
Have you included your Company's Financial Statement (Part II, Section C)?		
Have you completed the Buy America Affidavit?		
Have you completed the Certification Regarding Lobbying?		
Have you completed the Certification Regarding Debarment & Suspension?		
Have you completed the Certification Regarding DBEs?		
Have you completed the Request For Proposal Signature Certification Page?		
Have you included your proposed List of Subcontractors, Suppliers, and Manufacturers?		
Have you included your proposed Schedule of Values?		
Have you included your Iran Economic Sanctions Act Certificate?		
Have you enclosed a certified check or Bid Bond? (NOTE: Bond must be signed by Surety and Principal)		
Have you indicated the Project Name, and Contractor Name and on the outside of your Bid envelope?		

NOTE: IF ANY OF THE REQUIRED BIDDING DOCUMENTS ARE NOT INCLUDED, DATED, OR PROPERLY EXECUTED, THE CONTRACTOR'S BID MAY NOT BE ACCEPTED.

The following documents shall be submitted with the Bid:

1. Proposed List of Subcontractors, Suppliers, and Manufacturers. Refer to Exhibit 01 33 00-A.
2. Proposed Schedule of Values, in enough detail to facilitate evaluation of the Bid. Include line items for each portion of work and each subcontract amount in excess of two percent of the Bid amount.

Capital Area Transportation Facility
East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

DLZ Project No. 1341.6517.70
CATA IFB #2013-107

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Capital Area Transportation Facility
East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

DLZ Project No. 1341.6517.70
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CONTRACTOR'S BID

PART I

(To be completed for all bids. Please type or print)

Date: _____

Owner: **Capital Area Transportation Authority (CATA)**
Project Location: 1240 South Harrison Road; East Lansing, Michigan 48823

BIDDER (Firm): _____

Address _____ P.O. Box _____

City/State/Zip: _____

Telephone Number: _____

Fax Number: _____

Person to contact regarding this Bid: _____

Email Address: _____

Pursuant to notices given, the undersigned offers to furnish labor and materials necessary to complete the construction work for:

East Lansing Multi-Modal Transit Center – Building Demolition and Site Clearing

In accordance with Plans and Specifications prepared by DLZ Michigan, Inc.; Project No. 1341-6517-70, dated May 30, 2013.

BASE BID

State the total lump sum amount for all work associated with the Base Bid Scope of Work.

For the total amount of _____
_____ dollars (\$ _____)

UNIT PRICES

All prospective bidders shall be required to provide a unit price cost schedule for all materials listed below in the event additional asbestos, beyond what is identified in the Asbestos Inspection reports (Appendices A & B), is discovered due to hidden conditions. Unit price cost for all ACM items shall include all costs for proper abatement and disposal in compliance with the Contract Documents and all applicable regulations.

The bidder shall also provide unit price for soil stockpiling. The Contractor may be requested to stockpile suspect contaminated soils during any trenching and excavation work required for utilities or other items required during demolition and site improvements as part of the Contract. The soils shall be stockpiled on a 10-mil polyethylene liner with a minimum of 6-inch perimeter berm under the liner, and a minimum of 6-mil polyethylene cover over the soil pile. The liners and stockpile shall be placed such that it prevents any storm water from coming into contact with the stockpiled soils. The stockpiled soils will be evaluated and disposed or appropriately handled by Michigan State University. The unit price for the soil stockpiling shall include all costs for the removal and placement of soils in a stockpile, and providing Professional approved fill material for backfill and compaction as specified in the Contract Documents.

Item No	Item Description	Unit Price	Unit
1	Straight pipe insulation (glove bag)	\$	Glove bag
2	Straight pipe insulation (inside containment)	\$	Glove bag
3	Pipe joint / fitting insulation (glove bag)	\$	Glove bag
4	Pipe joint / fitting insulation (inside containment)	\$	Fitting
5	Mastic	\$	Square Foot
6	Floor tile	\$	Square Foot
7	Drywall layer	\$	Square Foot
8	Transite panels	\$	Square Foot
9	Vermiculite	\$	Cubic Foot
10	Soil Stockpiling	\$	Cubic Yard

CONDITIONS

The undersigned further agrees to furnish a bond or certified check with this bid for an amount specified in the notice of the bidding. If alternative bids apply, the undersigned submits a proposal for each in accordance with the notice. Any addendums attached will be specifically referenced at the applicable page.

If additional units of material included in the contract are needed, the cost of units must be the same as that shown in the original contract if accepted by the owner. If the bid is to be awarded on a unit basis, the itemization of the units shall be shown on a separate attachment.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

PROPOSAL TIME

Bidder agrees that this bid shall remain in force for a period of One Hundred Eighty (180) consecutive calendar days from the due date on the bid, and bids may be accepted or rejected during this period.

The undersigned acknowledges receipt of the following Addenda:

Receipt of Addenda Number(s) _____

Attended Pre-Bid Conference _____ Yes _____ No

SCHEDULE

The undersigned bidder or agent, being duly sworn on oath, that their bid is in agreement with the project schedule as referenced in Supplemental Instructions to Bidders, Section 002213.

Individual	Corporation	Date

ACCEPTANCE

The above bid is accepted this _____ day of _____, _____, subject to the following conditions: _____

Contracting Authority Members:

_____	_____
_____	_____

PART II

BIDDER (Firm): _____

Date: _____

These statements to be submitted under oath by each bidder with and as a part of his bid. Attach additional pages for each section as needed.

SECTION I EXPERIENCE QUESTIONNAIRE

1. What similar projects has your organization completed for the period of five (5) year prior to the date of the current bid? List four (4) projects with references.

Contract Amount	Class of Work	Completion Date	Name of Owner	Reference Contact Phone / Email

2. What similar projects are now in process of construction by your organization? List four (4) projects with references.

Contract Amount	Class of Work	Expected Completion Date	Name of Owner	Reference Contact Phone / Email

3. Have you ever failed to complete any work awarded to you? _____ If so, where and why?

4. List references from entities for which you have performed work. Provide name of firm/agency, contact name, telephone number, and email address.

1. _____

2. _____

3. _____

4. _____

5. _____

SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

1. Explain your plan or layout for performing proposed work. (Examples could include a narrative of when you could begin work, complete the project, number of workers, etc. and any other information which you believe would enable the governmental unit to consider your bid.) Attach response to the Bid Form if necessary.

2. Please list the names and addresses of major subcontractors (i.e. persons or firms outside your own firm who have performed part of the work) that you have used on public works projects during the past five (5) years along with a brief description of the work done by each subcontractor. Attach response to the Bid Form if necessary.

3. If you intend to sublet any portion of the work, state the name and address of each subcontractor, equipment to be used by the subcontractor, and whether you will require a bond. However, if you are unable to currently provide a listing, please understand a listing must be provided prior to contract approval. Until the completion of the proposed project, you are under a continuing obligation to immediately notify the governmental unit in the event that you subsequently determine that you will use a subcontractor on the proposed project. Attach response to the Bid Form if necessary.

4. What equipment do you have available to use for the proposed project? Any equipment to be used by subcontractors may also be required to be listed by the governmental unit. Attach response to the Bid Form if necessary.

5. Have you entered into contracts or received offers for all materials which substantiate the prices used in preparing your proposal? If not, please explain the rationale used which would corroborate the prices listed. Attach response to the Bid Form if necessary.

SECTION III CONTRACTOR'S FINANCIAL STATEMENT

Attachment of bidder's financial statement is mandatory. Any bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder agency awarding the contract must be specific enough in detail so that said agency can make a proper determination of the bidder's capability for completing the project if awarded.

SECTION IV CONTRACTOR'S NON – COLLUSION AFFIDAVIT

The undersigned bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to include anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee, gift, commission or thing of value on account of such sale.

SECTION V OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES FOR PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT.

Dated at _____ this _____ day of _____,

(Name of Organization)

By _____

(Title of Person Signing)

ACKNOWLEDGEMENT

STATE OF _____)
_____) ss
COUNTY OF _____)

Before me, a Notary Public, personally appeared the above-named _____ and swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to before me this _____ day of _____,

Notary Public

My Commission Expires: _____

County of Residence: _____

Buy America - 49 U.S.C. 5323(j); 49 CFR Part 661

The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

Certification requirement for procurement of steel, iron, or manufactured products.

Certificate of Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.5.

Date _____

Signature _____

Company Name _____

Title _____

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date _____

Signature _____

Company Name _____

Title _____

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APPENDIX A, 49 CFR PART 20--CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements
(To be submitted with each bid or offer exceeding \$100,000)

The undersigned Contractor certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq.*)]
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq.*, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date

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**CERTIFICATION OF PRIMARY PARTICIPANT REGARDING
DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS**

The Primary Participant, _____ (major third part Bidder), certifies to the best of its knowledge and belief, that it and its principals:

- A. Are not presently debarred, suspended, proposed for Debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- B. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- C. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph B of this certification; and
- D. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or Local) terminated for cause or default.

(If the Primary participant is unable to certify to any of the statements in this certification, the participant shall attach an explanation to this certification.)

The primary participant, _____, certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification and understands that the provisions of 31 U.S.C. Sections 3801 *et seq.* are applicable thereto.

Signature and Title of Authorized Official

The undersigned chief legal counsel for the _____ hereby certifies that the _____ has authority under state and local law to comply with the subject assurances and the certification above has been legally made.

Signature of the Applicant's Attorney

Date

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Certification requirement of Title 49, Code of Federal Regulations, Part 26, Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs

Disadvantaged Business Enterprises (DBE) and Small Business Enterprises (SBE) are encouraged to bid on this project. Any applicable DBE firm's certifications must be included in the proposal. Cost Proposals must list the amount and activity of the service provided by the DBE firm, as applicable. Information on becoming certified as a Disadvantaged Business Enterprise is available from Michigan Department of Transportation (MDOT) at the following website address: <http://mdotjboss.state.mi.us/UCP/>

- A. Certified Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE) firms who will participate in this project or who were contacted to participate (The latter applies to demonstrating a good faith effort by the bidder to achieve the participation goal).*

1. Name of DBE/SBE Firm: _____

a. Description of Work: _____

b. Anticipated Dollar Amount: \$ _____

2. Name of DBE/SBE Firm: _____

a. Description of Work: _____

b. Anticipated Dollar Amount: \$ _____

3. Name of DBE/SBE Firm: _____

a. Description of Work: _____

b. Anticipated Dollar Amount: \$ _____

4. Name of DBE/SBE Firm: _____

c. Description of Work: _____

d. Anticipated Dollar Amount: \$ _____

Total Participation Dollar Amount: \$ _____

Percent of total Bid Sum: _____ %

*Provide attachments to the Bid Form as required to document DBE/SBE participation and demonstrate efforts to encourage participation.

END OF SECTION 00 41 13

Capital Area Transportation Facility
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REQUEST FOR PROPOSAL SIGNATURE CERTIFICATION PAGE

1. At least one proposal copy must be signed with an original handwritten signature executed in ink and returned with your proposal for your proposal to be considered.
2. By signing this RFP Signature Certification Page, the Respondent certifies that she/he is authorized to sign and submit this response on behalf of the submitting vendor named below. Respondent further acknowledges that she/he is responsible for reviewing and acknowledging any addendums (if any) that have been issued for this solicitation in a timely manner for use in the vendor's response to this solicitation.

Completion of ALL of the following information is required:

Check category that indicates business structure of Respondent:

☐ Individual or Proprietorship

☐ Partnership or Joint Venture with _____

If Partnership or Joint Venture are you the Prime Contractor? (Please check one) ☐ Yes or ☐ No

☐ Corporation

The below named individual, submitting and signing this response, verifies that he/she is a duly authorized officer of the company and that his/her signature attests that all information set forth in the Request For Proposal including all specifications, Addenda (if any), Terms and Conditions, and FTA Certifications contained in and pertaining to this RFP are understood and accepted. *Furthermore if Respondent is a Partnership or Joint Venture, a completed RFP Signature Certification Page from an authorized representative of each party is required.*

By: _____ Date _____
Original Signature of Respondent

Print/Type Name _____ Title _____

Respondent Company Name _____

Street Address _____

City, State,
ZIP _____

Respondent Phone# _____ Respondent Fax# _____

Respondent e-Mail Address _____

Federal Employer Identification
Number/SSN _____

Capital Area Transportation Facility
East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

DLZ Project No. 1341.6517.70
CATA IFB #2013-107

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PROPOSED SUBCONTRACTORS AND MANUFACTURERS LIST

Project: **Building Demolition and Site Clearing**

NAME OF BIDDER _____ DATE _____

ADDRESS: _____ PHONE _____

BY _____
Printed Signature

The undersigned hereby submits the following Subcontractors and Manufacturers list, which becomes a part of the undersigned Contract proposal. Subcontractor purchased material, equipment, and labor shall be under the direct management of the Prime Contractor. If dual listing of manufacturers or subcontractors is herein made, it is understood the Owner (not the Contractor) will select the manufacturer or subcontractor of his choice.

<u>Portion of Work</u>	<u>Description</u>	<u>Subcontractor</u>	<u>Manf./Supplier</u>
1. <u>Excavation/Earthwork</u>	_____	_____	_____
2. <u>Site Utilities</u>	_____	_____	_____
3. <u>Asphalt Pavement</u>	_____	_____	_____
4. <u>Concrete</u>	_____	_____	_____
5. <u>Testing</u>	_____	_____	_____
6. <u>Field Engin. Survey</u>	_____	_____	_____
7. <u>Transportation</u>	_____	_____	_____
8. <u>Disposal/Recycling</u>	_____	_____	_____
9. <u>Building Demolition</u>	_____	_____	_____
10. <u>ACM Abatement</u>	_____	_____	_____
11. <u>Electrical/Lighting</u>	_____	_____	_____
12. <u>Fencing</u>	_____	_____	_____
13. <u>Signage</u>	_____	_____	_____
14. <u>Other</u>	_____	_____	_____
15. <u>Other</u>	_____	_____	_____
16. <u>Other</u>	_____	_____	_____
17. <u>Other</u>	_____	_____	_____
18. <u>Other</u>	_____	_____	_____

Capital Area Transportation Facility
East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

DLZ Project No. 1341.6517.70
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PROPOSED SCHEDULE OF VALUES

Project: **Building Demolition and Site Clearing**

NAME OF BIDDER _____ DATE _____

ADDRESS: _____ PHONE _____

BY _____
Printed Signature

The undersigned hereby submits the following proposed Schedule of Values, which becomes a part of the undersigned Contract proposal.

<u>Portion of Work</u>	<u>Description</u>	<u>Scheduled Value</u>	<u>Remarks</u>
1. <u>Excavation/Earthwork</u>	_____	_____	_____
2. <u>Site Utilities</u>	_____	_____	_____
3. <u>Asphalt Pavement</u>	_____	_____	_____
4. <u>Concrete</u>	_____	_____	_____
5. <u>Testing</u>	_____	_____	_____
6. <u>Field Engin. Survey</u>	_____	_____	_____
7. <u>Transportation</u>	_____	_____	_____
8. <u>Disposal/Recycling</u>	_____	_____	_____
9. <u>Building Demolition</u>	_____	_____	_____
10. <u>ACM Abatement</u>	_____	_____	_____
11. <u>Electrical/Lighting</u>	_____	_____	_____
12. <u>Fencing</u>	_____	_____	_____
13. <u>Signage</u>	_____	_____	_____
14. <u>General Conditions</u>	_____	_____	_____
15. <u>Overhead & Profit</u>	_____	_____	_____
16. <u>Supervision</u>	_____	_____	_____
17. <u>Bonds & Insurance</u>	_____	_____	_____
18. <u>Other</u>	_____	_____	_____
16. <u>Other</u>	_____	_____	_____
17. <u>Other</u>	_____	_____	_____
18. <u>Other</u>	_____	_____	_____

Capital Area Transportation Facility
East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

DLZ Project No. 1341.6517.70
CATA IFB #2013-107

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IRAN ECONOMIC SANCTIONS ACT CERTIFICATE

In accordance with the Iran Economic Sanctions Act, Michigan 2012 PA 517, effective April 1, 2013, (MCL 129.311, *et seq.*), (the "Act"), the undersigned certifies in support of its bid or proposal that it is not an Iran linked business as such is defined in the Act.

Contractor: _____

By: _____

Dated: _____

Name: _____

Title: _____

Act No. 517
Public Acts of 2012
Approved by the Governor
December 28, 2012
Filed with the Secretary of State
December 28, 2012
EFFECTIVE DATE: April 1, 2013

**STATE OF MICHIGAN
96TH LEGISLATURE
REGULAR SESSION OF 2012**

Introduced by Senators Kahn, Marleau, Brandenburg, Anderson, Green and Booher

ENROLLED SENATE BILL No. 1024

AN ACT to prohibit persons who have certain economic relationships with Iran from submitting bids on requests for proposals with this state, political subdivisions of this state, and other public entities; to require bidders for certain public contracts to submit certification of eligibility with the bid; to require reports; and to provide for sanctions for false certification.

The People of the State of Michigan enact:

Sec. 1. This act shall be known and may be cited as the "Iran economic sanctions act".

Sec. 2. As used in this act:

- (a) "Energy sector of Iran" means activities to develop petroleum or natural gas resources or nuclear power in Iran.
- (b) "Investment" means 1 or more of the following:
 - (i) A commitment or contribution of funds or property.
 - (ii) A loan or other extension of credit.
 - (iii) The entry into or renewal of a contract for goods or services.
- (c) "Investment activity" means 1 or more of the following:
 - (i) A person who has an investment of \$20,000,000.00 or more in the energy sector of Iran.
 - (ii) A financial institution that extends \$20,000,000.00 or more in credit to another person, for 45 days or more, if that person will use the credit for investment in the energy sector of Iran.
- (d) "Iran" means any agency or instrumentality of Iran.
- (e) "Iran linked business" means either of the following:
 - (i) A person engaging in investment activities in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers or products used to construct or maintain pipelines used to transport oil or liquefied natural gas for the energy sector of Iran.
 - (ii) A financial institution that extends credit to another person, if that person will use the credit to engage in investment activities in the energy sector of Iran.
- (f) "Person" means any of the following:
 - (i) An individual, corporation, company, limited liability company, business association, partnership, society, trust, or any other nongovernmental entity, organization, or group.
 - (ii) Any governmental entity or instrumentality of a government, including a multilateral development institution, as defined in section 1701(c)(3) of the international financial institutional act, 22 USC 262r(c)(3).

(iii) Any successor, subunit, parent company, or subsidiary of, or company under common ownership or control with, any entity described in subparagraph (i) or (ii).

(g) "Public entity" means this state or an agency or authority of this state, school district, community college district, intermediate school district, city, village, township, county, public authority, or public airport authority.

Sec. 3. (1) Beginning April 1, 2013, an Iran linked business is not eligible to submit a bid on a request for proposal with a public entity.

(2) Beginning April 1, 2013, a public entity shall require a person that submits a bid on a request for proposal with the public entity to certify that it is not an Iran linked business.

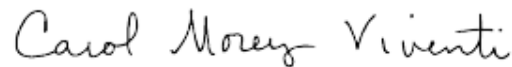
Sec. 4. If a public entity determines, using credible information available to the public, that a person has submitted a false certification under section 3(2), the public entity shall provide the person with written notice of its determination and of the intent not to enter into or renew a contract with the person. The notice shall include information on how to contest the determination and specify that the person may become eligible for a future contract with the public entity if the person ceases the activities that cause it to be an Iran linked business. The person shall have 90 days following receipt of the notice to respond in writing and to demonstrate that the determination of false certification was made in error. If a person does not make that demonstration within 90 days after receipt of the notice, the public entity may terminate any existing contract and shall report the name of the person to the attorney general together with information supporting the determination.

Sec. 5. The attorney general may bring a civil action against any person reported under section 4. If a civil action results in a finding that the person submitted a false certification, the person is responsible for a civil penalty of not more than \$250,000.00 or 2 times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the public entity's investigation, and reasonable attorney fees, in addition to the fine. A person who submitted a false certification shall be ineligible to bid on a request for proposal for 3 years from the date the public entity determines that the person has submitted the false certification.

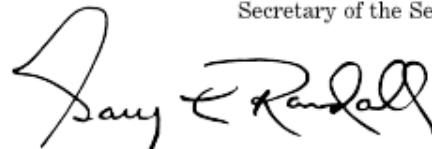
Sec. 6. The provisions of this act are effective only if Iran is a state sponsor of terror as defined under section 2 of the divestment from terror act, 2008 PA 234, MCL 129.292.

Enacting section 1. This act takes effect April 1, 2013.

This act is ordered to take immediate effect.



Secretary of the Senate



Clerk of the House of Representatives

Capital Area Transportation Facility
East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

DLZ Project No. 1341.6517.70
CATA IFB #2013-107

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SECTION 00 52 13 - CONTRACTOR'S AGREEMENT FORM

AGREEMENT:

The form of agreement between the Owner and the Contractor shall be the "Standard Form of Agreement Between Owner and Contractor" (AIA Document A101), 2007 Edition, as published by the American Institute of Architects. Refer to 'Exhibit 00 52 13A'.

END OF SECTION 00 52 13

Capital Area Transportation Facility
East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

DLZ Project No. 1341.6517.70
CATA IFB #2013-107

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Document A101™ – 2007

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year)

BETWEEN the Owner:
(Name, legal status, address and other information)

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

| test

The Architect:
(Name, legal status, address and other information)

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

AIA Document A201™–2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Init.

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User Notes:

(2051298870)

TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS
- 10 INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows:

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than () days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

Portion of Work

Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.

(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 4.3 Unit prices, if any:

(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit (\$ 0.00)

§ 4.4 Allowances included in the Contract Sum, if any:

(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the day of the month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than () days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

Init.

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User Notes:

(2051298870)

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of (). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2007, General Conditions of the Contract for Construction;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of ();
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section 9.8.5 of AIA Document A201–2007 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2007.

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as follows:

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 FINAL PAYMENT

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201–2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201–2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

Init.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 BINDING DISPUTE RESOLUTION

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A201–2007, the method of binding dispute resolution shall be as follows:

(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

- ☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2007
- ☐ Litigation in a court of competent jurisdiction
- ☐ Other *(Specify)*

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

§ 8.3 The Owner's representative:
(Name, address and other information)

§ 8.4 The Contractor's representative:
(Name, address and other information)

Init.

§ 8.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A101–2007, Standard Form of Agreement Between Owner and Contractor.

§ 9.1.2 The General Conditions are AIA Document A201–2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 9.1.4 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

Section	Title	Date	Pages

§ 9.1.5 The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

Number	Title	Date

§ 9.1.6 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

- .1 AIA Document E201™–2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:
- .2 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201–2007 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents)

Init.

unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201–2007.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201–2007.)

Type of insurance or bond

Limit of liability or bond amount (\$ 0.00)

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*

CONTRACTOR *(Signature)*

(Printed name and title)

(Printed name and title)

Init.

/

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SECTION 00 54 00 – AGREEMENT FORM SUPPLEMENTS

These modifications shall delete, modify and supplement the provisions contained in the “Standard Form of Agreement Between Owner and Contractor”, AIA Document A101/2007 Edition. The provisions contained in these modifications shall supersede any conflicting provisions of the AIA Document.

B. ARTICLE 5, PAYMENTS

1. 5.1.3 Provided that an Application for Payment is received by the Architect not later than the first day of the month, the Owner shall make payment of the certified amount to the Contractor not later than the last day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than sixty (60) days after the Architect received the Application for Payment.
2. 5.1.6.1 Insert “ten” and “10” in the appropriate spaces.
3. 5.1.6.2 Insert “ten” and “10” in the appropriate spaces.
4. 5.1.8 Until the work is fifty percent (50%) complete, the Owner will pay ninety percent (90%) of the amount due to the contractor on account of progress payments. Thereafter, retainage may be reduced to five percent (5%). The Contractor must submit a Consent of Surety (AIA for G707A), authorizing the retainage to be reduced. The full contract retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory or if the surety revokes its consent or for other good and sufficient reasons.
5. 5.2.2 Revise “30” to read “61”.

END OF SECTION 00 54 00

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SECTION 00 61 13 - BONDS

A. PERFORMANCE AND PAYMENT BONDS

The successful bidders will be required to furnish a Contract Performance Bond and Payment Bond equivalent to one hundred percent (100%) of the amount of said contract subsequent to award of contract and prior to signing of contract. These bonds shall be executed on AIA Document A312. Refer to Exhibit 00 61 13-A.

B. BID BONDS

A **Bid Bond** will be required for this project, in the amount of five percent (5%) of the total bid. This bond shall be executed on AIA Document A310 (latest edition), or insurance company comparable form or a certified check. Refer to Exhibit 00 61 13-B.

END OF SECTION 00 61 13

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AIA® Document A312™ – 1984

Performance Bond

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

CONSTRUCTION CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Date (Not earlier than Construction Contract Date):

Amount:

Modifications to this Bond: ☒ None ☐ See Last Page

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

Signature: _____

Name and _____,

Title:

(Any additional signatures appear on the last page)

SURETY

Company: (Corporate Seal)

Signature: _____

Name and _____,

Title:

(FOR INFORMATION ONLY - Name, Address and Telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE

(Architect, Engineer or other party):

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contract, Surety, Owner or other party shall be considered plural where applicable.

§ 1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Section 3.1.

§ 3 If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

§ 3.1 The Owner has notified the Contractor and the Surety at its address described in Section 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default; and

§ 3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Section 3.1; and

§ 3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

§ 4 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Construction Contract; or

§ 4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

§ 4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

§ 4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefor to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner citing reasons therefor.

§ 5 If the Surety does not proceed as provided in Section 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 6 After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Section 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

§ 6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

§ 6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 4; and

§ 6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 7 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators or successors.

§ 8 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 9 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 10 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

§ 11 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 12 DEFINITIONS

§ 12.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

§ 12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

§ 12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

§ 13 MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

SURETY

Company: _____
(Corporate Seal)

Signature: _____
Name and Title:
Address:

Signature: _____
Name and Title:
Address:

Payment Bond

CONTRACTOR *(Name and Address):*

SURETY *(Name and Principal Place of Business):*

OWNER *(Name and Address):*

CONSTRUCTION CONTRACT

Date:

Amount:

Description *(Name and Location):*

BOND

Date *(Not earlier than Construction Contract Date):*

Amount:

Modifications to this Bond:

☒ None

☐ See Last Page

CONTRACTOR AS PRINCIPAL.

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name and Title:

(Any additional signatures appear on the last page)

Signature: _____

Name and Title:

(FOR INFORMATION ONLY - Name, Address and Telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE *(Architect, Engineer or other party):*

§ 1 The Contractor and the Surety, jointly and severally bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 With respect to the Owner, this obligation shall be null and void if the Contractor:

§ 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

§ 2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Section 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

§ 3 With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

§ 4 The Surety shall have no obligation to Claimants under this Bond until:

§ 4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Section 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

§ 4.2 Claimants who do not have a direct contract with the Contractor:

- .1** Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
- .2** Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and
- .3** Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Section 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

§ 5 If a notice required by Section 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

§ 6 When the Claimant has satisfied the conditions of Section 4, the Surety shall promptly and at the Surety's expense take the following actions:

§ 6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

§ 6.2 Pay or arrange for payment of any undisputed amounts.

§ 7 The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 8 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 9 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Section 4.1 or Section 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 15 DEFINITIONS

§ 15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

§ 15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

§ 16 MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

Signature: _____
Name and Title:
Address:

SURETY

Company: _____
(Corporate Seal)

Signature: _____
Name and Title:
Address:

AIA® Document A310™ – 2010
Bid Bond**CONTRACTOR:***(Name, legal status and address)***SURETY:***(Name, legal status and principal place of business)***OWNER:***(Name, legal status and address)***BOND AMOUNT: \$****PROJECT:***(Name, location or address, and Project number, if any)*
temp**ADDITIONS AND DELETIONS:**

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner 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. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Init.

Signed and sealed this day of ,

(Witness)

(Witness)

(Principal)

(Seal)

(Title)

(Surety)

(Seal)

(Title)

Init.

SECTION 00 62 16 CERTIFICATE OF INSURANCE

CERTIFICATE OF INSURANCE

Before the execution of the contract, the successful bidder shall submit to the Owner evidence of Insurance on **ACORD Form 25-S CERTIFICATE OF INSURANCE**. Refer to Exhibit 00 62 16A.

The coverage of such insurance shall not be less than the coverage indicated in Section 00 72 13A - AIA Document A201 2007 Article 11 as amended and bound herein and as indicated in CATA's *Construction Standard Terms and Conditions of Procurement*. The most stringent insurance coverage shall apply.

Certificates of Insurance are acceptable only if the Project name and Contractor name are clearly identified on the form itself and if the Contractor, the Owner, the Architect/Engineer, are identified as additional insureds.

THE FOLLOWING ARE ADDITIONAL INSURED UNDER THE GENERAL LIABILITY POLICY BUT ONLY WITH RESPECT TO LIABILITY ARISING OUT OF THE WORK PERFORMED BY OR ON BEHALF OF THE NAMED INSURED FOR PROJECT:

OWNER: Capital Area Transportation Authority (CATA)
4615 Tranter Street
Lansing, Michigan 48910

ARCHITECT: DLZ Michigan, Inc.
1425 Keystone Avenue
Lansing, Michigan 48911

END OF SECTION 00 62 16

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ACORDTM CERTIFICATE OF LIABILITY INSURANCE		DATE (MM/DD/YYYY)
PRODUCER	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
INSURED	INSURERS AFFORDING COVERAGE	NAIC #
	INSURER A:	
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR	ADD'L LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
		GENERAL LIABILITY ☐ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS MADE ☐ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PROJECT ☐ LOC				EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$
		AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ☐ NON-OWNED AUTOS				COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
		GARAGE LIABILITY ☐ ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC \$ AUTO ONLY: AGG \$
		EXCESS/UMBRELLA LIABILITY ☐ OCCUR ☐ CLAIMS MADE ☐ DEDUCTIBLE RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$ \$
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below OTHER				WC STATUTORY LIMITS OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS						

CERTIFICATE HOLDER**CANCELLATION**

	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.
	AUTHORIZED REPRESENTATIVE

IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

DISCLAIMER

The Certificate of Insurance on the reverse side of this form does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

SECTION 00 72 13 - GENERAL CONDITIONS –STIPULATED SUM (Single-Prime Contract)

- A. AIA Document A201 "General Conditions of the Contract for Construction" is hereby made a part of the Contract Documents and is attached herein. See **EXHIBIT 007213-A**, AIA Document A201 2007.
- B. CATA's "Construction Standard Terms and Conditions of Procurement" is hereby made a part of the Contract Documents and is attached herein. Refer to **EXHIBIT 007213-B**.

END OF SECTION 00 72 13

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DRAFT AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing
1240 South Harrison Road
East Lansing, Michigan 48823

THE OWNER:

(Name, legal status and address)

Capital Area Transportation Authority
4615 Tranter Street
Lansing, Michigan 48910

THE ARCHITECT:

(Name, legal status and address)

DLZ Michigan, Inc.
1425 Keystone Avenue
Lansing, Michigan 48911

TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
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9	PAYMENTS AND COMPLETION
10	PROTECTION OF PERSONS AND PROPERTY
11	INSURANCE AND BONDS
12	UNCOVERING AND CORRECTION OF WORK
13	MISCELLANEOUS PROVISIONS
14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents include the Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid, and Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project. No asbestos containing material shall be used within the work of this project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

1.1.5.1 Depictions of systems and assemblies are diagrammatic, and do not indicate every offset, fitting, and accessory required to avoid conflicts with other trades. Contractor to coordinate installations as required to maintain headroom, access to equipment, and other specified requirements at no additional cost to the Owner.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent

consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 If the Contractor notifies the Architect of a perceived inconsistency among the Contract Documents, the Architect's interpretations shall be prioritized as follows:

1. The Owner-Contractor Agreement
2. Addenda, with those of later date having precedence over those of earlier date
3. The General Conditions of the Contract for Construction
4. Drawings and Specifications.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 Material and equipment incorporated into the project which by its nature is governed by OSHA regulations shall conform to said OSHA regulations for both manufacturer and installation. If, during the progress of the work, it is discovered that the installation does not conform to said OSHA regulations, the Contractor shall take such steps as necessary to comply at no additional cost to the Owner.

§ 1.2.5 In the event of an inconsistency between Drawings and Specifications, or within either document not clarified by Addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, upon receipt of a reasonable written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the Site, and the Owner's interest therein at the time of execution of the Agreement.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to execution of the Agreement, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Contractor shall furnish copies of the Contract Documents as required to complete the Work.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within a two-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

§ 2.4.1 In the event that workers performing Work under the Agreement engage in a strike or similar work stoppage, or cease to work due to picketing or a labor dispute of any kind, the failure of the Contractor to cause those workers to resume work or provide other properly skilled workers shall be construed as neglecting to carry out the Work in accordance with the Contract Documents. The Owner may therefore take action as described in Article 2.4.

§ 2.4.2 The Contractor's inability or failure to provide sufficient resources in the form of materials, tools or equipment to properly maintain the project schedule shall be construed as neglecting to carry out the Work in accordance with the Contract Documents. The Owner may therefore take action as described in Article 2.4.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means,

methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

- .1 All workers will be subject to criminal background checks.
- .2 If a criminal background check is determined to be unacceptable (conviction of a felony offense constitutes unacceptability) by the Owner, that worker will be removed and replaced at no additional cost to the Owner
- .3 Strict discipline and good order shall include: no fighting, no possession or use of drugs, no possession or use of alcohol, no use of tobacco products, and no profane language at the Site. The Owner shall have the authority to require a Contractor to have non-compliant workers removed from the Site

§ 3.4.4 Wage Rates shall comply with minimum requirements per applicable laws of the State of Michigan and applicable federal regulations. Wage rates may be adjusted upwards for overtime per industry standards where overtime work is required.

§ 3.4.5 Equal Employment and Non-Discrimination. During the performance of this Contract the Contractor shall maintain the following policies of employment. Contractor and all subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin or age, and shall comply with all Federal Executive Orders and State and local requirements related thereto.

§ 3.4.6 Contractors who are signatory to any union agreement shall observe all established union rules and regulations, and shall cooperate with the labor union officials toward elimination and/or settlement of all labor disputes, in order to maintain the Project Schedule.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or

insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.1 Specific warranties and bonds called for in the Contract Documents, in addition to that falling under the general warranty as set forth in the General Conditions, shall be furnished in accordance with the requirements of the Specifications.

§ 3.5.2 Unless longer periods are identified in individual product Specifications, the Contractor hereby warrants all Work performed under the Agreement for a period of two (2) years following the date of Substantial Completion, as issued by the Architect.

§ 3.5.3 The Contractor hereby agrees to remedy any defect within the Work, due to faults in either the product or its installation, to the Owner and Architect's satisfaction. Corrective action, including costs associated with repairing all Work affected by the defect, shall be completed at the Contractor's expense within fourteen (14) days after the Contractor has received notification of the defect from the Owner.

§ 3.6 TAXES

§ 3.6.1 The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.6.2 Not Used..

§ 3.6.3 Not Used.

§ 3.6.4 If the Contractor is an out-of-state corporation, it shall furnish to the Owner, in his bid proposal, a certificate from the Secretary of State of Michigan as evidence that the Corporation is registered and authorized to transact business in the State of Michigan.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other bonds, permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.1.1 The Owner shall provide the State and local administrative design plan reviews and associated filing fees, where applicable.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that 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 generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect 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, the Architect shall promptly notify the Owner and Contractor in writing, stating the

reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2, except when installation is specified as part of the Allowance in Division 01 General Requirements.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.8.4 Additional provisions pertaining to cash allowances are included in Division 01, General Requirements.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

- .1 The Contractor's superintendent shall be acceptable to the Owner and Architect and shall not be changed without the approval of the Owner and Architect, unless the superintendent ceases to be in the Contractor's employ.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the

Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

§ 3.11.1 The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.11.2 Additional provisions pertaining to Project Record Documents are included in Division 01, General Requirements.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.1.1 Contractor shall submit material and safety data sheets on all material, equipment and products incorporated in to the Work, including certification that no asbestos containing materials have been installed in the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's review of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's review thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.12.11 When a material or product is specified or referenced only by ASTM or similar standard, the Contractor may select any compliant material or product.

§ 3.12.12 The term 'or Approved Equal', or any other term that requires or implies approval, requires submittal of the proposed item in accordance with Article 3.12.

§ 3.12.13 When only one product or manufacturer is specified, this is the Basis of Design. Proposed substitutions require review and approval in accordance with Section 016200 'Product Options'.

§ 3.12.14 Additional provisions pertaining to Shop Drawings, Product Data and Samples are included in Division 01, General Requirements, and more specifically, Section 016200 'Product Options'.

§ 3.13 USE OF SITE

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 Use of the Site restricted to Owner approval and as outlined in the Contract Documents.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.14.3 Additional provisions pertaining to Cutting and Patching are included in Division 01, General Requirements.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall, on a daily basis, keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project. The cost of cleaning up shall be included in the Contractor's Bid.

§ 3.15.1.1 Tools, equipment and materials shall be stored in a neat and orderly fashion to promote safety and not delay the work of other Contractors.

§ 3.15.2 If the Contractor fails to clean up daily and as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.15.3 Coordinate acceptable locations for dumpsters with the Owner prior to placement. This area shall be maintained in a neat and orderly fashion at all times.

§ 3.15.4 Additional provisions pertaining to cleaning up are included in Division 01, General Requirements.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law, the Contractor and Subcontractors (hereinafter Indemnitors) shall indemnify, hold harmless, and defend at its own expense, the Owner, Architect, Architect's consultants, and agents and employees and volunteers of any of them, and any other person or entity for whom any of them may be legally responsible (herein after Indemnitees) from and against claims, damages, losses and expenses, costs, including but not limited to attorneys' fees, arising out of or resulting from, or are related to, or are alleged to arise out of, result from or relate to performance of the Work, including all liability for damages, loss, costs, expenses, and claims including death, damage to property, damages to any Indemnitee or Indemnitor or its employees, servants, and agents, whether based upon, or claimed to be based upon statutory, contractual, tort, or other liability of any Indemnitee whether or not caused, or alleged to be caused in whole or in part by the joint or several negligence (but not sole negligence) of contract, breach of warranty, strict liability of other breach of duty by any Indemnitee. In the event more than one Indemnitor is responsible, or alleged to be responsible, in respect to an accident or occurrence

covered by this Indemnification, then all of such Indemnitors shall be jointly and severally responsible to the Indemnitees for Indemnification, and the ultimate responsibility among such Indemnitors for the loss and expense of any such indemnification shall be settled by separate proceedings and without jeopardy to any Indemnitee.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

§ 3.18.3 The contractor is solely responsible for all citations and penalties arising out of, or resulting from, the performance of the Work.

§ 3.18.4 The Contractor shall indemnify and hold harmless the Owner and Architect, and their agents and employees from and against all claims, damages, losses and expenses, including attorney's fees, arising out of such Occupational Safety and Health Act violations and other applicable ordinances, rules and regulations.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about

matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts. The Owner shall have final approval of Applications for Payment.

§ 4.2.6 The Architect and Owner has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, Bidders, within two days of request from the Architect, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The list shall include complete names, addresses, and contact information. The Architect may reply within 14 days to the Bidder in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. The Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents.

Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that:

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that

the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.1.4 The combined overhead and profit included in the total cost to the Owner for a change in the Work shall be based on the following schedule:

- .1 For the Contractor, for Work performed by the Contractor's own forces, ten percent (10%) of the material and labor cost.
- .2 For the Contractor, for Work performed by the Contractor's Subcontractors and/or Suppliers, five percent (5%) of the amount due the Subcontractor.
- .3 For each Subcontractor involved, for Work performed by the Subcontractor's own forces ten percent (10%) of the cost.
- .4 For each Subcontractor involved, for Work performed by the Subcontractor's Sub-subcontractors, five percent (5%) of the amount due the Sub-subcontractor
- .5 Cost to which overhead and profit is to be applied shall be determined in accordance with Section 7.3.7. Overhead and profit includes compensation to cover the cost of supervision, overhead, bond, profit and all other general expense. The fee shall not include depreciation of machinery and/or tools.
- .6 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts per Section 01 26 00. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over \$500.00 be approved without such itemization.

§ 7.1.5 In the event that mutually agreed upon costs for labor and material changes are accepted and the associated costs are deducted from an established Construction Allowance, premiums for Bonds and Insurance shall be excluded.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 A Contractor's Request for Change Order shall be prepared in accordance with Article 7.3.3

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, an amount as outlined in Article 7.3.3. In such case, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be itemized as follows:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others for the time attributable to additional Work resulting from the change;;

- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 For Change Orders that result in a net deduct that are not signed by the Contractor, the Owner will hold funds equal to the deduct until signed.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents, with the consent of the Owner. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

- .1 Timely performance is an express condition of the Contract, and any delay in the Contractor's performance may excuse the Owner from his obligation to perform. Failure to abide by the time condition may be treated as a breach of contract.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2.4 The Contractor shall furnish labor (including overtime), materials, equipment, temporary heated enclosures, and similar measures as required during construction to ensure work progresses in accordance with the established project schedule. If either the Owner or Architect deems the progress of the work has fallen substantially behind the established project schedule, the Contractor shall take such steps as necessary to expedite the work. Failure of the Contractor to progress the Work in accordance with the project schedule shall be grounds for the Owner to correct such deficiencies in accordance with Article 2.4.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by fire, unusual delay in deliveries, or unavoidable casualties; or by delay authorized by the Owner pending mediation and litigation; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.1.1 The Contractor shall not be allowed to claim weather delays for those days the U.S. National Climatic Data Center (NCDC) reports as the average number of days per month of inclement weather for the closest reporting station to the Project Site. The Contractor shall take this number of days and the Project Schedule into account when preparing their bid proposal. Historical data for all areas may be obtained from the NCDC at: www.ncdc.noaa.gov. The Contractor shall include an NCDC report, including information at the time of bidding as well as when the delay occurred, with any delay Claim filed that is related to weather.

§ 8.3.1.2 The Contractor shall not be allowed to claim weather delays unless inclement weather affects a specific 'critical path' construction activity. The Contractor shall account for measures to accommodate inclement weather in their bid proposal as required to maintain the Project Schedule.

§ 8.3.1.3 Approved delay claims related to weather shall grant the Contractor an extension of the Contract Time only; no adjustments shall be made to the Contract Amount.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

§ 8.3.4 If either the Owner or Architect deems the progress of the work has been delayed due to a failure to timely deliver materials, equipment, or labor, the Owner retains the right to deal directly with the delinquent suppliers and/or Subcontractors. The Contractor shall take such action as required to assist the Owner with facilitating a timely resolution of the delay, including, but not limited to, termination of delinquent orders and the issuance of replacement orders as selected by the Owner on behalf of the Contractor. Any expediting measures carried out by the Owner does not relieve the Contractor of their obligations. No additional costs will be approved by the Owner as a result of the Contractor's suppliers or Subcontractors failure to meet their obligations.

§ 8.3.5 If any delay on the part of the Contractor, any subcontractor of sub-subcontractor, any one directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable results in any claim by third parties against the Owner or the Architect arising out of such delay, the Contractor shall pay, satisfy, and discharge all losses, damages and expenses arising out of such claims, including attorney's fees, and shall indemnify and hold harmless the Owner and the Architect and their agents and employees from and against all costs, fees, losses, damages and expenses arising out of such claims enforced against the Owner or the Architect.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the

various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 Additional provisions for Applications for Payment are included in Section 012900 of the Project Manual.

§ 9.3.1.4 Contractor shall submit certified payroll documentation with each Application for Payment.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.2.1 Notify the Architect, in writing, prior to requesting payment for materials stored off-site. Notifications shall include the following:

- .1 A list of the fabricated materials consigned to the project (which shall be clearly identified), giving the place of storage, together with copies of invoices and reasons why materials cannot be delivered to the site;
- .2 Certification that all items have been tagged for delivery to the project and that they will not be used for any other purpose;
- .3 A letter from the bonding company indicating agreement to the arrangements and that payment to the contractor shall not relieve either party of their responsibility to complete the facility;
- .4 Evidence of adequate insurance covering the material in storage; and
- .5 Any costs incurred by the Architect to inspect material in off-site storage outside a 25 mile limit of the project site shall be paid by the Contractor.

§ 9.3.2.2 When partial payment is approved for material delivered to the site of the work or in the vicinity thereof or under the possession and control of the Contractor, but not yet incorporated therein, such material shall become the property of the Owner, but if such material is stolen, destroyed, or damaged by casualty before being used, the Contractor will be required to replace it at their own expense until those materials are properly incorporated into the Work.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

- .1 The Contractor shall submit a Partial Lien Waiver on AIA Document G706 Application for Payment. Document G706 shall be modified so it applies to Progress Payments instead of Final Payments.

§ 9.3.4 Until the work is fifty percent (50%) complete, the Owner will pay ninety percent (90%) of the amount due to the contractor on account of progress payments. Thereafter, retainage may be reduced to five percent (5%). The Contractor must submit a Consent of Surety (AIA Form G707A), authorizing the retainage to be reduced. The full contract retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory or if the surety revokes its consent or for other good and sufficient reasons.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the

Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall review the Certificate for Payment and upon approval shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.2.2 If, during the course of the Architect's inspection, the Architect discovers that the Contractor's list is deficient, or fails to include a substantial number of items requiring correction or completion, the Architect may stop their inspection and return the list to the Contractor with instructions to prepare a revised list accurately reflecting the actual conditions of the Work. Upon making such a discovery, the Architect shall have no further duty to inspect until a corrected list is received from the Contractor. Under such circumstances, the Contractor shall promptly prepare a corrected comprehensive list of items to be corrected or completed, or complete all deficient work not included on the Contractor's list before requesting a re-inspection.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable, upon review and approval of the Owner. The Architect's final

Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.2.1 The Contractor shall furnish such evidence as may be necessary to show that any out-of-state subcontractor or supplier has fully met the requirements of payment of taxes as established in any law of the State or local subdivision thereof which may be in effect at the time of final payment. The Owner will require the submission of such proof or evidence before final payment will be approved or made.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

§ 9.10.6 Final Payment, including all escrowed principal and escrowed income, shall be due within sixty-one (61) days following the Date of Final Completion, as defined above. If at that time there are any remaining uncompleted minor items, an amount equal to 200% of the value of each item as determined by Architect shall be withheld until said item or items are completed. The cost of the review estimate and other efforts necessary to establish the value of the incomplete work will be deducted from the remaining funds owed to the Contractor.

- .1 Actions against a surety on a performance bond must be brought within one (1) year after the date of the board's final settlement with the contractor.

§ 9.11 Operation and Maintenance manual completion is a prerequisite for reduction of retainage when the contract is 90% complete. Exceptions may be granted for balancing reports and certain warranties which are to be supplied within 30 days of Substantial Completion.

§ 9.12 The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner all sums incurred and attributable to remedial action performed by the Owner under Article 2.4 to complete the Work.

§ 9.13 OWNER'S COST INCURRED DUE TO INCOMPLETE WORK

§ 9.13.1 The Contractor shall be assessed the amount of \$1,000.00 for each Calendar Day that expires after the time specified for Substantial Completion, or any proper extension thereof granted by the Owner, until the Work is Substantially Complete as defined herein.

§ 9.13.2 After Substantial Completion, if the Contractor shall neglect, refuse, or fail to complete the remaining Work within the time specified, or any proper extension thereof granted by the Owner, the Contractor shall be assessed the amount of \$1,000.00 for each Calendar Day that expires after the time specified for Final Completion until the Work is ready for final payment.

§ 9.13.3 Refer to CATA's Construction Standard Terms and Conditions of Procurement, Section 22, for Liquidated Damages requirements which are applicable to this Contract.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.1.1 Each Contractor is responsible for coordination and implementation of their safety program within the safety and health standards for construction as set forth in the Federal Register publication for the Occupational Safety and Health Administration (OSHA), Department of Labor, titled Bureau of Labor Standards "Safety and Health Regulations for Construction", and any state or local regulations or codes governing or providing for the safety and health of employees and the general public. This includes all OSHA safety requirements for the specific type of work or condition built by the Contractor. All Contractors shall perform their own safety inspections.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- .4 All work, materials, apparatus and fixtures, which may be affected by weather (rain, winds, storms, frost and heat).
- .5 Excavated banks, trenches and/or the building from damage from rainwater, spring water, groundwater, backing up of drains of sewers and all other water admitted to the work by their operation. The Contractor shall provide all pumps and other equipment and enclosures to provide this protection. In the case of any work involving a trench greater than five feet in depth, OSHA regulations shall prevail.
- .6 excessive wind forces. At all times during the construction and/or erection of the project and/or its component parts, each Contractor shall provide, install and maintain properly designed and constructed temporary bracing of adequate strength to prevent dislocation, distorting, cracking, failing of, or any other damage to their work on the project and/or its component parts.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.3.1 Additional protection shall be taken when (1) utilities cross existing streets, drives, lawn, shrubs, etc., (ii) repair or replace to original conditions as approved by Owner and Architect. In streets, roads, highways, work to be as directed by City Engineer, County or State Highway Department.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.4.1 Obtain approval of the Owner, in writing, for each specific occurrence prior to use or storage.

§ 10.2.4.2 The Contractor shall have their Hazard Communication Program in effect with all personnel working on the project. All Material Safety Data Sheets shall be maintained and current as required by law

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Section 10.2.1 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Section 10.2.1, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.5.1 Should the Contractor fail to remedy all damage or loss (other than damage or loss insured under Paragraph 11.3) to property referenced in Provision 10.2.5 within two days of notice, the Owner shall have the right to remedy the situation; the cost thereof will be deducted from the Contractor's contract.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall

resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 Not Used.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies with ratings of no less than A as determined by A.M. Best Company licensed to do business in the state where the project is located and to which the Owner has no reasonable objection, such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed including private entities work at the site and exempt from the coverage on account of number of employees or occupation, which entities shall maintain voluntary compensation at the same limits specified for mandatory coverage for the duration of the project;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees or persons or entities excluded by statute from the requirements of Clause 11.1.1.1, but required by the Contract Documents to provide the insurance required by the Clause;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 Liability Insurance shall include all major divisions of coverage and be a comprehensive basis including:

- .1 Premises Operations (including X, C and U coverage as applicable).
- .2 Independent Contractor's Protective.
- .3 Products and Completed Operations.
- .4 Personal Injury Liability with Employment Exclusion deleted.

- .5 Contractual, including specified provision for Contractor's obligation under Paragraph 3.18.
- .6 Owned, non-owned and hired motor vehicles.
- .7 Broad Form Property Damage, including Completed Operations.

§ 11.1.3 If the General Liability coverages are provided by a Commercial General Liability Policy on a Claims-Made basis, the policy date or Retroactive Date shall pre-date the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverages required to be maintained after final payment, certified in accordance with Subparagraph 9.10.2.

§ 11.1.4 Before starting work, the contractor shall furnish to the Owner, through the Architect, duly executed certificates of all required insurance on the latest edition of AIA Form G705 or on an ACCORD Form 25 or 255 current edition. The certificates shall also state that such insurance is in force and cannot be canceled or released except upon thirty (30) days prior written notice to the Owner with a copy to the Architect/Engineer. All policies shall be written specifically for this project, with the name of the project and additional insured(s) on said policies.

§ 11.1.5 It shall be the Contractor's responsibility to provide the Architect with written certification of renewal of insurance in sufficient time no later than fifteen (15) days prior to policy expiration date. The Contractor shall provide the Architect with a copy of said renewal certification. Allowing the insurance to expire is a breach of contract on the part of the Contractor and shall be grounds to immediately stop the work by direction of the Owner. No work shall proceed until renewal insurance has been reviewed and approved by the Architect. The Contractor will be liable to make up the lost time and for any expenses incurred by others due to mandated work stoppages.

§ 11.1.6 All insurance required under this Article 11 shall remain in effect for a period of one (1) year from date of Substantial Completion. The Owner, and Architect shall be as named additional insureds on all liability policies.

§ 11.1.7 The insurance required by Section 11.1.1 shall be written for not less than identified limits or as required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.8 Prior to the commencement of any work and prior to the performance of any service, the Contractor shall procure and pay for the following insurance coverage's, and the Contractor shall maintain them in force after his work is completed and accepted for final payment and throughout the warranty period. The insurers and policies shall be subject to the Owner's approval.

§ 11.1.9 Workmen's Compensation

- .1 Statutory Workmen's Compensation and Occupational Disease Insurance with all elective employment's covered and all excluded employment covered on a voluntary basis where permissible.
- .2 The Workmen's Compensation policy shall contain the following endorsement, unless specifically prohibited by compensation insurance authorities having jurisdiction:

Whereas, Contractor may undertake to perform work for the Owner; and whereas said Owner may exercise some degree of jurisdiction or control over the employees of Contractor engaged in such work, it is agreed that, subject to the conditions and limitations of this policy, said Owner is named as an additional insured employer under this policy, but only with respect to employees of Contractor whose names appear on the payroll records of Contractor while performing such work for said company.

§ 11.1.10 Bodily Injury and Property Damage Liability

- .1 The liability policy shall be on a comprehensive liability form and shall include, but not be limited to, coverage for all operations of the Contractor, including automobile, premises, contractual liability, completed operations liability, Contractor's protective liability and contingent liability for the operations of subcontractors.

- .2 The Contractor shall effect and maintain insurance covering himself or his agents, the Owner or its assignee, the Architect and their consultants against all claims, demands or actions arising under the applicable Workmen's Compensation Law against all other claims, demands or actions for injury to, or death of, persons and damage to property, and will furnish the Owner with certificates showing the following coverage is in complete satisfaction to the Owner.

- .1 Worker's Compensation Insurance, Occupational Disease Insurance and Employer's Liability Insurance for all employees engaged in the work under this agreement.
- .2 Comprehensive General Liability Insurance, including Contractor's protective Liability, Completed Operations, Blanket Contractual and Personal Injury Liability, and Coverage as Respects the Explosion, Collapse, and Underground Hazards:
 - a) Bodily Injury: \$1,000,000 Each Occurrence
 - b) Property Damage: \$1,000,000 Each Occurrence
Min. \$2,000,000 Aggregate
 - c) Products and Completed Operations to be maintained for two years after final payment.
 - d) Property Damage Liability Insurance shall include completed operations:
- .3 Contractual Liability (Included in No. 2)
- .4 Business Auto Liability (including owned, non-owned and hired vehicles):
 - a) Bodily Injury \$1,000,00 Each Person
 - b) Property Damage: \$1,000,000 Each Occurrence
- .5 Umbrella Excess Liability:
 - a) Over Primary Insurance \$5,000,000
- .6 In addition to the limits specified herein, the policy shall also include the following endorsements to the "Owners' and Contractors' Protective Liability Insurance."
 - a) Whenever used in this policy, the term "named insured" shall include the the Capital Area Transportation Authority (CATA), it's members and employees.
 - b) Wherever used in this policy, the term "general supervision" shall include on-site inspection, field engineering, field testing, and activities incidental thereto.
 - c) Refer to CATA's Construction Standard Terms and Conditions of Procurement, Section 18, for additional insurance limits which apply to this Contract.

§ 11.1.11 Indemnification: See Article 3.18 'Indemnification' on Page 6 of AIA Document A201, "General Conditions of the Contract for Construction", 2007 edition. Refer also to CATA's Construction Standard Terms and Conditions of Procurement, Section 19, for additional indemnification requirements which are applicable to this Contract.

§ 11.1.12 The policy of insurance referred to above shall contain the following endorsement:

It is further understood and agreed that the coverage of this policy shall not be canceled or reduced by the company until the company has mailed written notice to Owner stating when, but in no case less than thirty (30) days thereafter, such cancellation or reduction in coverage shall be effective.

The Contractor shall indemnify and hold harmless, the Owner or assignee, the Architect and their agents

and employees in accord with Article 3.18, "Indemnification" of the General Conditions of the Contract for Construction, AIA Document A201, 2007 edition.

The policy provided by the Contractor shall provide coverage for the professional acts of that Contractor.

For the duration of this Contract, Contractor shall maintain Comprehensive Automobile Liability Insurance for all owned, non-owned and hired vehicles. Contractor shall require subcontractors to provide Comprehensive Automobile Liability Insurance with same minimum limits.

Contractor shall not commence work at the site under this Contract until he has obtained all required insurance, and until such insurance has been approved by the Owner and Architect. The Contractor shall not allow any subcontractor to commence work until all insurance required has been obtained and approved. Approval of the insurance, by the Owner and Architect, shall not relieve or decrease the liability of the contractor hereunder. Certificates of Insurance shall be filed with the Owner and Architect prior to commencing work.

The Contractor shall be responsible for his subcontractors required insurance prior to commencing work.

Proof of Carriage: The Contractor shall furnish the Owner and Architect with satisfactory proof of carriage of the insurance required. Contractor shall furnish to Owner and Architect certificates issued by the as proof of compliance with applicable Workmen's Compensation Insurance as provided under the Laws of the State of Michigan. No work shall be started by either Contractor or subcontractor until such certificates are delivered. Owner reserves the right to stop work in all cases where such renewal certificates and insurance policies are not delivered to Owner prior to the expiration date shown on the policies and/or certificates.

All Contractors' insurance policies shall name the Owner and/or its representatives or assignees, the Trustee, the Architect/Engineer as additional insureds, and shall deliver evidence of such insurance to the Owner.

§ 11.1.13 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.13.1 If this insurance is written on the comprehensive General Liability policy form, the Certificates shall be AIA Document G70-5, Certificate of Insurance. If this insurance is written on a Commercial General Liability policy form, ACCORD Form 25S will be acceptable.

§ 11.1.13.2 It shall be the Contractor's responsibility to provide the Owner with written certification of renewal of insurance in sufficient time so as to be in possession of the Owner no later than fifteen (15) days prior to policy expiration date. The Contractor shall provide the Architect with a copy of said renewal certification. Allowing the insurance to expire becomes negligence on the part of the Contractor and shall be grounds to immediately stop the Work by direction of the Owner. No work shall proceed until renewal insurance has been reviewed and approved by the Owner.

§ 11.1.13.3 All insurance required under this Article 11 shall remain in effect for a period of two (2) years from date of Substantial Completion. The Owner and Architect shall be as named additional insured.

§ 11.1.14 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the

Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.1.15 Furnish one copy of the certificate for each copy of the Owner-Contractor Agreement. Specifically set forth evidence of all insurance required of the Contractor by this Article 11. The form of the certificate shall be AIA Document G705, ACORD Form 25 or Form 25S, current edition. Furnish copies of any endorsements that are subsequently issued amending coverage or limits.

§ 11.1.15.1 The "Certificate Holder" shall be listed as **the Capital Area Transportation Authority**.

§ 11.1.16 The Contractor's owned, leased, hired and/or borrowed equipment, supplies, and materials stored on or off site, and tools, not forming a part of or incorporated into the Work, is not covered by the Owner's Builders Risk Insurance. The Contractor, lender, or other type of owner of said mentioned equipment, shall not have claim against the Owner of this project, for any reason whatsoever, for loss of such equipment mentioned above which is used on this project.

§ 11.1.17 In addition to the limits specified herein, the policy shall also include the following endorsement to the Owner's and Contractors' Protective Liability Insurance:

- .1 Wherever used in this policy, the term "Insured" shall include the Owner and Architect
- .2 Wherever used in this policy, the term "General Supervision" shall include on-site inspection, field engineering, field testing and activities incidental thereto.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later..

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.1.6 Builder's All Risk - The Owner shall purchase and maintain Builders Risk Property Insurance upon the entire Work at the site for One Hundred (100%) percent of the full value thereof.

Said insurance shall cover the building under construction and all materials which are incorporated into the work. The Owner and Contractors waive all rights against each other for damages caused by the perils covered by such insurance.

Equipment of the Contractors and materials, which are not yet incorporated into the building, will not be insured by the Owner.

Furthermore, it is the Contractor's responsibility to insure himself against those claims for theft, vandalism and other such items which are not contained in the Owner's Builder's Risk Policy. Each Contractor shall insure himself against claims for the theft and vandalism of his materials and equipment stored on the site in trailers, buildings, etc., which are not yet a permanent part of the work.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for special hazards or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and the subcontractors, sub-subcontractors, agents and employees each of the other, and (2) the Architect, Engineer, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay

the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged. The policies shall not prohibit waivers of subrogation.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as Trustee, shall have the power to adjust and settle any loss with the insurers.

§ 11.3.11 This coverage shall not be terminated until final payment to the Contractor or occupancy. The insurance company and/or Owner shall give ten (10) days written notice to the Architect, and Contractors prior to termination of policies provided under the provisions of Property Insurance.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 Each contractor to whom awards are made shall furnish a Contract Performance Bond and Labor and Material Payment Bond within ten (10) days after official notice of the Contract by the Owner. The bonding and surety company must be approved or licensed to transact a fidelity and surety business in the state in which this Project is located and, further, shall be listed in the latest edition of the U.S. Federal Register, Department of Treasury, Bureau of Accounts.

§ 11.4.2 Said Contract Performance Bond and Labor and Material Payment Bond shall be in an amount at least equal to One Hundred (100%) Percent of the Contract price as security for:

- .1 The faithful performance of all provisions of the Contract and the satisfactory completion of the Work.
- .2 The payment of all persons performing labor and furnishing materials in connection with the Contract.
- .3 The covering of all guarantees included herein

§ 11.4.3 The Contractor shall deliver the required bonds including Subcontractor's Bonds to the Owner not later than three days following the date the Agreement is entered into, or if the work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the work, submit evidence satisfactory to the Owner that such bonds will be furnished.

§ 11.4.4 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.4.5 The Contractor shall deliver the required bonds to the Owner no later than the date of execution of the contract. The Owner or Architect shall not be responsible for any costs associated with securing the bond should the project be canceled prior to contracts being fully executed.

- .1 Said bonds shall remain in full force and effect, during the life of the contract and for a period of at least 12 months after the date of final completion and Owner's acceptance of the work provided under the Contractor's contract. Should the Contractor's bonding company default, the Contractor will be responsible for securing a new bond within fourteen (14) calendar days.

- .2 Contractor shall keep his Bonding Company informed of any and all changes in amount of his contract with the Owner and shall furnish the Architect with copies of all notices of such changes upon request.

§ 11.4.6 Performance Bond and Labor and Material Payment Bond shall be executed by a surety acceptable to the Owner on the edition of AIA Documents A311/A312 current as of the date of the award of the Contract.

§ 11.4.7 The Contractor shall use as a Surety for the applicable bond one of the acceptable companies determined strictly in accordance with the following: Insurance and Surety companies shall be deemed qualified and acceptable to the Owner's Legal Counsel, in connection with Contractor bonding and insurance requirements under said Contracts only if such companies have a Policy Holders Rating of "A", a financial category not less than Class VI and Policy Holder Surplus of not less than \$25,000,000.00 all as shown on "Best's Key Rating Guide", latest edition, provided, however, that the bond furnished is furnished by one of the aforesaid qualified Sureties who is also listed in the Department of the Treasury Circular 570 - Volume 41 No. 132, Part V (Federal Register) and is licensed in the State of Michigan and the penal sum of the bond does not extend the underwriting limitation set forth in the subject Circular, unless the excess, if any, is reinsured with the approval of the Owner

§ 11.4.7.1 The Contractor shall deliver the required bonds to the Owner prior to the date of execution of the contract and fourteen (14) days prior to the date set for bond closing. The Owner and/or Architect shall not be responsible for any costs associated with securing the bond should the project be canceled prior to contracts being fully executed.

§ 11.4.7.2 Said bonds shall remain in full force and effect during the life of this contract and for a period of at least 24 months after the date of final completion of the contract. Should the Contractor's bonding company give notice of cancellation, the Contractor will be responsible for securing a new bond prior to termination.

§ 11.4.7.3 Performance Bond and labor and Material Payment Bond shall be security for the following:

- .1 The faithful performance of all provisions of the Contract and satisfactory completion of the work included thereunder.
- .2 The payment of all persons performing labor and furnishing materials in connection with the Contract.
- .3 The covering of all guarantees included herein.
- .4 In addition to the paragraphs above, this Bond shall guarantee the Owner for a period of two (2) years after the date of acceptance of the work by the Owner that all workmanship and materials performed and furnished as part of this Contract are in accordance with the Drawings and Specifications, and that the Contractor shall remove any defects due to faulty workmanship and/or materials that shall appear within the guarantee period.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was solely caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated,

installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the two (2) year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The two (2) year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.2.6 If any Subcontractor chooses to use any system, equipment, facilities, or services which have been installed into the building as a permanent part thereof by any other Contractor, said Contractor shall assume full responsibility for damage to said system, equipment, facilities, or services and shall make such arrangements with the installing Subcontractor as are necessary, so that in no case the performance for the period mentioned above shall be jeopardized as a result of such use; and said use can be implemented only after written approval is given by the Architect.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner. Owner may assign, in whole or in part, the Contract without written consent of the Contractor.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 All equipment shall be inspected and tested under operating conditions. The Architect and/or Owner reserve the right to be present at said testing. Contractor shall give the Architect and/or Owner at least forty-eight (48) hours advance notice by telephone prior to scheduling said tests and operations. If inspection or tests show defects, they shall be corrected and inspections and tests repeated until proven satisfactory. Neither the observations of the Architect in administration of the Contract, nor inspections, tests or approvals persons

other than the Contractor, shall relieve the Contractor from obligations to perform the work in accordance with the Contract Documents.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.2.5 The Owner shall have the right at anytime to terminate the contract if such termination is in the public interest. In such case, the Owner's liability to the Contractor will be limited to payment of work completed, and reasonable charges for return and restocking of materials purchased, but not incorporated into the work.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 10 days after occurrence of the event giving rise to such Claim or within 10 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. In the case of continuing delay, the claim along with estimated associated costs must be updated weekly and submitted to the Architect for the duration of the delay.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.1.7 The Contractor causing damage to the work of another Contractor shall be responsible for the repair or replacement of such damaged work.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be

required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to litigation.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Any claim arising out of or related to the Contract shall be first submitted to non-binding mediation unless the parties mutually agree otherwise. The parties further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the Work and to require all independent contractors and consultants to likewise include a similar mediation provision in all agreements with subcontractors, sub-consultants, suppliers and fabricators so retained, thereby providing for mediation as the primary method for dispute resolution between the parties to those Agreements. After non-binding mediation, the parties may proceed to arbitration as the secondary method for dispute resolution.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate litigation conducted under this Agreement with any other litigation to which it is a party provided that (1) the litigation agreement governing the other litigation permits

consolidation, (2) the litigation to be consolidated substantially involve common questions of law or fact, and (3) the litigation employ materially similar procedural rules and methods for selecting litigator(s)s.

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in litigation, provided that the party sought to be joined consents in writing to such joinder. Consent to litigation involving an additional person or entity shall not constitute consent to litigation of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to litigation conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

END OF GENERAL CONDITIONS

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CAPITAL AREA TRANSPORTATION AUTHORITY

CONSTRUCTION STANDARD TERMS AND CONDITIONS OF PROCUREMENT**A. THE FOLLOWING TERMS AND CONDITIONS WILL BE A PART OF THE CONTRACT AWARDED.**

1. **CHANGES.** CATA, at any time, by a written order, and without notice to the sureties, may make changes within the general scope of this contract, in (a) drawings, designs or specifications where the supplies to be furnished are specifically manufactured for CATA in accordance therewith; (b) method of shipment or packing; and (c) place of delivery. If any such change causes an increase or decrease in the cost of, or the time required for performance of this contract, whether changed or not changed by such order, an equitable adjustment shall be made by written modification of the contract. Any claim by the Contractor for adjustment under this clause must be asserted within thirty (30) days from the date of receipt by the Contractor of the notification of change; provided that CATA, if it decides that the facts justify the action, may receive and act upon any such claim if asserted prior to dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes." However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.
2. **TERMINATION FOR DEFAULT.** CATA, by written notice, may terminate the contract awarded on the basis of this proposal, in whole or in part, for failure of the Contractor to perform any of the provisions hereof. In such event, the Contractor shall be liable for damages, including the excess cost of reprocurring similar supplies or services, provided, that if (a) it is determined for any reason that the contract was not in default or, (b) the Contractor's failure to perform is without his control, fault or negligence, the termination shall be deemed to be a termination for convenience under the following Paragraph 3.
3. **TERMINATION FOR CONVENIENCE.** CATA, by written notice, may terminate the contract, awarded on the basis of this proposal, in whole or in part, when it determines it is in the best interest of CATA. If this contract is for supplies and is so terminated, the Contractor shall be compensated in accordance with its auditable cost incurred at the time of notification of termination. To the extent that the contract is for services and is so terminated, CATA shall be liable only for payment in accordance with the payment provisions of the contract for services rendered to the effective date of termination.
4. **ADDITIONAL INFORMATION.** The Contractor shall promptly furnish any additional information requested by CATA relative to the equipment it proposes.
5. **SUPPLIER RESPONSIBILITY.** No advantage shall be taken by the Contractor or its Subcontractor in the omission of any part or detail which goes to make the equipment complete and operable for use by CATA. In case of any variance, this specification shall overrule Contractor or Subcontractor specifications. The Contractor shall assume responsibility for all materials used whether the same is manufactured by the Contractor or purchased ready made from a source outside Contractor's company. In the case of the replacement of a Subcontractor, the Contractor must, within five (5) working days, notify CATA in writing of the replacement and provide name, address, telephone number, and the type of service.

6. DELIVERY. Service and/or equipment will be delivered to Capital Area Transportation Authority, 4615 Tranter Street, Lansing, Michigan 48910. The Authority will assume custody of all property at one of its other locations, if so directed, in writing by CATA. Invoices shall be furnished with the delivery of each item. CATA reserves the right to inspect all deliveries or services before acceptance.
7. BREACH OF CONTRACT. If the Contractor shall fail, refuse or neglect to comply with the terms of these contract conditions, such failure shall be deemed a total breach of contract and the Contractor shall be subject to legal recourse by CATA, plus costs relating to failure to comply.
8. DISPUTES (AFTER BID AWARD). Except as otherwise provided in the contract, any dispute concerning a question of fact arising under the contract which is not disposed of by Contractor shall be decided by CATA in writing, with a copy mailed or otherwise furnished to the Contractor. The decision of CATA shall be final and conclusive unless within ten (10) days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to CATA a written appeal addressed to the Executive Director for the determination of such appeal, which shall be final and conclusive, unless determined by a court of competent jurisdiction to have been fraudulent or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending a final decision of the dispute, the Contractor shall proceed diligently with the performance of the contract and in accordance with CATA's decision.
9. DELIVERY EXTENSION AND DELAYS. CATA reserves the right to extend, postpone or reschedule delivery in case the delivery of service equipment, under this contract, shall be necessarily delayed because of strike, injunction, civil disturbance, government controls, or by reason of any cause or circumstance beyond the control of the Contractor, as detailed in writing by the Contractor, the time of completion or a delivery shall be extended by a number of days to be determined in each instance by CATA.
10. INSTALLATION. If specified, the Contractor shall install and place in operation, subject to approval by CATA, the equipment at the Contractor's expense within thirty (30) days from issuance of a notice to install issued by CATA.
11. INSTALLATION EXTENSION AND DELAYS. CATA reserves the right to extend, postpone, or reschedule installation in case the installation of equipment under this contract shall be necessarily delayed because of strike, injunction, civil disturbance, government controls, or by reason or cause or circumstances beyond the control of the Contractor. The time of completion or installation shall be extended by a number of days to be determined in each instance by CATA.
12. ASSEMBLY. If required, the Contractor shall assemble the equipment of the installation.
13. ACCESSORIES. The Contractor shall furnish all accessories required to permit CATA to operate the equipment as contemplated by the Authority. Accessories shall be included in the bid price.

14. TRAINING. The Contractor shall properly train CATA personnel in the operation and maintenance of the equipment.
15. SERVICE MANUAL AND WIRING SCHEMATIC. If specified, the Contractor will provide at least one copy of a service manual and at least one copy of a wiring schematic for individual components and other schematics and drawings.
16. WARRANTY. The Contractor shall describe its policy or warranty(s) both on workmanship and material as applying to the equipment, along with the method or adjustment, and shall be further subject to warranty requirements of CATA as set forth in the following Paragraph 17.
17. CATA WARRANTY. The Contractor agrees that the supplies or services furnished under this contract shall be covered by the most favorable warranties the Contractor gives any customer for such equipment and that the rights and remedies provided herein are in addition to and do not limit any rights afforded to CATA by any other clause of this contract. The Contractor shall state the warranty and supply with its bid.
18. INSURANCE. The Contractor shall place and maintain with responsible insurance carriers the following insurance. The Contractor shall deliver to CATA, upon request, certificates of insurance which shall provide thirty (30) days' written notice to be given to CATA in the event of cancellation. Contractor shall require all Subcontractors to maintain adequate insurance coverage.
 - (a) Workers' Compensation and Employer's Liability Insurance.
 - (1) Workers' Compensation in compliance with the applicable state and federal laws.
 - (2) Employer's Liability. Limit \$1,000,000.
 - (b) Commercial General Liability Insurance, including Professional Liability, Blanket contractual, XCU Hazards, Broad Form Property Damage, Completed Operations, and Independent Contractor's Liability, all applicable to Personal Injury, Bodily Injury and Property Damage to a combined single limit of \$1,000,000 each occurrence/claim, subject to a \$2,000,000 annual aggregate for Professional Liability, Completed Operations and Personal Injury other than Bodily Injury.
 - (c) Automobile Liability Insurance, including owned, hired and non-owned automobiles, Bodily Injury and Property Damage, to a combined single limit of \$1,000,000 each occurrence.
19. INDEMNIFICATION. In addition to the protection afforded by any policy of insurance, the Contractor agrees to indemnify and save harmless CATA, the Michigan Department of Transportation ("MDOT"), the Federal Transit Administration ("FTA"), and all officers, agents, and employees thereof:
 - (a) From any and all claims by persons, firms, or corporations for labor, materials, supplies, or services provided to the Contractor in connection with the Contractor's performance of the contract; and

- (b) From any and all claims for injuries to or death of any and all persons, for loss of or damage to property, for environmental damage, degradation and response, and cleanup costs, and for attorney fees and related costs arising out of, under, or by reason of the Contractor's negligent performance of the contract.

CATA will not be subject to any obligations or liabilities by Subcontractors of the Contractor or their Subcontractors or any other person not a party to this contract without its specific consent and notwithstanding its concurrence in or approval of the award of any contract or subcontract or the solicitation thereof.

- 20. **ACCEPTANCE OF MATERIAL - NO RELEASE.** Unless CATA otherwise agrees in writing, acceptance of any portion of the material prior to final acceptance shall not release the Contractor from liability for faulty workmanship or materials or for failure to fully comply with all of the terms of this contract. CATA reserves the right and shall be at liberty to inspect all materials and workmanship at any time during the manufacturing process, and shall have the right to reject all materials and workmanship which do not conform with the contract requirements and specifications; provided, however, that CATA is under no duty to make such inspection and no inspection so made shall relieve Contractor from any obligation to furnish materials and workmanship in accordance with the contract requirements and specifications.
- 21. **FINAL ACCEPTANCE.** Upon final acceptance by CATA of all work to be performed by the Contractor, CATA will so notify the Contractor in writing. The date of final acceptance shall commence the warranty period.
- 22. **LIQUIDATED DAMAGES.** If the Contractor fails to deliver the requirements by the date as set forth in the bid documents scheduled for delivery, CATA shall be paid damages for each consecutive calendar day thereafter until the goods are delivered, unless a completion date is extended by CATA in writing. Inasmuch as the amount of such damages will be extremely difficult to ascertain, the Contractor agrees to compensate CATA the sum of \$1,000.00 per day, which sum is hereby agreed upon, fixed and determined by the parties hereto as the liquidated damages that CATA will suffer by reason of said delay and default and not as a penalty; and CATA shall have the right to deduct such sum from any amounts which may otherwise become due under contract.
- 23. **NO ASSIGNMENT OF CONTRACT.** Contractor may not assign or transfer any interest in the contract without the prior written consent of CATA.
- 24. **DEFECTIVE WORKMANSHIP AND MATERIAL.** When and as often as CATA determines that the work done or being done under the contract or the kind of quality or materials supplied in connection therewith are not fully and completely in accordance with any requirement of the contract documents, it may give notice of such noncompliance to the Contractor in writing and the Contractor shall immediately upon receipt of such notice do all things required to remedy such noncompliance without additional cost to CATA. If the Contractor fails to comply with such written notice, then CATA, upon written notice to the Contractor, shall deduct the cost of repair, replacement or correction of defective or damaged work from the compensation due or to become due to the Contractor.

25. WAIVER OF BREACH. The waiver by either party hereto or any breach of any provision of this contract by the other party shall not operate or be construed as a waiver of any subsequent breach of the same or any other provision of this contract by either party hereto.
26. OWNERSHIP OF DOCUMENTS. All original documents, calculations, and work product produced by CONTRACTOR, whether produced on paper or electronic media or otherwise in performance of this Agreement, shall be the property of CATA. CONTRACTOR shall have the right to retain a copy of such documents, calculations, and work product. CONTRACTOR shall make available to CATA copies of all CONTRACTOR correspondence, notes, and other papers relating to the work, upon request of CATA. All works of original authorship created in the scope of this Agreement are "works made for hire", as that term is used in connection with the U.S. Copyright Act. To the extent that by operation of law CONTRACTOR retains any intellectual property rights to any work product, CONTRACTOR hereby irrevocably assigns and licenses to CATA all right, title, and interest in such work product, including copyrights and patents, and agrees to execute such assignments and licenses as may be required in the opinion of CATA's legal counsel to confirm this provision. The work product produced by CONTRACTOR in the performance of services under this Agreement is intended for use by CATA solely for the purpose intended. Any use or reuse of such work product by CATA for any purpose other than its intended purpose shall be at the sole risk of CATA and without any liability or responsibility of CONTRACTOR. To the extent that the work product produced by CONTRACTOR contains standard design or construction details or other standardized material previously developed by CONTRACTOR in its professional architectural, engineering, and planning practices, then CONTRACTOR shall have the right to reuse any such material on other projects for other clients or persons without the prior knowledge or permission of CATA and without the payment of any compensation to CATA, provided that the reuse or continued use of such material contains no CATA identifying information or confidential information.
27. EXCUSES FOR FAILURE TO PERFORM OR DELAYS. The Contractor will not be in default by reason of any failure in the performance of this contract, if such failure arises out of causes beyond the control and without the fault or negligence of Contractor. Such causes may include, but are not limited to, acts of God or the public enemy, acts of the government either in its sovereign or contractual capacity, fires, floods, and strikes. But in every case, a failure to perform must be beyond the control and without the fault or negligence of the Contractor or its Subcontractors. An excusable delay will permit the Contractor an extension of time for such reasonable period as may be mutually agreed upon between the parties.

B. TERMS INCLUDED IN CONTRACTS FUNDED IN WHOLE OR PART BY FTA, MDOT, OR OTHER GOVERNMENTAL AGENCY.

1. NONDISCRIMINATION.

- (a) Compliance with Regulations. Contractor shall comply with Federal Regulations relative to nondiscrimination of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, and Title 23, Code of Federal Regulations, Part 710.405(b), as they may be amended from time to time (hereinafter referred to as the Regulations), and with Executive

Order 11246 titled Equal Employment opportunity, as amended by Executive Order 11375, and as supplemented by Department of Labor Regulation (41 CFR 60) which are herein incorporated by reference and made a part of this contract. Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630, pertaining to employment of persons with disabilities. In addition, Contractor agrees to comply with any implementing requirements FTA may issue.

- (b) Nondiscrimination. With regard to the work performed by it during this contract, Contractor shall not discriminate on the grounds of race, color, sex, disability, or national origin in the selection and retention of Subcontractors, including procurement of materials and leases of equipment. Contractor shall not participate either directly or indirectly in discrimination prohibited by Section 21.5 and Part 710.405(b) of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.
- (c) In connection with the performance of services under this contract, Contractor agrees to comply with the State of Michigan provisions for "prohibition of discrimination in state contracts" as set forth in Appendix A dated March 19, 1998, a copy of which is attached hereto and made a part hereof.
- (d) This provision B.1 (a)-(d) will be included in all subcontracts relating to this contract. Further, each contract which Contractor signs with a Subcontractor must include the following assurance:

The Contractor, Subrecipient, or Subcontractor shall not discriminate on the basis of race, color, national origin, creed, disability, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of US DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

- 2. DBE REQUIREMENTS. Contractor will carry out the applicable requirements of the Michigan Department of Transportation's Disadvantaged Business Enterprise ("DBE") program and 49 CFR 26, including, but not limited to those requirements set forth in Appendix B, attached hereto and made a part hereof.
- 3. CONTINGENT FEES. The Contractor warrants that it has not employed or retained any company or person, other than a bonafide employee working solely for the Contractor, to solicit or secure this contract and that it has not paid or agreed to pay any company or person, other than a bonafide employee working solely for the Contractor, any fee, commission, percentage, brokerage fee, gifts or any other consideration, contingent upon or resulting from the award or making of this contract. For breach or violation of this warranty, CATA shall have the right to annul this contract without liability.
- 4. RECORDS/AUDITS. The Contractor shall maintain complete and accurate books, documents, papers, accounting records, and other evidence with respect to allowable

costs incurred and manpower expended under this contract. All such records shall be maintained on the basis of generally-accepted accounting principles and shall be clearly identified and readily accessible. The Contractor shall provide access during regular business hours to authorized representatives of CATA to such data and records, and the right to inspect and audit all data and records of the Contractor relating to its performance under the contract, and to make transcripts therefrom as necessary to allow inspection of all work data, documents, proceedings, and activities related to this contract for a period of four (4) years from the date of final payment under this contract. In the event of a dispute as to allowable costs or any other issue under this contract, Contractor will thereafter continue to maintain such records until the dispute has been resolved.

5. CONFLICT OF INTEREST. The Contractor certifies that, to the best of its knowledge, no CATA employee or office of any public agency interested in this contract has any pecuniary interest in the business of the Contractor and that no person associated with the Contractor has any interest that would conflict in any manner or degree with the performance of this contract.
6. INTEREST OF MEMBER OF CONGRESS OR DELEGATES TO CONGRESS. No member of Congress or delegates to the Congress of the United States shall be admitted to any share or part of the contract, or to any benefit arising therefrom. This shall not be construed to prevent any such person from owning stock in a publicly owned corporation.
7. DEBARMENT AND SUSPENSION. Contractor agrees to comply, and assure the compliance by each of its Subcontractors at any tier, with the provisions of Executive Orders Nos. 12549 and 12689, "Debarment and Suspension," 31 USC § 6101 note, and U.S. DOT regulations on Debarment and Suspension at 49 CFR Part 29. Contractor shall furnish the Certificate of Compliance, as set forth in Appendix C, as a term and condition of the procurement.
8. MDOT AND FTA TERMS. All contractual provisions that the Michigan Department of Transportation ("MDOT") or the Federal Transit Administration ("FTA"), by law or regulation, require to be included in contracts supported by state or federal financial assistance, including the requirements set forth in FTA Circular 4220.1F, as updated and amended, are hereby incorporated by reference. FTA required terms and MDOT required terms shall be deemed to control in the event of a conflict with other provisions contained in this contract. Contractor shall not refuse to comply with any CATA request to conform this contract to include MDOT or FTA required contractual provisions.
9. COMPLIANCE WITH LAWS. The Contractor shall at all times observe and comply with all laws, ordinances, and regulations of the state, federal, local, and city government which may, in any manner, affect the performance of the contract.
10. CLEAN AIR.
 - (a) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 USC 7401, et seq. If state or local air pollution regulations are in force, the more restrictive criteria shall govern. The Contractor and any subcontractors or suppliers must submit evidence to CATA that the governing air pollution criteria will be met. Violations shall be reported to the Regional Office of the Environmental Protection Agency. The Contractor agrees to report each

violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

- (b) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.
- 11. BUY AMERICA PROVISIONS. This procurement is subject to the FTA's Buy America Requirements in 49 CFR 661. *The attached certificate, entitled "Buy America" Provision (Appendix D), must be completed and submitted with the proposal as a term and condition of the procurement. Failure to fill out the certificate completely and return it with the proposal will render your proposal non-responsive.* A waiver from the Buy America Provision may be sought by the bidder if grounds for a waiver exist. Section 165a of the Surface Transportation Act of 1982 permits FTA participation on contracts only if steel and manufactured products used in the contract are produced in the U.S.A.
 - 12. CERTIFICATION REGARDING LOBBYING. This procurement is subject to the Federal Transportation Administration Lobbying requirements. The attached certificate, entitled Certificate Regarding Lobbying (Appendix E), must be signed and returned as a term and condition of the procurement.
 - 13. FEDERAL WAGE REQUIREMENTS FOR CONSTRUCTION CONTRACTS.
 - (a) This procurement is subject to the Davis-Bacon Act, 40 USC § 3141, *et seq*, and to the Copeland Anti-Kickback Act, 18 USC § 874, and to the regulations promulgated thereunder ("the Acts"). Contractor must comply with the provisions of the Acts, which are incorporated herein by reference, including, without limitation, in the payment of prevailing wages in the area in which the work is performed and in its subcontracting practices. The contract between Contractor and CATA shall contain in its body or as an attachment the full clause set forth in the Department of Labor regulations at 29 CFR 5.5(a). In the event that the final contract fails to include in its body, or as an exhibit, the required clause, then Contractor agrees and stipulates that the omission shall be deemed a clerical mistake and that the contract shall be reformed, without objection by Contractor for any reason, to include said clause as if present from the inception of the contract. Construction contracts valued at \$2,000 or less are exempt from this provision.
 - (b) If the amount of the construction contract exceeds \$100,000, then this procurement is subject to the Contract Work Hours and Safety Standards Act, 40 USC § 3701, *et seq*. The contract between Contractor and CATA shall contain, in its body, or as an attachment, the full clause set forth in the Department of Labor regulations at 29 CFR 5.5(b). In the event that the final contract fails to include, in its body, or as an exhibit, the required clause, the Contractor agrees and stipulates that the omission shall be deemed a clerical mistake and that the contract shall be reformed, without objection by Contractor, for any reason, to include said clause as if present from the inception of the contract.
 - (c) Construction contracts include contracts for alterations, repairs, including painting and decorating, as well as those for actual construction.

14. **BID BOND.** As security for the acceptance of any construction contract, each bid submitted for award of a construction contract shall be accompanied by a bidder's bond or certified check in the amount of five percent (5%) of the bid drawn payable to the CATA. Such bid deposits of all bidders will be held by CATA until all bids submitted shall have been evaluated, and the bids have either been rejected in whole or in part, or the award of the Contract or Contracts has been made. The bid deposit of the successful bidder will be held until the Contract is duly executed. Bid deposits will be returned to unsuccessful bidder(s) upon award of the Contract. If the successful bidder to whom the Contract has been awarded refuses to execute the Contract within ten (10) calendar days, after Contract award, the amount of its bid deposit shall be forfeited to and retained by CATA as liquidated damages for such neglect or refusal, and CATA may proceed to place the order with another company.
15. **PROTESTS.** Any protests shall be filed timely in accordance with the CATA Procurement Protest Procedures dated July 13, 2007. These Procedures are available from the CATA Purchasing & Contracts Manager and the CATA CEO/Executive Director, at the following address: Capital Area Transportation Authority, 4615 Tranter Street, Lansing, MI 48910.
16. **PERFORMANCE & PAYMENT BONDS.** The successful bidder on a construction contract shall furnish at its own expense performance and payments bonds. These bonds shall be furnished to CATA within ten (10) calendar days after contract award. Bond requirements are as follows:
 - (a) A performance bond for construction contracts shall be payable to CATA in the amount of 100 percent (100%) of the full contract amount as a guarantee of good faith on behalf of the Contractor that the Contractor will perform all of its obligations under the contract.
 - (b) A payment bond shall be payable to CATA in the amount of 100 percent (100%) of the full amount of any construction contract to assure payment as required by law of all persons supplying labor and material in the execution of work provided for in the contract.
17. Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between CATA and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor shall not, by action or by inaction, cause CATA to be in violation of FTA regulations, policies, procedures, or directives. Contractor's failure to comply with this paragraph shall constitute a material breach of this contract.
18. The Purchaser and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

19. CLEAN WATER.
- (a) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
 - (b) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.
20. SEISMIC SAFETY. The Contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. The Contractor also agrees to ensure that all work performed under this Contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.
21. ENERGY CONSERVATION. The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.
22. RECOVERED MATERIALS. The Contractor agrees to comply with all requirements of Section 6002 of the Resource Conservation and Recovery Act ("RCRA"), as amended (42 USC 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in subpart B of 40 CFR Part 247.
23. NO OBLIGATION BY THE FEDERAL GOVERNMENT.
- (a) CATA and Contractor acknowledges and agrees that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to CATA, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
 - (b) The Contractor agrees to include the above clause in each subcontract financed in whole or in part with the Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provision.
24. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS.
- (a) The Contractor acknowledges that the provisions of the Program Fraud Civil Rights Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, or may make, or causes to be

made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

- (b) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under authority of 49 U.S.C. § 5307, the Federal Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, or the applicable Federal law to the extent the Federal Government deems appropriate.
- (c) The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

C. MISCELLANEOUS.

1. COMPUTATION OF TIME. In computing a period of time prescribed by these conditions, the following rules apply:
 - (a) "Day" means days of the week (e.g., Monday through Friday), not business days.
 - (b) The day of the act or event after which the designated period of time begins is not included.
 - (c) The last day of the period is included, unless it is a Saturday, Sunday, or legal holiday. In that event, the period runs until the end of the next day that is not a Saturday, Sunday or legal holiday.
2. NOTICE. All notices and other communications required under this Contract shall be given in writing, signed by an authorized representative, and be personally delivered or delivered by overnight courier, or certified mail (return receipt requested) to the addresses set forth below:

To CATA:

Ms. Sandra L. Draggoo
CEO/Executive Director
Capital Area Transportation Authority
4615 Tranter Street
Lansing, MI 48910

With a copy to:

Dan W. Chandler, Esq.
Chandler, Bujold & Chandler, PLC
2855 Coolidge Hwy., Suite 109
Troy, MI 48084

To Contractor:

With a copy to:

3. JURISDICTION. This Contract will be governed by the internal laws of the State of Michigan without reference to its choice of law rules. Exclusive jurisdiction and venue of any suit, action or claim relating to this contract will be in the Ingham County Circuit Court or the Federal District Court for the Western District of Michigan.
4. This contract constitutes the entire contract between the parties and supercedes all negotiations, commitments, and previous contracts and may be modified only by a further written contract which is executed by a duly authorized officer of each of the parties.

APPENDIX A

PROHIBITION OF DISCRIMINATION IN STATE CONTRACTS

In connection with the performance of work under this contract, Contractor agrees as follows:

1. In accordance with Act 453, Public Acts of 1976, Contractor hereby agrees not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or as a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, or marital status. Further, in accordance with Act No. 220, Public Acts of 1976 as amended by Act No. 478, Public Acts of 1980, Contractor hereby agrees not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. A breach of the above covenants shall be regarded as a material breach of this contract.
2. Contractor hereby agrees that any and all subcontracts to this contract, whereby a portion of the work set forth in this contract is to be performed, shall contain a covenant the same as hereinabove set forth in Section 1 of this Appendix.
3. Contractor will take affirmative action to insure that applicants for employment and employees are treated without regard to their race, color, religion, national origin, age, sex, height, weight, marital status or a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
4. Contractor will, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, age, sex, height, weight, marital status or disability that is unrelated to the individual's ability to perform the duties of a particular job or position.
5. Contractor or its collective bargaining representative will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representative of the Contractor's commitments under this appendix.
6. Contractor will comply with all relevant published rules, regulations, directives, and orders of the Michigan Civil Rights Commission which may be in effect prior to the taking of bids for any individual state project.
7. Contractor will furnish and file compliance reports within such time and upon such forms as provided by the Michigan Civil Rights Commission, said forms may also elicit information as to the practices, policies, program, and employment statistics of each subcontractor as well as Contractor itself, and said Contractor will permit access to its books, records, and accounts by the Michigan Civil Rights Commission and/or its agent, for purposes of investigation to ascertain compliance with this contract and relevant with rules, regulations, and orders of the Michigan Civil Rights Commission.
8. In the event that the Civil Rights Commission finds, after a hearing held pursuant to its rules, that Contractor has not complied with the contractual obligations under this Agreement, the Civil Rights Commission may, as part of its order based upon such findings, certify said findings to the Administrative Board of the State of Michigan, which Administrative Board may order the cancellation of the contract found to have been violated and/or declare Contractor ineligible for future contracts with the state and its political and civil subdivisions, departments, and officers, and including the governing boards of institutions of higher education, until Contractor complies with said order of the Civil Rights Commission. Notice of said declaration of future ineligibility may be given to any or all of the persons with whom Contractor is declared ineligible to contract as a contracting party in future contracts. In any case before the Civil Rights Commission in which cancellation of an existing contract is a possibility, the contracting agency shall be notified of such possible remedy and shall be given the option by the Civil Rights Commission to participate in such proceedings.
9. Contractor will include, or incorporate by reference, the provisions of the foregoing paragraphs (1) through (8) in every subcontract or purchase order unless exempted by the rules, regulations or orders of the Michigan Civil Rights Commission, and will provide in every subcontract or purchase order that said provisions will be binding upon each subcontractor or seller.

APPENDIX B

ASSURANCES THAT RECIPIENTS AND CONTRACTORS MUST MAKE **(EXCERPTS FROM US DOT REGULATION 49 CFR § 26.13)**

- A. Each financial assistance agreement signed with a DOT operating administration (or a primary recipient) must include the following assurance:

The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any US DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26.

The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of US DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by US DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 USC 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 USC 3801, et seq.).

- B. Each contract Contractor signs with a subcontractor must include the following assurance:

The contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract.

The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of US DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

DISADVANTAGED BUSINESS ENTERPRISE POLICY

The Capital Area Transportation Authority ("CATA") is committed to a policy of non-discrimination in the conduct of its business, including the procurement of goods and services. CATA will take affirmative action to assure maximum practical opportunity for participation of Disadvantaged Business Enterprise ("DBE") in the performance of contracts financed in whole or in part with funds from the United States Department of Transportation, the Federal Transit Administration ("FTA"), the Michigan Department of Transportation ("MDOT"), or other state and federal agencies with DBE programs.

The Executive Director of CATA will annually set an overall goal or goals as a "level playing field" for the amount of DBE participation that can reasonably be expected in the absence of discrimination. This goal will be based on demonstrable evidence of ready, willing, and able DBEs that are available to participate in government assisted contracts. Affirmative action shall be consistent with sound procurement principles and applicable law.

This Policy Statement will be executed by the Executive Director and the Board Chair of CATA, and then circulated to all Department Directors, and Department Managers within the organization and circulated to contracting organizations, the state offices which administer programs, and DBE organizations. The Executive Director will give public notice of DBE goals, how the goals were determined, and contact information for public comment.

CATA's Purchasing Manager shall be the DBE liaison for CATA and will be responsible for administering the program. The DBE liaison will report to the Assistant Executive Director and shall have direct access to the Executive Director, as necessary. The DBE liaison will work with all directors and department managers to insure the effective functioning of CATA's DBE program.

The efforts and results of the entire staff will be reported to the Board through the Development Report of the Executive Director.



Sam Singh, Board Chair



Sandra L. Draggoo, CEO/Executive Director

Adopted: 2/9/84
Amended: 6/27/84
11/14/84
3/15/89
10/19/05

APPENDIX C

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSION

INSTRUCTIONS FOR CERTIFICATION

1. By signing and submitting this proposal, the prospective Participant is providing the certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective Participant knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective Participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective Participant learns that its certification was erroneous when submitted or had become erroneous by reason of changed circumstances.
4. The terms "covered transaction", "debarred", "suspended", "ineligible", "primary", "lower tier covered transaction", "participant", "person", "primary covered transaction", "principal", "proposal", and "voluntarily excluded", as used in this clause, have the meaning set out in the Definitions and Coverage sections of rules implementing Executive order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective Participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective Participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion-Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A Participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A Participant may decide the method and frequency by which it determines the eligibility of its principals. Each Participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a Participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a Participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

49 CFR 29, Appendix C, includes attached Certification of Primary Participant Regarding Debarment, Suspension, and Other Responsibility Matters

**CERTIFICATION OF PRIMARY PARTICIPANT REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS**

The Primary Participant (applicant for an FTA grant to cooperative agreement or potential contractor for a major third party contract), _____, ("CONTRACTOR"), certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;
2. Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state, or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes, or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state, or local) with commission of any of the offenses enumerated in paragraph 2 above of this Certification; and
4. Have not within a three year period preceding this application/proposal had one or more public transactions (federal, state, or local) terminated for cause or default.

(If the Primary Participant (applicant for an FTA grant, or cooperative agreement, or potential third party contractor) is unable to certify to any of the statements in this Certification, the Participant shall attach an explanation to this Certification).

The Primary Participant (applicant for an FTA grant or cooperative agreement, or potential contractor for a major third party contract), _____, certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this Certification and understands that the provisions of 31 USC §§ 3801, et seq., are applicable thereto.

Date: _____

By: _____

Signature and Title of Authorized Official

The undersigned chief legal counsel for Contractor, _____, hereby certifies that the Contractor has authority under federal, state, and local law to comply with the subject assurances and that the Certification above has been legally made.

Date: _____

By: _____

Signature of Contractor's Attorney

Name, Address, and Phone
of Contractor's Attorney: _____

Appendix D

"BUY AMERICA" PROVISION

This procurement is subject to the Federal Transit Administration "Buy America" Requirements in 49 CFR Part 661.

The "Buy America" Certificate below **must** be completed and submitted with your bid/proposal. A bid/proposal which does not include the Certificate or where both certificates are signed will be considered non-responsive.

A waiver from the "Buy America" provision may be sought by Capital Area Transportation Authority if grounds for the waiver exist.

In order to qualify as a domestic end-product, the cost of components produced in the United States must be 100% American made.

CERTIFICATE ONE:

BUY AMERICA CERTIFICATE

The bidder hereby certifies that it **WILL** comply with the requirements of section 165(a) of the Surface Transportation Assistance Act of 1982, but it may qualify for an exception to the requirement pursuant to Section 165(b)(2) or (B)(4) of the Surface Transportation Assistance Act and regulations in 49 CFR Part 661.7.

Signature: _____

Title: _____

Date: _____

CERTIFICATE TWO:

BUY AMERICA CERTIFICATE

The bidder hereby certifies that it **CANNOT** comply with the requirements of section 165(a) of the Surface Transportation Assistance Act of 1982, but it may qualify for an exception to the requirement pursuant to Section 165(b)(2) or (B)(4) of the Surface Transportation Assistance Act and regulations in 49 CFR Part 661.7.

Signature: _____

Title: _____

Date: _____

Appendix E

CERTIFICATE REGARDING LOBBYING

CERTIFICATION FOR CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS (To be submitted with each bid or offer exceeding \$100,000).

The undersigned Contractor certifies to the best of his or her knowledge and belief that:

1. No federal appropriated funds have been paid or will be paid by or on behalf of the undersigned to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
2. If any funds other than federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, Disclosure Form to Report Lobbying, in accordance with its instructions (as amended by "Government Wide Guidance for New Restrictions on Lobbying", 61 Fed. Reg. 1413 (11/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 USC § 1601, et seq.).
3. The undersigned shall require that the language of this Certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This Certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this Certification is a prerequisite for making or entering into this transaction imposed by 31 USC § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required Certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 USC § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required Certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Contractor, _____ certifies or affirms to the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 USC § 3801, et seq., apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name & Title of Contractor's Authorized Official

Date

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SECTION 01 10 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

1. Work covered by the Contract Documents.
2. Type of the Contract.
3. Use of premises.
4. Work restrictions.
5. Specification formats and conventions.
6. Examination of Site.
7. Grades, Lines, Levels, and Dimensions.
8. Verification of Levels.
9. Field Measurements.
10. Project Coordination.
11. Lay out the Work.
12. Errors and Omissions.
13. Contractor's Acknowledgement.

- B. Related Sections include the following:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and processes governing temporary use of Owner's facilities.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification:

**Capital Area Transportation Authority (CATA)
East Lansing Multimodal Station Transit Center
Building Demolition and Site Clearing**

1. Project Location: 1240 South Harrison Road, East Lansing, Michigan 48823

- B. Architect: DLZ Michigan, Inc. 1425 Keystone Avenue, Lansing, Michigan 48911.

1. All project correspondence shall be directed to the attention of the following:
 - a. Mr. Eric T. Beaulieu, AIA, CxA, LEED AP – Project Manager
 - 1) Email: ebeaulieu@dlz.com
 - 2) Telephone: 517-908-4940; 517-420-4278

- C. Summary of Work. Briefly and without force and effect upon the Contract Documents, the Work of the Contractor can be summarized as follows:

1. Work includes the phased demolition of four (4) buildings as identified in the Contract Drawings including slabs, foundations and all subsurface systems. Work includes proper abatement and disposal of Asbestos Containing Materials and Hazardous Materials in the buildings prior to any demolition activities occurring.

Work also includes the construction of temporary parking, driveways, utility yard, and building pad on the site of the multi-modal transit center. The existing transit center shall remain in full operation until the temporary transit center is installed and fully operational. Access shall be maintained for all public, private and fleet vehicles throughout construction.

- a. Michigan State University, as identified in the Contract Drawings, will remove the floor slab, foundations/footings of Amtrak building, pavement within the soil excavation area, remove and dispose contaminated soils, and backfill. Work includes coordinating site access with MSU's contractor as identified in the Contract Drawings.
2. The existing site is approximately 7.76 acres of land. Existing site improvements include, but are not limited to pavement, landscaping, site amenities and utilities.
 - a. It is the intent of this project is to remove all site improvements within the specified area of work, except where noted otherwise, for the expressed purpose of returning the site to its natural state.
3. Installation of temporary driveways, parking surfaces, utilities and a building platform to house a temporary 24'x60' structure as specified in the Contract Documents including the Drawings and Project Manual.
4. All other associated work indicated in the Contract Documents including the Drawings and Project Manual.

1.4 TYPE OF CONTRACT

- A. The Project as defined above will be performed under a single-prime lump sum contract.

1.5 USE OF PREMISES

- A. Contractor shall restrict all work to the areas as defined within the limits of construction. The areas of work shall be restricted from the access of the public by temporary perimeter fencing with lockable gates at all access points.
- B. Portions of the site will be shared with the public and MSU staff at all times throughout construction as established by the Phasing Plan. These areas shall be clearly delineated as shared and must be kept in an acceptable condition for public use.
 1. It is anticipated that site access will be shared by public, vendors, Amtrak, bus services, fleet, and construction vehicles. All care shall be taken when operating heavy equipment in proximity to these existing uses to remain.
- C. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1.6 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall generally be performed at the project site during normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday; however weekend and evening work is permissible provided that all ordinances are observed.
- B. Existing Utility Interruptions: Do not interrupt utilities serving adjacent facilities or facilities to remain.

1.7 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 33-division format and CSI/CSC's "MasterFormat" numbering system.
 - 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the Table of Contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
 - 2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.

1.12 EXAMINATION OF SITE

- A. The Contractor is held to have examined the site and to have compared it with the Contract Drawings and Specifications and to have satisfied himself as to the conditions and intent of work to be done before the delivery of his/her Bid. No allowance on this account may be subsequently made, on behalf of the Contractor by reason of any error or oversight on his/her part or lack of coordination.

1.13 GRADES, LINES, LEVELS AND DIMENSIONS

- A. The Contractor shall verify all grades, lines, levels, and dimensions indicated on the Drawings, under his work and must report all inconsistencies before commencing work.
- B. The Contractor shall coordinate the layout of the work.
- C. As soon as practicable, the Contractor shall verify the layout. All Work that is not correctly located, relocate or alter to conform to the Contract Drawings as directed by the Architect.

1.14 VERIFICATION OF LEVELS

- A. Data on the Contract Drawings regarding present elevations are given solely for the assistance of Contractor developing his proposal for the cost of the work. The Owner and the Architect do not guarantee the data given. Contractor is expressly directed to verify all levels by personal inspection at the site and govern himself accordingly.

1.15 FIELD MEASUREMENTS

- A. The Contractor shall obtain their own lines and grades and assume all responsibility for their accuracy. They must reconcile all measurements/conditions on the site of the proposed work.

1.16 PROJECT COORDINATION

- A. The Contractor and subcontractors have full responsibility to coordinate and expedite all phases of the Work. Contractor shall provide sufficient notice of his work schedule to allow his/her subcontractors ample time to install their Work.

1.17 LAY OUT THE WORK

- A. Thoroughly examine the Contract Drawings and Specifications carefully checking the figured dimensions before commencing work and report to the Architect if any error, discrepancy or defect appears. Unless otherwise directed by the Architect, the location and arrangement of the various parts of the installations must be as indicated on the Contract Drawings. Contractor shall be responsible to make any changes necessary to pass immovable obstructions without additional cost to the Owner.
- B. Under no circumstances is any size to be decreased or any radical changes to be made in any part of the installation without the written consent of the Architect.

1.18 ERRORS AND OMISSIONS

- A. The Specifications, Contract Drawings, and directions furnished by the Architect are intended to cooperate and agree. If any discrepancies or variations appear between any of the Drawings or Specifications, such discrepancies are to be interpreted by the Architect. The Architect has the right to correct any errors or omissions in the work as necessary for proper fulfillment of their intentions for the Work.
 - 1. Contractor shall not assume that any item takes precedence over any other item.
- B. Anything shown on the Contract Drawings and not mentioned in the Specifications, or vice-versa, must be furnished by the Contractor without extra compensation.

1.19 CONTRACTOR'S ACKNOWLEDGMENT

- A. The Contractor acknowledges upon submittal of a Bid:
 - 1. That he understands the Contract Drawings and Specifications.
 - 2. That he has the equipment, technical ability, personnel and facilities to construct the Project in accordance with the Contract Drawings and Specifications.
 - 3. That he has examined the Contract Drawings and Specifications and has found them sufficiently complete to prepare a sound bid for the construction of the facilities contemplated.

4. That he has personally inspected the project site and verified information indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

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SECTION 01 26 00 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Request for pricing.
- B. Documentation of change in Contract Sum and Contract Time.
- C. Change procedures.
- D. Stipulated Sum change order.
- E. Time and material change order.
- F. Execution of change orders.
- G. Correlation of Contractor submittals.

1.2 RELATED DOCUMENTS

- A. General Conditions: Governing requirements for changes in the work, in contract sum, and contract time.
- B. Section 00 72 13 - General Conditions-Stipulated Sum (Single-Prime Contract)
- C. Section 01 29 00 – Payment Procedures
- D. Section 01 60 00 – Product Requirements
- E. Section 01 77 00 – Closeout Procedures

1.3 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME

- A. Maintain detailed records of work done on a time and material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the work.
- B. Document each lump sum quotation for a change in cost or time with sufficient data to allow evaluation of the quotation. Include material and labor unit cost and quantities.
- C. Provide additional data to support computations:
 - 1. Quantities of products, labor, and equipment.
 - 2. Overhead and profit.
 - 3. Justification for any change in contract time.
 - 4. Credit for deletions from contract, similarly documented.

- D. Support each claim for additional costs prior to work being done. Provide origin and date of each claim.

1.4 CHANGE PROCEDURES

- A. The Architect will advise of minor changes or clarifications in the work that may or may not involve an adjustment to contract sum or contract time as authorized by AIA A201, 1992 Edition, by issuing Architect's Supplemental Instructions on AIA Form G710. Contractor will prepare and submit an estimate within fourteen (14) days.
- B. The Architect may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in contract time for executing the change and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within fourteen (14) days.
 - 1. Refer to Proposal Worksheet Detail, Exhibit 01 26 00 A1, and Proposal Worksheet Summary, Exhibit 01 26 00 A2.

1.5 CHANGE DIRECTIVE

- A. Construction Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request, the Architect may issue a Construction Change Directive on AIA Form G714. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. The Construction Change Directive contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.
 - 2. Change Directives are used on emergency items.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.
- C. Promptly execute the change in work.

1.6 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: The Architect will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal requests issued by the Architect are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
 - 2. Within seven (7) days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Architect for the Owner's review.

- a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.
- B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect.
 1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
 2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Refer to Proposal Worksheet Detail, Exhibit 01 26 00 A1, and Proposal Worksheet Summary, Exhibit 01 26 00 A2.

1.7 STIPULATED SUM CHANGE ORDER (CO)

- A. A Change Order will be issued based upon the Contractor's estimated price quotation as recommended by the Architect and approved by the Owner.

1.8 TIME AND MATERIAL CHANGE ORDER (CO)

- A. Submit itemized account and supporting data after completion of change within (15) days after completion.
- B. The Architect will determine the change allowable in contract sum and contract time as provided in the contract documents.
- C. Maintain detailed records of work done on Time and Material basis. The Contractor's on-site representative must verify and sign the contractor's daily timesheets, not as approval for payment, but for record that work was completed per the change order.
- D. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXECUTION OF CHANGE ORDERS

- A. Execution of Change Orders: Architect will prepare and issue Change Orders for signatures of parties. Owner, Architect, Contractor, shall sign all change orders.

3.2 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized change order as a separate line item and adjust the contract sum.
- B. Promptly revise progress schedules to reflect any change in contract time, revise sub-schedules to adjust time for other items of work affected by the change, and resubmit.
- C. Promptly enters changes in project record documents.

END OF SECTION 01 26 00

Capital Area Transportation Facility
East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

EXHIBIT 01 26 00 A1
1341-6517-70

**PROPOSAL
WORKSHEET DETAIL**

Project:	East Lansing Multi-Modal Transit Center Building Demolition and Site Clearing	Change Order Request Number:	
Re:		From:	
		Date:	
Proposal Request Number:		A/E Project Number:	1341-6517-70

SHADED AREAS FOR A/E USE

ADDITIONS

			UNIT PRICES			SUBTOTALS			TOTAL
Ref. No.	Item Description	Quantity	Materials	Labor		Materials	Labor		
1						\$ -	\$ -		\$ -
2						\$ -	\$ -		\$ -
3						\$ -	\$ -		\$ -
4						\$ -	\$ -		\$ -
Subtotal (Enter this number on Worksheet Summary.)			\$ -	\$ -		\$ -	\$ -		\$ -

DEDUCTIONS

			UNIT PRICES			SUBTOTALS			TOTAL
Ref. No.	Item Description	Quantity	Materials	Labor		Materials	Labor		
1						\$ -	\$ -		\$ -
2						\$ -	\$ -		\$ -
3						\$ -	\$ -		\$ -
4						\$ -	\$ -		\$ -
Subtotal (Enter this number on Worksheet Summary.)			\$ -	\$ -		\$ -	\$ -		\$ -

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PROPOSAL
WORKSHEET SUMMARY

Project: East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

Change Order Request Number: _____

From: _____

Re: _____

Date: _____

Proposal Request Number: _____

A/E Project Number: 1341-6517-70

Complete and attach Proposal Worksheet Detail for each element of Work. Enter Worksheet Information below.

ADDITIONS:

	Sheet	Description	Material	Labor	Subtotal
1					\$ -
2					\$ -
3					\$ -
4					\$ -
5					\$ -
6					\$ -
7					\$ -
Subtotal			\$ -	\$ -	\$ -

DEDUCTIONS:

	Sheet	Description	Material	Labor	Subtotal
1					\$ -
2					\$ -
3					\$ -
4					\$ -
5					\$ -
6					\$ -
7					\$ -
Subtotal			\$ -	\$ -	\$ -

(Not applicable for Allowance Adjustments)

Subcontractor's Net: _____
Subcontractor's OH&P 5%: _____
Subcontractor's Bond: _____
Subcontractor's Total: \$ -

(Not applicable for Allowance Adjustments)

Subcontractor's Net: _____
Contractor's OH&P 10%: _____
Contractor's Bond: _____
Insurance: _____
Tax: _____
WORKSHEET TOTAL: \$ -

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SECTION 01 26 13 – REQUEST FOR INTERPRETATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing requests for interpretation.

1.3 DOCUMENTATION OF REQUESTS FOR INTERPRETATION

- A. Contractor shall provide written requests for interpretation utilizing Request For Information form, refer to Exhibit 01 26 13A.
- B. Provide full information required for Architect's review and evaluation of conditions.
- C. Provide additional supportive information to clearly identify conditions.

1.4 RESPONSE TO REQUESTS FOR INTERPRETATION

- A. The Architect will advise of minor changes or clarifications in the work that may or may not involve an adjustment to contract sum or contract time as authorized by AIA A201, 1992 Edition, by issuing Architect's Supplemental Instructions on AIA Form G710.
- B. The Architect may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in contract time for executing the change and the period of time during which the requested price will be considered valid.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 26 13

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DLZ Project No. 1341.6517.70
CATA IFB #2013-107

SECTION 01 26 13

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SECTION 01 29 00 – PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
 - 1. Schedules: The Contractor's Construction Schedule and Submittal Schedule are specified in Division 01 Section "Submittal Procedures".
- C. Sequence of Approval
 - 1. The Architect shall review, and, if acceptable, certify the application.
 - 2. The Owner will review, and, if acceptable, will approve the application.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect, approved by the Owner.
 - 1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment-Application Times: The date for each progress payment is the first day of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends on the last day of the month for each progress payment.
 - 1. Submit to the Architect a draft of Payment Applications no less than ten (10) days prior to each Payment Application.
- C. Transmittal: Upon receipt of an approved draft, submit three (3) signed and notarized copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One billing shall be made on original AIA G702 & G703 forms dated 1992, including waivers of lien and similar attachments. The other two (2) may be copies, but with wet signatures and notarized
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect.
- D. Payment-Application Forms: **Use AIA Document G702-1992 and G703-1992 for Applications for Payment, refer to Exhibit 01 29 00A.**

- E. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect will return incomplete applications without action.
1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of fully executed Change Orders issued prior to the last day of the construction period covered by the application.
 3. Submit a statement of any schedule impact for review by the Architect with every payment application.
 4. Submit a copy of Contractor's Daily Reports which coincide with the payment application period.
 5. Submit all Certified Payrolls with each Application for Payment. Certified Payrolls shall correspond with the period of the Application. Certified Payrolls shall be provided for the Contractor and all Subcontractors.
- F. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics liens from subcontractors, sub-subcontractors and suppliers for the construction period covered by the previous application, for line items whose value exceeds \$5,000; **refer to Exhibit 01 29 00B**.
1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Delays: Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
 - a. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner.
- G. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
1. List of subcontractors.
 2. List of principal suppliers and fabricators.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Schedule of principal products.
 5. Submittal Schedule (preliminary if not final).
 6. List of Contractor's staff assignments.
 7. List of Contractor's principal consultants.
 8. Copies of building permits.
 9. Copies of authorizations and licenses from governing authorities for performance of the Work.
 10. Initial progress report.
 11. Certificates of insurance and insurance policies.

12. Performance and payment bonds.
 13. Data needed to acquire the Owner's insurance.
 14. Initial settlement survey and damage report, if required.
- H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
 2. Administrative actions and submittals that shall precede or coincide with this application include:
 - a. Occupancy permits and similar approvals.
 - b. Warranties (guarantees) and maintenance agreements.
 - c. Maintenance instructions.
 - d. Changeover information related to Owner's occupancy, use, operation, and maintenance.
 - e. Final cleaning.
 - f. Application for reduction of retainage and consent of surety.
 - g. Advice on shifting insurance coverages.
 - h. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.
 - i. Spare Maintenance Parts and Extra Materials are delivered to Owner.
- I. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following; **refer to AIA Document G707.**
1. Completion of Project closeout requirements including all Record Documents and Manuals.
 2. Completion of items specified for completion after Substantial Completion.
 3. Ensure that unsettled claims will be settled.
 4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
 5. Transmittal of required Project construction records to the Owner.
 6. Proof that taxes, fees, and similar obligations were paid.
 7. Removal of temporary facilities and services.
 8. Removal of surplus materials, rubbish, and similar elements.
 9. Obtain Consent of Surety to Final Payment; Refer to AIA G707, Exhibit 01 29 00C.
 10. Obtain Consent of Surety to Reduction of Retainage; Refer to AIA G707A, Exhibit 01 29 00D.
 11. All Demonstration and Training activities are complete to the Owner's satisfaction.
- 1.4 SCHEDULE OF VALUES
- A. Coordination Contractor shall coordinate preparation of its Schedule of Values for its part of the Work with preparation of the Contractors' Construction Schedule.
1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. Contractor's Construction Schedule.
 - b. Application for Payment forms, including Continuation Sheets.
 - c. List of subcontractors.

- d. Schedule of alternates.
 - e. List of products.
 - f. List of principal suppliers and fabricators.
 - g. Schedule of submittals.
 2. Submit the final Schedule of Values to the Architect at the earliest possible date, but no later than ten (10) days after contract award.
 - a. A proposed Schedule of Values shall be submitted to the Architect with the Bid. Refer to instructions to Bidders.
 3. Subschedules: Where Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section per each work area unit.
 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of the Architect.
 - c. Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Each Allowance Adjustment.
 - h. Dollar value.
 - 1) Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100%.
 3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
 4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
 5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
 6. Provide separate line items on the Schedule of Values for initial cost of the materials, for each

subsequent stage of completion, and for total installed value of that part of the Work.

7. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.
8. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

END OF SECTION 01 29 00

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Application and Certificate for Payment

TO OWNER:		PROJECT:	APPLICATION NO: 001	Distribution to:
FROM CONTRACTOR:		VIA ARCHITECT:	PERIOD TO:	☐ OWNER
			CONTRACT FOR: General Construction	☐ ARCHITECT
			CONTRACT DATE:	☐ CONTRACTOR
			PROJECT NOS: / /	☐ FIELD
				☐ OTHER

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection 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)	\$	0.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)	\$	0.00
5. RETAINAGE:		
a. 0 % of Completed Work		
(Column D + E on G703)		
b. 0 % of Stored Material	\$	0.00
(Column F on G703)		
Total Retainage (Lines 5a + 5b or Total in Column I of G703)		
\$ 0.00		
6. TOTAL EARNED LESS RETAINAGE	\$	0.00
(Line 4 Less Line 5 Total)		
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT	\$	0.00
(Line 6 from prior Certificate)		
8. CURRENT PAYMENT DUE	\$	0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE	\$	0.00
(Line 3 less Line 6)		

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$ 0.00	\$ 0.00
Total approved this Month	\$ 0.00	\$ 0.00
TOTALS	\$ 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:	Date:
By: _____	_____
State of: _____	
County of: _____	
Subscribed and sworn to before me this _____ day of _____	
Notary Public: _____	
My Commission expires: _____	

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's 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	\$ 0.00
<i>(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)</i>	

ARCHITECT:	Date:
By: _____	_____

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

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 AIA® Document G703™ – 1992

Continuation Sheet

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.
In tabulations below, amounts are stated to the nearest dollar.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO: 001

APPLICATION DATE:

PERIOD TO:

ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G	H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED		MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD				
		\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
	GRAND TOTAL							

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**SUBCONTRACTOR/SUPPLIER
AFFIDAVIT AND WAIVER OF LIENS AND CLAIMS**

State of _____ County of _____ ss:

The undersigned, being first duly sworn, states, warrants and deposes, personally and as a duly authorized officer or representative of the Subcontractor or Supplier as designated below (referred to herein as "Subcontractor") as follows:

Designation of Instrument

This is a (check one) ☐ Partial ☐ Final Affidavit and Waiver of Claims **must be completed**
And is (check one) ☐ Conditional (Payment to Follow) ☐ Unconditional (Payment Received)

This Instrument Pertains To The Following:

Subcontractor:(name) _____
(address) _____

Person Signing This Instrument: (name) _____ (Title) _____

Project:(name) _____

(location/Address) _____

Contractor:

Subcontractor's Contract is with:(if other than Contractor identified above) _____

Payment Amount _____ Dollars(\$)
payable through the period ending (date) _____ (referred to herein as the "Effective Date")

The Terms of This Instrument Are:

1. Subcontractor has contracted with Contractor, or another party as identified above, to furnish labor, materials, equipment and/or services in furtherance of Contractor's contractual obligations for the above described project:

2. If this Instrument is designated as a Partial Affidavit and Waiver, the Payment Amount recited above is the current balance due the Subcontractor, and such amount, together with any and all previous payments received by Subcontractor, is the total sum due to Subcontractor, exclusive of contractually provided retainage, for all labor, materials, equipment or services furnished by or through Subcontractor to or for the Contractor in respect of the Project through the above stated Effective Date. If this Instrument is designated a *Final* Affidavit and Waiver, the Payment Amount is the full and final amount due the Subcontractor for any and all labor, materials, equipment or services furnished or to be furnished by or through the Subcontractor for the Project.

3. The listing on the reverse side of this Instrument is incorporated herein by reference and sets forth, fully and correctly, the names of sub-subcontractors, materialmen, equipment lessors and laborers engaged by or under the employ of Subcontractor and to whom monies are presently due and owing from Subcontractor for labor, materials equipment or services furnished to or for the Project. Except as otherwise specifically stated in such listing, all sub-subcontractors, materialmen and laborers engaged or employed by Subcontractor have been paid in full for all labor, materials, equipment or services furnished in respect of the Project.

4. In consideration of payment of the Payment Amount, the Subcontractor completely waives, discharges and releases the Contractor, any and all owners of any title or interest in the real estate upon which the Project is situated, and their respective sureties, successors and assigns, from all liens and claims whatsoever in respect of or arising from any and all labor, materials, equipment or services furnished by or through Subcontractor to or for the Project, including without limitation mechanics' liens and claims against any contract proceeds. If this instrument is designated as a *Partial* Affidavit and Waiver, the waiver, discharge and release provided by this paragraph shall apply only to labor, materials, equipment or services furnished on or before the Effective Date hereof. If this Instrument is designated as a *Final* Affidavit and Waiver, the waiver, discharge and release provided by this paragraph shall apply to any and all labor, materials, equipment or services heretofore or hereafter furnished by or through Subcontractor to or for the Project notwithstanding the Effective Date of this Instrument.

5. The undersigned and Subcontractor will indemnify Contractor and hold it harmless against any loss, cost or expense, including cost of bond premiums, litigation expenses and attorney fees, for and in respect of any breach of any covenant, representation or warranty contained herein or any lien or other claim asserted by any person in respect of labor, materials, equipment or services which are within the scope of this Instrument.

6. If this Instrument is Conditional, the terms hereof shall become effective upon payment of the Payment Amount to Subcontractor, or at Contractor's option, jointly to Subcontractor and any persons identified and in respective amounts as stated on the reverse side hereof. which payment shall the sole consideration for this Affidavit and Waiver. If this Instrument is designated above as Unconditional, the undersigned and Subcontractor acknowledge receipt of the Payment Amount and agree that this Instrument shall be effective in all respects as of the date hereof.

(Individual Signature) _____

Subscribed and Sworn to before me this _____ day of _____, 19 _____

(Notary Public Signature): _____ My Commission Expires _____
(Typed/Printed Name): _____ Residing in: _____ County

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AIA[®] Document G707[™] – 1994

Consent Of Surety to Final Payment

PROJECT: <i>(Name and address)</i> test3	ARCHITECT'S PROJECT NUMBER:	OWNER: ☐
	CONTRACT FOR: General Construction	ARCHITECT: ☐
TO OWNER: <i>(Name and address)</i>	CONTRACT DATED:	CONTRACTOR: ☐
		SURETY: ☐
		OTHER: ☐

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety
of any of its obligations to
(Insert name and address of Owner)

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)

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AIA Document G707A™ – 1994
Consent of Surety to Reduction in or Partial Release of Retainage

OWNER	☐
ARCHITECT	☐
CONTRACTOR	☐
SURETY	☐
OTHER	☐

PROJECT: *(Name and address)*
ARCHITECT'S PROJECT NUMBER:
CONTRACT FOR: General Construction

TO OWNER: *(Name and address)*
CONTRACT DATED:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

, SURETY,

hereby approves the reduction in or partial release of retainage to the Contractor as follows:

, CONTRACTOR,

The Surety agrees that such reduction in or partial release of retainage to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:

(Seal):

(Printed name and title)

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SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
 - 1. General project coordination procedures.
 - 2. Cleaning and protection.
 - 3. Supervisory personnel
 - 4. Limitations for use of site
 - 5. General installation provisions
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section 01 31 19 "Project Meetings" for progress meetings, coordination meetings, and pre-installation conferences.
 - 3. Division 01 Section 01 33 00 "Submittal Procedures" for preparing and submitting the Contractor's Construction Schedule.
 - 4. Division 01 Section 01 60 00 "Product Requirements" for coordinating general installation.
 - 5. Division 01 Section 01 77 00 "Closeout Procedures" for coordinating contract closeout.

1.3 COORDINATION

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Make provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.

- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project closeout activities.
- D. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work.
- E. The Contractor will manage construction of the project. The Architect will confirm compliance to Contract Documents.
- F. Contractor shall schedule, manage, and expedite all work under his contract, coordinating his work with all other contractors and trades so that no conflicts of timing or location occur. The work shall progress according to the approved and current construction progress schedule.
- G. Contractor shall:
 - 1. Assume full responsibility for protection and safekeeping of products stored on premises.
 - 2. Move any stored products which interfere with operations of Owner or other contractors.
 - 3. Furnish, erect and maintain barricades, warning lights, signs and guards as may be required for his work.
 - 4. Notify, in writing through the Architect, the Owner at least seventy-two (72) hours in advance of utility connections or shutoff.
 - a. Coordinate these operations with the Owner, and complete the work in the minimum amount of time.
 - 5. Shut-offs must be accomplished at the Owner's schedule. Overtime, round the clock, holiday or weekend work may be required at no additional cost to the Owner.
 - 6. Prepare coordination drawings where work by separate entities requires fabrication off-site of products and materials which must accurately interface. Coordination drawings shall indicate how work will interface and shall indicate installation sequence.
 - a. Where coordination drawings cover primarily the work of one prime contractor, with only minor amounts of work required by other prime contractors, the prime contractor with the major amount of work shall prepare coordination drawings, as designated by the Architect.
 - b. Where coordination drawings cover substantial amounts of work by more than one prime contractor, including the contractor for general work, the contractor

for general work shall prepare coordination drawings, as designated by the Architect.

1.4 SUPERVISORY PERSONNEL

- A. Contractor must designate a superintendent who shall represent the contractor on the jobsite. Directions given to the superintendent shall be as binding as if given to the contractor.
- B. Once a superintendent is assigned to the project he cannot be removed or replaced without receiving the Architect and Owner's approval.
- C. The prime contractor and/or superintendent shall:
 - 1. Man, schedule, and supervise the work to meet the current construction schedule.
 - 2. Purchase and schedule delivery of materials and sublet subcontractors to meet the construction schedule.
 - 3. Inspect the work of other contractors which precedes your work and upon which your work depends. Report to the Architect any deviations from the contract documents. Commencement of work on substrate constitutes acceptance of the other contractor's work.
 - 4. Cooperate with other contractors doing work on this project.
 - 5. Notify the Architect of conditions that could delay the work.
 - 6. Furnish the Architect with a daily manpower report and description of work completed. Submit Contractor's Daily Reports on a monthly basis.
 - 7. Attend coordination and progress meetings as scheduled by Architect to review coordination of various phases of work. The Contractor shall be represented by persons with full authority to act on matters pertaining to the work.
- D. Contractor's site superintendent shall be present at the job site at all times during all on-site construction activities.

1.5 LIMITATIONS FOR USE OF SITE

- A. General: Limitations on site usage as well as specific requirements that impact utilization are indicated on the site utilization drawings and by other Contract Documents.
- B. Confine operations at site to areas permitted by law, ordinances, permits, and contract documents.
- C. Reference site plans showing general boundaries for new construction phase and demolition/sitework phase.
- E. Long term storage will not be allowed without prior approval from the Architect and Owner. Coordinate all installations with adjoining and related items of work. Check the scopes of work being provided by other contractors and their respective drawings, specifications and shop drawings for proper coordination of details. In the event of conflicting requirements, consult with the Architect prior to proceeding with the work.
- E. All work force personnel shall visibly display identification as part of the workforce.

1.6 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the installer of each major component to inspect both the substrate and conditions under which work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable proceed acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in contract documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing Work. Secure work true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain the best visual effect. Refer questionable choices to the Architect/Engineer for final decision.
- F. Re-check measurements and dimensions before starting each installation.
- G. Install each component during weather conditions and project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests to minimize necessity of uncovering completed construction for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, submit a Request for Information (RFI) to the Architect for direction.
- J. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at substantial completion.

1.7 SUBMITTALS

- A. Coordination Drawings: Prepare coordination drawings where careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.
 - 1. Show the relationship of components shown on separate Shop Drawings.
 - 2. Indicate required installation sequences.
- B. Staff Names: Within ten (10) days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their cell phone numbers and email addresses.

1. Include principal staff assignments of each major subcontractor.
2. Post copies of the list in the Project meeting room, each temporary field office, and each temporary telephone.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 GENERAL COORDINATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

3.2 CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.3 COMMUNICATION PROCEDURES

- A. All correspondence must go through the Architect.
 1. The Architect shall designate a single-point of contact for all correspondence.
- B. In the event contract document clarification is required, Contractor to submit a 'Request for Information' (RFI) must be submitted to the Architect. See **EXHIBIT '01 26 13A'**.

END OF SECTION 01 31 00

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SECTION 01 31 19 – PROJECT MEETINGS

PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
 - 1. Preconstruction conferences.
 - 2. Progress meetings.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section 01 31 00 "Project Management and Coordination" for procedures for coordinating project meetings with other construction activities.
 - 2. Division 01 Section 01 33 00 "Submittal Procedures" for submitting the Contractor's Construction Schedule.

1.3 PRECONSTRUCTION CONFERENCE

- A. Schedule a preconstruction conference before starting construction, at a time convenient to the Owner and the Architect, but no later than ten (10) days after Notice to Proceed. Hold the conference at the office of the Architect. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: Authorized representatives of the Owner, Architect, and Engineer(s); the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Discuss items of significance that could affect progress, including the following:
 - 1. Tentative construction schedule.
 - 2. Critical work sequencing.
 - 3. Designation of responsible personnel.
 - 4. Procedures for processing field decisions and Change Orders.
 - 5. Procedures for processing Applications for Payment.
 - 6. Distribution of Contract Documents.
 - 7. Submittal of Shop Drawings, Product Data, and Samples.
 - 8. Preparation of record documents.
 - 9. Use of the premises.
 - 10. Parking availability.
 - 11. Storage areas.

12. Equipment deliveries and priorities.
13. Safety procedures.
14. First aid.
15. Security.
16. Housekeeping.
17. Working hours.

- D. Reporting: The Architect shall complete and distribute minutes of the meeting to each party present and to parties who should have been present.

1.4 PROGRESS MEETINGS

- A. Conduct progress meetings at the Project Site at regular intervals to be determined by the Architect. Notify the Owner and the Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.

1. In general, Progress meetings shall be had at one-week intervals, beginning at the mobilization on-site.

- B. Attendees: In addition to representatives of the Owner and the Architect, each subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.

- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.

1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.

2. Review the present and future needs of each entity present, including the following:

- a. Interface requirements.
- b. Time.
- c. Sequences.
- d. Status of submittals.
- e. Deliveries.
- f. Access.
- g. Site utilization.
- h. Temporary facilities and services.
- i. Hours of work.
- j. Hazards and risks.
- k. Quality and work standards.
- l. Change Orders.
- m. Payment requests.

- D. Reporting: The Architect shall complete and distribute minutes of the meeting to each party present and to parties who should have been present.
- E. Schedule Updating: The Contractor shall revise the Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 31 19

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SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittal of Shop Drawings, Product Data, Samples, Construction Schedule and other miscellaneous quality-control submittals.

- 1. **All submittals are to be provided to the Architect no later than fifteen (15) calendar days after Notice to Proceed.**

- B. Shop Drawings include, but are not limited to, the following:

- 1. Fabrication drawings.
 - 2. Installation drawings.
 - 3. Schedules.
 - a. Standard information prepared without specific reference to the Project is not Shop Drawings.

- C. Product Data include, but are not limited to, the following:

- 1. Manufacturer's product specifications.
 - 2. Manufacturer's installation instructions.
 - 3. Standard color charts.
 - 4. Catalog cuts.
 - 5. Standard product operating and maintenance manuals.

- D. Samples include, but are not limited to, the following:

- 1. Partial Sections of manufactured or fabricated components.
 - 2. Small cuts or containers of materials.
 - 3. Complete units of repetitively used materials.
 - 4. Swatches showing color, texture, and pattern.
 - 5. Color range sets.
 - a. Color range sets shall include manufacturer's full range of colors, unless otherwise noted.
 - 6. Components used for independent inspection and testing.
 - 7. Field samples.

- E. Quality-control submittals include, but are not limited to, the following:

- 1. Design data.

2. Certifications.
 3. Manufacturer's instructions.
 4. Manufacturer's field reports.
 5. Field Test Reports
 6. Field Inspection Reports.
 7. Start-up Checklists.
- F. Administrative Submittals: Refer to other Division 01 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:
1. Permits, and Permit Applications.
 2. Applications for Payment.
 3. Performance and Payment Bonds.
 4. Insurance Certificates.
 5. Listing of Subcontractors.
 6. Schedule of Values.
 7. Project Schedule.
 8. Contractor's Daily Reports.
 9. Waiver of Liens.
 10. Project Warranties.
 11. Operation and Maintenance Manuals.
 12. Project Work Plan.
 13. Health and Safety Plan.
 14. List of Disposal Facilities.
 15. Maintenance of Traffic.
 16. Other submittals as specified.
- G. Related Sections: The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 45 16 "Quality Control Procedures" specifies Manufacturer's field services and reports.
 2. Division 01 Section 01 77 00 "Closeout Procedures" specifies requirements for submittal of Project Record Documents, including copies of final Shop Drawings, at project closeout.
- H. Post-Construction Submittals: Other post-construction submittals include, but not limited to:
1. Daily site activity reports.
 2. Photographic and related documentation.
 3. Air monitoring reports.
 4. Manifests and disposal/weight tickets.
 5. Waste characterization analytical data.
 6. Geotechnical testing data.

1.3 DEFINITIONS

- A. Coordination Drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended.
 - 1. Preparation of Coordination Drawings is specified in Division 01 Section 01 31 13 "Project Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.
- B. Field samples are full-size physical examples erected on-site to illustrate finishes, coatings, or finish materials. Field samples are used to establish the standard by which the Work will be judged.
- C. Mockups are full-size assemblies for review of construction, coordination, testing, or operation; they are not Samples.

1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delays.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - a. Architect will note that final approval will not occur until listed related submittals are received.
 - b. Some submittals do not require Architect approval and those submittals will be acknowledged of receipt.
 - 3. Processing: Allow seven (7) for Architect's review time so that installation will not be delayed as a result of the time required to process submittals.
 - a. Allow no less than seven (7) days for initial review.
 - b. If an intermediate submittal is necessary, process the same as the initial submittal.
 - c. Allow not less than seven (7) for reprocessing each submittal.
 - d. No extension of Contract time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
 - 4. Submittals and shop drawings must be procured in order to meet the schedule requirements and substantial completion.

- B. Submittal Preparation: Except as indicated below for Product Data and Shop Drawings, place a permanent label on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label. Apply permanent adhesive label.
1. Provide a space approximately 4" x 5" beside the title block on Shop Drawings to record the Contractor's review and markings for the action taken.
 - a. Contractor shall review all submittals prior to submitting to the Architect.
 2. Provide a space approximately 4" x 5" beside the title block on Shop Drawings to record the Architect's review and markings for the action taken.
 3. Include the following information on the label for processing and recording action taken.
 - a. Project name, and Project number.
 - b. Date.
 - c. Name and address of Architect
 - d. Name and address of Contractor
 - e. Name and address of subcontractor
 - f. Name and address of supplier
 - g. Name of manufacturer
 - h. Number and title of appropriate Specification Section
 - i. Drawing number and detail reference, as appropriate.
 - j. Architect's project number and Owner's project number.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.
1. On the transmittal record relevant information and requests for data. In the "Stamp" of Contractor" column on submittal cover sheet record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

1.5 PROPOSED PRODUCT LIST

- A. Within five (5) days of Notice to Proceed submit a completed list of long lead material items and/or equipment.
1. Specification section.
 2. Name of material or equipment.
 3. Anticipated shop drawings submittal date.
 4. Fabrication duration (weeks).
 5. Anticipated delivery date (assume 3 week shop drawing review).
 6. Manufacturer's name.
 7. Manufacturer's address.

8. Manufacturer's phone numbers.

1.6 SCHEDULE

- A. Submittal Log: Contractor shall prepare a complete submittal log listing all required project submittals.
 1. Preliminary Submittal Log shall be submitted for Architect review within ten (10) days of Notice to Proceed.
 2. Submittal Log shall be organized by Specification Section number.
 3. Submittal Log shall be reviewed at each Progress Meetings to review status of project submittals.
 4. Refer to Section 01 33 00-D for a sample Submittal Log.

1.7 SHOP DRAWINGS

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings without the Architect's permission. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
 1. Contractor may obtain from the Architect the electronic base drawing's that were developed for the Contract Documents. Contractor remains responsible for preparation review and issuance of required shop drawings. Contract must properly execute forms and payment, Refer to Exhibit 01 33 00-B and Exhibit 01 33 00-C.
 2. Four (4) copies of each shop drawing shall be provided for review and action. Three (3) copies will be returned to contractor; one (1) copy shall be retained for Architect's records.
 - a. Contractor shall retain one (1) full set of shop drawings to be submitted with Record Documents.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:
 1. Dimensions
 2. Identification of products and materials included
 3. Compliance with specified standards
 4. Notation of coordination requirements
 5. Notation of dimensions established by field measurement
 6. Sheet Size: Except for templates, patterns and similar full-size drawings, submit Shop Drawings on sheets at least 8 1/2" x 11", multiples of 8 1/2" x 11" when folded, but no larger than drawings of the Contract Documents.
 7. Distribution: Furnish copies of approved submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for

performance of construction activities. Show distribution on transmittal forms.

- a. Do not use Shop Drawings without an appropriate stamp indicating action taken in connection with construction.
- C. Coordination drawings are special types of Shop Drawings that show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended.
1. Preparation of coordination drawings may include components previously shown in detail on Shop Drawings or Product Data.
 2. Submit coordination Drawings for integration of different construction elements. Show sequence and relationships of separate components to avoid conflicts in use of space.
 3. Transmit in same manner as indicated for Shop Drawings.

1.8 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specifically prepared because standard printed data is not suitable for use, submit as "Shop Drawing".
1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
 - a. Manufacturer's printed recommendations
 - b. Compliance with recognized trade association standards
 - c. Compliance with recognized testing agency standards
 - d. Application of testing agency labels and seals
 - e. Notation of dimensions verified by field measurements
 - f. Notation of coordination requirements
 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
 3. Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.
 4. Submittals: Submit minimum of four (4) copies of each required submittal. The Architect will retain one (1) copy and will return the other marked-up copies to the Contractor.
 - a. Contractor shall retain one (1) complete set of Product Data to be included with Final Record Documents.

5. Distribution: Make copies of final submittal and distribute to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 - a. Do not proceed with installation until an applicable copy of Product Data is in the installers' possession.
 - b. Do not permit use of unmarked copies of Product Data in connection with construction.
 - c. Make copies of shop drawings and Product Data for the Operation and Maintenance Manuals.

1.9 SAMPLES

- A. Submit Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
 1. Mount, display, and package Samples in a manner which will protect them in transit and will facilitate review of qualities indicated. Include the following information:
 - a. Generic description of the Sample
 - b. Sample source
 - c. Product name or name of manufacturer
 - d. Compliance with recognized standards
 - e. Availability and delivery time
 2. Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
 - a. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.
 - b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
 - c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of these Samples.
 3. Preliminary submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.

- a. Preliminary submittals will be reviewed and returned with the Architect's mark indicating selection and other action.
- 4. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit four (4) sets; three (3) will be returned marked with the action taken.
- 5. The Architect will retain one (1) set of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.
 - a. Sample sets may be used to obtain final acceptance of the construction associated with each set.
- B. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.
 - 1. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.
 - a. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.10 MANUFACTURER'S CERTIFICATES

- A. When specified in individual Specification Sections, submit manufacturer's certificate to Architect/Engineer for review, in quantities specified for product data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect/Engineer.

1.11 RECORD SHOP DRAWINGS

- A. A set of all record Shop Drawings and Product Data will be kept by the Contractor for the Owner. After project completion, the Contractor will turn over a complete set over to the Owner with the Record Documents.

1.12 SCHEDULE OF VALUES

- A. Submit a detailed schedule of values separating labor and material for all individual items within ten (10) days of Notice to Proceed.

1.13 CONSTRUCTION SCHEDULE

A. General

1. In order to assure completion of the Work within the time stipulated, all activities of the Contractor will be scheduled and monitored by use of the critical path method, utilizing both activity diagram and computer printout.
2. The schedule, including the printout and arrow diagram shall be prepared by an expert having substantial experience in critical path scheduling.
3. The Contractor shall submit three (3) copies of the schedule for approval within ten (10) days of Notice to Proceed.
4. The schedule shall be detailed in nature and shall include the calendar dates of start and completion of each task on the critical path as well as dates and float times of tasks not on the critical path and of tie-ins to existing facilities, if any. The critical path diagram shall show all activities in detail, and the computer printout shall include for each activity its number, description, duration, early start, early finish, late start, late finish, and float time. Both the initial and subsequent submissions shall be time scaled.
5. In the preparation of the schedule, the Contractor shall take into consideration Shop Drawing submittal and approval time, the delivery times of equipment and materials, Subcontractors' work, availability and abilities of workmen, weather conditions, and restrictions in operations at the Work site, and all other items that may affect completion of the Work within the time requirements of the Contract Documents.
6. If the schedule as submitted by the Contractor is not sufficiently detailed, contains errors, or is unrealistic, it will be rejected in writing, and the Contractor shall submit an appropriately revised schedule within seven (7) days of the date of the notice of rejection. The procedure will be repeated as often as may be necessary until the schedule is found acceptable and approved by the Engineer.
7. Pending approval of the construction schedule, no progress payment will be made, except in such amounts as may be approved by the Engineer for materials received at the Project site as provided in the General Conditions.

B. PROGRESS REPORTS

At each Construction Progress Meeting, the Contractor will present a report of operations during the preceding period, including actual starting and ending dates on activities shown on the critical path diagram. Where such starting or ending dates were delayed beyond those required by the critical path schedule, the Contractor shall describe the action he is taking to regain lost time, and state the anticipated completion dates of subsequent activities affected by the delayed items. Contractor shall also point out known or anticipated delays on continuing activities and outline the action he is taking to regain lost time or avoid future delay. On the basis of the reports presented, the Contractor shall develop a current computer printout of the critical path schedule, and

shall furnish copies thereof to the Architect not later than the next scheduled progress meeting.

C. DAILY CONSTRUCTION REPORTS

1. A daily construction report will be prepared by the Contractor recording the following information concerning events at the site.
2. Daily Reports shall be submitted on a monthly basis and shall coincide with monthly Application for payment submittal.
 - a. List of subcontractors at the site
 - b. Approximate count of personnel at the site
 - c. High and low temperatures, general weather condition.
 - d. Accidents and unusual events
 - e. Meetings and significant decisions
 - f. Stoppages, delays, shortages, losses
 - g. Orders and requests of governing authorities
 - h. Services connected, disconnected
 - i. Equipment or system tests and start-ups
 - j. Partial Completions, occupancies
 - k. Material tests taken

1.14 ARCHITECT'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required, the Architect will review each submittal, mark to indicate action taken, and return within a minimum of two weeks. Review records may require longer time due to multi disciplinary review.
 1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Stamp: The Architect will stamp each submittal with a uniform, action stamp. The Architect will mark the stamp appropriately to indicate the action taken, as follows:
 1. Reviewed: When the Architect marks a submittal "Reviewed," the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
 3. Reviewed and Comment: When the Architect marks a submittal "Reviewed and Comment," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
 3. Revise and Resubmit: When the Architect marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.

- a. Do not use, or allow others to use, submittals marked “Revise and Resubmit” at the Project Site or elsewhere where Work is in progress.
4. Rejected, Resubmit: When the Architect marks a submittal “Rejected, Resubmit,” do not proceed with Work covered by the submittal, including purchasing, fabrication, deliver, or other activity. Prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
 - a. Do not use, or allow others to use, submittals marked “Rejected, Resubmit” at the Project Site or elsewhere where Work is in progress.
5. Action Not Required: Where a submittal is for information or record purposes or special processing or other activity, the Architect will return the submittal marked “Action Not Required.”
- C. Unsolicited Submittals: The Architect will return unsolicited submittals to the sender without action.

1.15 SUBCONTRACTOR AND / OR MANUFACTURER LIST

- A. Submit a detailed subcontractor and/or manufacturer list using **EXHIBIT '01 33 00A'** that has been provided at the end of this section. This list becomes part of the contract proposal and shall be presented within 24 hours after bid opening. Subcontractor purchased material, equipment, and labor shall be under the direct management of the Prime Contractor. If dual listing of manufactures or subcontractors is herein made, it is understood the Architect/Engineer (not the Contractor) will select the manufacturer or subcontractor of his choice.

1.16 PROJECT WORK PLAN

- A. Submittal content shall at a minimum include all requirements specified in the Contract documents.
- B. Project Work Plan
 1. Prior to proceeding with any activities related to the Work, the Contractor shall submit a Work Plan including the procedures proposed for the accomplishment of the specified work activities. The procedures shall provide for safe conduct of the Work; material storage/stockpiling; and plans to prevent disruptions to the existing operations at the site. This submittal shall provide a detailed description of the methods and equipment to be used for each operation, as well as the sequence of operations. The Work Plan shall be based on the guidance provided in these specifications. No adjustment for time or money will be made for re-submittals required as a result of noncompliance.
 2. The Work Plan shall, at a minimum, present the following:

- i. Description of the methods and equipment to be used for each operation (i.e., ACM and universal waste removal and disposal, demolition, recycling, transportation and disposal, backfilling, compaction, surface restoration, utilities, improvements, etc.).
- ii. Scheduling and operational sequencing.
- iii. Dust control and air monitoring plan.
- iv. Soil erosion and sedimentation control measures.
- v. Description of the means, methods, and procedures for site restoration.
- vi. Sample daily progress summaries and work logs.
- vii. Strategy to minimize disruptions to the existing operations.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION 01 33 00

EXHIBIT 01 33 00A

DIVISION 02 THROUGH 33 SUBCONTRACTORS AND MANUFACTURERS LIST

Project: **Building Demolition and Site Clearing**

NAME OF BIDDER _____ DATE _____

ADDRESS: _____ PHONE _____

BY _____
Printed Signature

The undersigned hereby submits the following Subcontractors and Manufacturers list, which becomes a part of the undersigned Contract proposal. Subcontractor purchased material, equipment, and labor shall be under the direct management of the Prime Contractor. If dual listing of manufacturers or subcontractors is herein made, it is understood the Architect/Engineer (not the Contractor) will select the manufacturer or subcontractor of his choice.

<u>Portion of Work</u>	<u>Description</u>	<u>Subcontractor</u>	<u>Manf./Supplier</u>
1. <u>Excavation/Earthwork</u>	_____	_____	_____
2. <u>Site Utilities</u>	_____	_____	_____
3. <u>Asphalt Pavement</u>	_____	_____	_____
4. <u>Concrete</u>	_____	_____	_____
5. <u>Testing</u>	_____	_____	_____
6. <u>Field Engin. Survey</u>	_____	_____	_____
7. <u>Transportation</u>	_____	_____	_____
8. <u>Disposal/Recycling</u>	_____	_____	_____
9. <u>Building Demolition</u>	_____	_____	_____
10. <u>ACM Abatement</u>	_____	_____	_____
11. <u>Electrical/Lighting</u>	_____	_____	_____
12. <u>Fencing</u>	_____	_____	_____
13. <u>Signage</u>	_____	_____	_____
14. <u>Other</u>	_____	_____	_____
15. <u>Other</u>	_____	_____	_____
16. <u>Other</u>	_____	_____	_____
17. <u>Other</u>	_____	_____	_____
18. <u>Other</u>	_____	_____	_____

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EXHIBIT 01 33 00 B

CADD INFORMATION REQUEST

1. Company Information:

Company: _____
Address: _____

Telephone: _____
Fax: _____
Contact(s): _____

Job Name: CATA East Lansing Multimodal Transit Center
Building Demolition and Site Clearing

DLZ #: 1341-6517-70

Drawings: _____

2. Method: CD ☐ Email: _____

3. Operating System: ☐ Windows XP

4. Drawing Program: ☐ AutoCAD Version: _____
☐ Other _____

5. Preferred Format: ☐ DWG ☐ PDF ☐ TIF ☐ JPG

6. Cost/Charges: _____ drawings at \$50.00 per drawing = \$ _____

AGREED AND ACCEPTED _____

Authorized Signature

If this information is acceptable, please sign and return with check and Indemnification Clause attached to:

DLZ Michigan, Inc.
1425 Keystone Avenue
Lansing, Michigan 48911
Attn: Eric T. Beaulieu, AIA, CxA, LEED AP

Please make checks payable to:

DLZ Michigan, Inc.
Notation: 1341-6517-70

Capital Area Transportation Facility
East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing

DLZ Project No. 1341.6517.70
CATA IFB #2013-107

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[Date]

[Addressee]

[Addressee]

[Addressee]

Re: Request For Electronic Files
Project: East Lansing Multi-Modal Transit Center - Building Demolition and Site Clearing
Electronic files requested: _____

Dear _____ :

At your request, **DLZ Michigan, Inc.** ("DLZ"), is happy to provide **[name of requesting company/entity]** ("You") with an electronic copy of the above files, for Your convenience and use in the construction of the above project, in consideration of and subject to the following terms and conditions.

1. The electronic files are in a format and were created with software licensed to and operated by DLZ, or DLZ subcontractors, or other third parties. DLZ makes no warranty, express or implied, that the electronic files will be compatible with, or will not affect or damage, other hardware and software. You, as well as any subsequent direct or indirect transferee or user, takes the electronic files subject to, and assumes, the entire risk of damages arising from the use, copying, transfer and any other use whatsoever of the electronic files.
2. You, on behalf of Yourself and any subsequent direct or indirect transferee receiving, opening, using or copying the electronic files, are responsible for, and You release and agree to indemnify and hold harmless DLZ from and against all claims, damages, liabilities, expenses and costs, including but not limited to all attorney fees, arising out of or resulting from Your transfer, use, reliance upon, opening, copying, modification, sharing, or forwarding of the electronic files.
3. You acknowledge and agree that the electronic files are not construction documents. Differences may exist between these electronic documents and hard-copy construction documents or actual construction in place. The electronic files are provided for Your convenience only and DLZ makes no warranty, express or implied, that the electronic files are suitable for your intended purposes. You, or any direct or indirect assignee or transferee from You, is solely responsible for determining if there are any discrepancies between the printed construction documents and files, on the one hand, and these electronic files. The use of the electronic files does not relieve You, or any contractor or subcontractor, of its duty, without limitation, to check, confirm and coordinate all dimensions and details, take field measurements, verify field conditions, and coordinate your work with any consultant, contractor or subcontractor for the project.
4. Subject to all terms, conditions and considerations recited herein, You may make fair use of the electronic files in connection with the construction of the above identified project only. Fair use of such electronic files does not include copying, reproducing, abridging or modifying the electronic files for use in any other project or for any other purpose.

5. You, on Your own behalf and, without limitation, on behalf of any contractor, subcontractor or consultant obtaining directly or indirectly from You originals or copies of the electronic files, agree to maintain reasonable control over the distribution of copies and reproduction of the electronic files, and to inform any party provided with the electronic files of the terms and conditions herein, including providing a copy of this letter agreement to each such transferee.
6. Because information, drawings, specifications and data contained in the electronic files can and may be modified, deteriorate or be corrupted, whether intentionally or inadvertently, DLZ reserves the right to remove any indicia of origin, creation and ownership. Any such removal shall not be construed as abandonment of any right, title or interest in the electronic files.
7. This letter agreement is governed by the laws of the State of Michigan, and supersedes and integrates all negotiations between You and DLZ with regard to DLZ providing the electronic files to You. This letter agreement may not be modified or revoked except by the express written agreement of both You and DLZ.
8. The service fee for DLZ providing the electronic files is \$_____. DLZ's provision of the electronic files to You is not intended by You or DLZ, and is not, a sale, and shall not be construed as a sale by DLZ to You or to any other person.
9. This letter agreement may be executed in counterparts, and does not require signatures by all parties on a single document. An exchange of electronic messages may be used to verify the agreement of the parties in lieu of or in supplementation of signed hard copy documents.
10. The scope of this letter agreement is limited to DLZ providing the above electronic files to You. Nothing in this letter agreement shall be construed to change or modify any basic construction agreements, subcontract agreements, or other agreements.
11. By signing and indicating agreement to the terms of this letter agreement, each of the individual signatories warrants that he or she is authorized to bind his or her respective principal to the terms and conditions herein.

DLZ Michigan, Inc.

[Requesting Company]

By: _____
(Signature)

By: _____
(Signature)

Print Name: _____

Print Name: _____

Date: _____

Date: _____

8/22/2011

Date:
PROJECT NUMBER:

SUBMITTAL LOG

PROJECT: East Lansing Multi-Modal Transit Center - Building Demolition and Site Clearing

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SECTION 01 40 00 – SAFETY, HEALTH, AND EMERGENCY RESPONSE

PART 1 GENERAL

1.01 DESCRIPTION

This section provides minimum guidance and implementation of a site safety and accident prevention program for the employees of the Contractor and for preparation of a Health and Safety Plan (HASP). The HASP shall be submitted to the Professional for information only. Approval shall not be required. The information and requirements identified in this section are the minimum requirements. The Contractor shall evaluate the Work conditions and implement appropriate measures to protect the workers, environment and general public, and comply with applicable laws.

1.02 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. This list is not comprehensive of the entire project.

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH)

ACGIH-02 (1993) 1993-1994 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices or most recent revision.

AMERICAN NATIONAL STANDARDS INSTITUTE

ANSI Z358.1 (1990) Emergency Eyewash and Shower Equipment or most recent revision.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR Part 1904 Recording and Reporting Occupational Injuries and Illnesses

29 CFR Part 1910 Occupational Safety and Health Standards

29 CFR Part 1910.120 Hazardous Waste Site Operations and Emergency Response

29 CFR Part 1926 Safety and Health Regulations for Construction

49 CFR Part 171 General Information, Regulations, and Definitions

49 CFR Part 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 85-115 (1985) Occupational Safety and Health Guidance Manual for Hazardous Waste site Activities or most recent revision.

1.03 SUBMITTALS

The Contractor shall submit the HASP to the Professional for information only. The Owner and Professional reserve the right to request additional pertinent information. HASP shall be prepared covering on site work to be performed by the Contractor and all subcontractors. The Contractor shall be responsible for the development, implementation, and oversight of the HASP. The HASP shall establish, in detail, the protocols necessary for the anticipation, recognition, evaluation, and control of hazards associated with each task performed. The HASP shall address site specific safety and health requirements and procedures, based upon site specific conditions. The level of detail provided in the HASP shall be tailored to the type of work, complexity of operations to be performed, and hazards anticipated.

1.04 REGULATORY REQUIREMENTS

- A. Work performed under this contract shall conform to all applicable federal, state, and local safety and occupational health laws and regulations. This includes, but is not limited to, Occupational Safety and Health Administration (OSHA) standards, 29 CFR Part 1910, especially Section .120, "Hazardous Waste Site Operations and Emergency Response", Section .1001 "Asbestos" and Section .1025 "Lead", and 29 CFR Part 1926, Section .62 "Lead", Section .65, "Hazardous Waste Site Operations and Emergency Response" and Subpart T "Demolition". Matters of interpretation of standards shall be submitted to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations and referenced documents vary, the most stringent requirements shall apply.
- B. The Contractor is responsible for performing air monitoring and sampling as required. The Contractor shall contact the MDEQ - Air Quality Division for guidance, if necessary.
- C. The Contractor is responsible for selecting the proper personal protective equipment.
- D. The Contractor is responsible for the proper disposal of all personal protective equipment.
- E. The Contractor is responsible for providing proper training for all employees scheduled to perform Work at the site in accordance with applicable laws and regulations.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.01 EXCAVATION SAFETY

All Work shall be conducted in strict conformance with, at a minimum, 29 CFR 1926.650 through 29 CFR 1926.653, including requirements for sloping or shoring found in 29 CFR 1926.652. If the excavation must remain open during periods when the work site is unoccupied (i.e., overnight, over weekend, and other similar off periods), barricades shall be placed around the excavation in such a

manner to alert personnel and public to the danger and prevent them from falling into the trench/excavation.

3.02 UNFORESEEN HAZARDS

Should any unforeseen or site-specific, safety-related factor, hazard, or condition become evident during the performance of work at this site, it shall be the Contractor's responsibility to bring such conditions to the attention of the Professional, both verbally and in writing, as quickly as possible for resolution. In the interim, the Contractor shall take prudent action to establish and maintain working conditions and to safeguard employees, the public, and the environment.

END OF SECTION 01 40 00

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SECTION 01 41 00 – REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Regulations having jurisdiction over this Project and obligations with responsibilities applicable.
- B. The Engineer/Architect does not imply that all governing code and regulations are enumerated. It is Contractor's responsibility to verify own obligations.
- C. Contractor shall comply with all federal, state, and local rules, ordinances, and regulations relating to buildings, employment, the preservation of public health and safety, and so forth. All necessary permits or certifications of inspection shall be paid for and obtained by the Contractor.

1.2 SCOPE

- A. Permits, Fees.
 - 1. Permits
 - a. Contractor will secure and pay for all permits and inspections required for this project.
- B. Building Codes and Regulations
 - 1. Federal
OSHA
EPA
ADA
 - 2. State of Michigan
Michigan Department of Environmental Quality
Michigan Building Code (IBC 2009, Michigan Amendments).
Michigan Mechanical Code
Michigan Plumbing Code
National Electrical Code (National Fire Protection Code 70)
Michigan Uniform Energy Act
 - 3. Comply with anti-pollution, environmental regulations, accessibility codes as applicable.
 - 4. Local zoning ordinance and other codes and regulations shall apply.
- C. Safety Regulations
 - 1. Comply with all Federal, State, and Local safety regulations applicable to project.

2. Consult specific specification sections for special safety requirements including proper precautions for fire safety.
3. Each employer whether prime contractor, or subcontractor is separately responsible for all specific safety requirements promulgated by any governmental authority, including without limitation, the requirements of Occupational Safety and Health Act of 1970, the Construction Safety Act of 1969, and all standards and regulations promulgated by parties or agencies which administer such acts. Each contractor and subcontractor is responsible for the acts of his employees and for appropriate record keeping and reporting.

END OF SECTION 01 41 00

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.
 - 2. Section 221119 "Domestic Water Piping Specialties" for temporary backflow preventer.
 - 3. Section 321216 "Asphalt Paving" for construction and maintenance of asphalt pavement for temporary roads and paved areas.
 - 4. Section 321313 "Concrete Paving" for construction and maintenance of cement concrete pavement for temporary roads and paved areas.
 - 5. Section 331000 "Water Distribution System" for temporary water utility distribution.
 - 6. Section 337000 "Electrical Utilities" for temporary electrical utility distribution requirements and temporary lighting system requirements.

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Architect, testing agencies, and authorities having jurisdiction.
- B. Sewer Service: Pay sewer-service use charges for sewer usage by all entities for construction operations. Contractor shall provide and maintain, over the entire project duration, sanitary facilities sufficient for the Contractor, subcontractor personnel and oversight personnel in accordance with all federal, state, and local laws and ordinances.
- C. Water Service: Pay water-service use charges for water used by all entities for construction operations.
- D. Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- D. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.
 - 1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
 - 2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

- B. Contractor's Field Office: Provide a field office of sufficient size to accommodate needs Contractor, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:
1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
 2. Conference room of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot- square tack and marker boards.
 3. Chilled water.
 4. Coffee machine and supplies.
 5. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.
 6. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.
 7. Field office shall be equipped with telephone, fax, and internet service.
 8. Fire Extinguishers.
 9. First Aid Kit.
 10. Four (4) spare protective hard hats.
 11. Smoke detector.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
1. Store combustible materials apart from building.
- D. Contractor shall arrange and pay for all fees associated with utility service, connection, and disconnection for field offices.

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

2.3 PROJECT IDENTIFICATION

- A. Provide project identification sign of exterior – grade plywood and wood frame construction, as indicated on drawings, painted with exhibit lettering by professional sign painter per Architect's design.
- B. No other project identification signs are allowed with Owner's permission, except those required by law.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
 - 1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction activities.
 - 1. Provide temporary water service utility to serve the temporary Amtrak Station building.
 - 2. Refer to Section 221119 "Domestic Water Piping Specialties" for backflow preventer to be installed within the temporary Amtrak Building.
 - 3. Refer to Section 331000 "Water Distribution System" for temporary water utility system requirements.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and chilled drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
 - 1. Temporary sanitary facilities shall include hand sanitizer dispenser; refill on a regular basis throughout the duration of construction activities.
- E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- F. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
 - 1. Install electric power service underground unless otherwise indicated.
 - 2. Provide main service disconnect and overcurrent protection at convenient location.

3. Refer to Section 337000 "Electrical Utilities" for temporary electric utility system requirements.
- G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 1. Provide temporary lighting to serve temporary parking areas and accessible routes between the temporary Amtrak facility and the train boarding platform.
 2. Install and operate temporary lighting that fulfills security, safety, and protection requirements without operating entire system.
 3. Refer to Section 337000 "Electrical Utilities" for temporary lighting system requirements.
- H. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install one telephone line(s) for each field office.
 1. Provide additional telephone lines for the following:
 - a. Provide a dedicated telephone line for a facsimile machine in each field office.
 - b. Provide a dedicated telephone line for the temporary Amtrak Station Building.
 2. At each telephone, post a list of important telephone numbers.
 - a. Police and fire departments.
 - b. Ambulance service.
 - c. Contractor's home office.
 - d. Contractor's emergency after-hours telephone number.
 - e. Architect's office.
 - f. Owner's office.
 - g. Principal subcontractors' field and home offices.
 3. Provide superintendent with cellular telephone with camera feature for use when away from field office.
- I. Electronic Communication Service: Provide a desktop computer in the primary field office adequate to access Project electronic documents and maintain electronic communications. Equip computer with not less than the following:
 1. Processor: Intel Pentium D or Intel CoreDuo, 3.0 GHz processing speed.
 2. Memory: 4 gigabyte.
 3. Disk Storage: 300 gigabyte hard-disk drive and combination DVD-RW/CD-RW drive.
 4. Display: 22-inch LCD monitor with 256-Mb dedicated video RAM.
 5. Full-size keyboard and mouse.
 6. Network Connectivity: 10/100BaseT Ethernet.
 7. Operating System: Microsoft Windows XP Professional or Microsoft Windows Vista Business.
 8. Productivity Software:

- a. Microsoft Office Professional, XP or higher, including Word, Excel, and Outlook.
 - b. Adobe Reader 7.0 or higher.
 - c. WinZip 7.0 or higher.
9. Printer: "All-in-one" unit equipped with printer server, combining color printing, photocopying, scanning, and faxing, or separate units for each of these three functions.
 10. Internet Service: Broadband modem, router and ISP, equipped with hardware firewall, providing minimum 384 Kbps upload and 1 Mbps download speeds at each computer.
 11. Internet Security: Integrated software, providing software firewall, virus, spyware, phishing, and spam protection in a combined application.
 12. Backup: External hard drive, minimum 40 gigabyte, with automated backup software providing daily backups.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas as specified. Locate temporary roads and paved areas as indicated and within construction limits indicated on Drawings.

1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.

C. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Section 312000 "Earth Moving."
3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.

D. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

- E. Parking: Provide temporary parking as specified.
- F. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
 - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
 - 2. Remove snow and ice as required to minimize accumulations.
- G. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
 - 1. Identification Signs: Provide Project identification signs as indicated on Drawings.
 - 2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.
 - b. Provide temporary wayfinding signage for on-site public vehicular and pedestrian wayfinding. Wayfinding signage to include directional wayfinding for the temporary Amtrak Station, public parking, train boarding platform, and accessible routes serving each.
 - c. Provide temporary parking identification signage including signage for temporary ADA spaces.
 - 3. Maintain and touchup signs so they are legible at all times.
- H. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- I. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.
- J. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 1. Comply with work restrictions specified in Section 011000 "Summary."

- C. Temporary Erosion and Sedimentation Control: Provide and maintain measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
 - 1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
 - 2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
 - 3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
 - 4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- E. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.
- F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- G. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
 - 1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Termination and Removal: Remove each temporary facility if and when need for its service has ended. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

- D. The following temporary facilities shall remain in place upon Substantial Completion of the project and shall become property of the Owner:
1. Project Identification Sign shall remain in place upon completion of project.
 2. All temporary utilities serving the temporary Amtrak Station Building shall remain in place and fully functional upon completion of the project.
 - a. Upon Substantial Completion, temporary utility use charges for remaining utilities shall become the responsibility of the Owner.
 3. Water utility service and backflow preventer shall remain in place and fully functional upon completion of the project.
 4. Electric utility service shall remain in place and fully functional upon completion of the project.
 5. Lighting serving the parking areas and the accessible routes shall remain in place and fully functional upon completion of project.
 6. Telephone/communication services shall remain in place and fully functional upon completion of the project.
 7. Soil erosion control measures shall remain in place upon completion of the project.
 8. Parking lots, driveways, and walkways shall remain in place upon completion of the project.
 9. Signage including all wayfinding and parking signage shall remain in place upon completion of the project.
 10. Perimeter fencing and gates shall remain in place upon completion of the project.

END OF SECTION 015000

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SECTION 01 57 50 – DUST CONTROL AND AIR MONITORING

PART 1 GENERAL

1.1 DESCRIPTION

The Contractor shall provide necessary engineering controls to prevent dust emission and migration of airborne materials out of the work area. Air monitoring shall be performed to ensure the airborne dust level do not exceed regulatory limits. All costs associated with dust control and air monitoring are incidental to the project.

1.2 SUBMITTALS

A. Dust Control and Air Monitoring Plan

Prior to proceeding with the demolition, removal, and disposal work, the Contractor shall submit, as part of the Project Work Plan, a dust control and air monitoring plan to the Professional for approval.

At a minimum, the Dust Control and Air Monitoring Plan shall include:

1. The means, methods, and procedures used to control airborne emissions and to avoid potential dust migration out of the work areas.
2. The equipment, sampling procedures, and sampling locations to be used for dust monitoring.
3. Wet-sweeping of public roads and internal roads and paved areas open for public access, as necessary, to control dust resulting from onsite activities.

B. Monitoring Reports

The Contractor shall submit daily air monitoring reports to the Professional for review at the end of every workday of demolition and associated operations. The monitoring reports shall include real-time air monitoring data.

1.3 QUALITY CONTROL

The Contractor shall maintain and control airborne dust below 10 mg/m³ during the demolition and associated activities.

1. Provide regular and adequate moisture during demolition operation to prevent dust emissions and migration.
2. Use air monitoring that will adequately demonstrate that dust emission at the boundaries of the work area is below 10 mg/m³ during demolition activities.

PART 2 PRODUCTS

2.1 MONITORING INSTRUMENT

Instrumentation that adequately demonstrates compliance, such as real-time aerosol monitors/data logger with visual/auditory notification of exceedance.

PART 3 EXECUTION

3.1 AIR MONITORING

- A. The Contractor shall have a minimum of three real-time aerosol monitors at the demolition area to monitor air quality during the demolition and removal operation. One real-time monitor shall be placed upwind of the demolition area and two aerosol monitors shall be placed downwind of the demolition area.
- B. The Contractor shall closely monitor dust levels at the project site during the demolition and associated operations. At no time may the concentration of aerosol dust resulting from the Contractor's activity exceed 10 mg/m^3 for more than 5 minutes during demolition. If the level of dust exceeds 10 mg/m^3 for more than 5 minutes at any one real-time aerosol monitoring location, the demolition operation shall be immediately suspended. Additional dust control measures shall be taken to reduce the airborne dust generated from the Contractor operation. Contractor shall not resume the demolition activity until the level of dust drops below 10 mg/m^3 for a minimum of 10 minutes.

3.2 DUST CONTROL

- A. The Contractor shall employ adequate engineering controls and misting operations, so as to prevent visible emissions of dust and migration of airborne materials out of the work area and off site. Use of water will not be permitted when it will result in or create hazardous or objectionable conditions such as ice, flooding, pollution, or electrical shock.
- B. Temporary stockpiles of any demolition debris or/and excavated soil that may generate dust at the site shall be securely covered with a 10-mil plastic sheet.

3.3 DATA REPORTING

The Contractor shall submit a hard copy of the continuous real-time aerosol monitoring data to the Professional for inspection at the end of each working day.

END OF SECTION 01 57 50

SECTION 01 60 00 – PRODUCT REQUIREMENTS

PART 1: GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.2 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. Provide interchangeable components of the same manufacturer, for similar components.

1.3 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated products, place within secured trailer.
- C. Provide ventilation to avoid condensation.
- D. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- E. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by naming one or more Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products specified by naming one or more manufacturers with a provision for substitutions: Submit a request for substitution for any manufacturer not named.

1.6 SUBSTITUTIONS

- A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period to requirements specified in this Section.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the bidder:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Will provide the same warranty for the substitution as for the specified product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to the Owner.
 - 4. Waive claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

PART 2: PRODUCTS (NOT APPLICABLE)

PART 3: EXECUTION (NOT APPLICABLE)

END OF SECTION 01 60 00

CONTRACTOR'S SUBSTITUTION REQUEST FORM

Project Name: **East Lansing Multi-Modal Transit Center
Building Demolition and Site Clearing**

DLZ
Project No: 1341.6517.70

Owner: Capital Area Transportation Authority
4615 Tranter Street
Lansing, Michigan 48910

Engineer: DLZ Michigan, Inc.
1425 Keystone Avenue
Lansing, Michigan 48911

Contractor: _____

CONTRACTOR'S REQUEST WITH SUPPORTING DATA:

Substitution Request No.: _____ Date of Issuance: _____

We request your consideration of the substitution of following proposed product instead of the Specified Product:

Section No. _____ Paragraph No. _____ Specified ____ Product _____

Proposed Product:

- ☐ Product Data for proposed product is attached, including product description, reference standards, performance and test data.
☐ Sample(s) is(are) attached.
☐ Sample(s) will be sent if requested by the Architect.

Itemized comparison of proposed product with Specified Product:

	Specified Product	Proposed Product
Name/Brand	_____	_____
Catalog No.	_____	_____
Manufacturer	_____	_____

CONTRACTOR'S SUBSTITUTION REQUEST FORM
(Continued)

Significant	_____	_____
Qualities	_____	_____
Unit Cost	\$ _____ per	\$ _____ per
[]	Material Only	[] Material and Installation

Proposed change to the Contract Sum:

Credit to the Owner: <\$ _____ >
Additional Cost to the Owner: <\$ _____ >

The Contract Time: Will be [] Increased [] Decreased by _____ calendar days.

Describe what effect this substitution will have on the other parts of the Work or on other contracts.

CONTRACTOR'S CERTIFICATION OF CONFORMANCE OF THE SUBSTITUTION OF THIS PROPOSED PRODUCT TO CONTRACT REQUIREMENTS:

We have investigated the substitution of this proposed product and:

1. Believe that it is equal or superior in all respects to the Specified Product, except as fully described in the comparison above;
2. Will provide the warranty as required by the General Conditions;
3. Will provide the special warranty, if any, as specified;
4. Have included all cost data and cost implications;
5. Will pay re-design and special inspection costs caused by the substitution this proposed product;
6. Will pay additional costs to other contractors caused by the substitution of this proposed product;
7. Will coordinate the incorporation of the substitution of this proposed product into the Work;
8. Will modify, or cause to be modified, other parts of the Work as may be required, or directed, to make all parts of the Work complete; and
9. Waive future claims for added costs to this Contractor caused by the substitution of this proposed product.

Signature _____ Date _____

Name (Typed) _____ Phone _____

ARCHITECT'S RESPONSE TO CONTRACTOR'S SUBSTITUTION REQUEST FORM

Substitution Request No. _____

Contractor's Date of Issuance _____

ARCHITECT'S REVIEW AND ACTION:

☐ Sign Contractor's Statement of Conformance. Resubmit.

☐ Provide additional information. Resubmit

☐ Substitution of this proposed product is acceptable with the following conditions:

☐ A change order will be issued to adjust the Contract.

Signature _____ Date _____

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SECTION 01 71 50 – FINAL CLEANING

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- A. Conditions of the Contract.
- B. Section 01 10 00 – Summary of Work.
- C. Section 01 70 00 – Project Closeout.
- D. Cleaning of certain specific products are specified in their respective sections.

1.2 SAFETY REQUIREMENTS

- A. Hazards Control.
 - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.
- B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on project site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.

1.3 SITE CLEANING

- A. Regular Cleaning: All scrap or removed material, debris, or rubbish shall be regularly removed from the project at the end of each working day and more frequently whenever the Professional deems such material to be a hazard. No discarded material shall be deposited on the grounds. No salvage or surplus material may be sold on the premises. The Contractor shall take appropriate efforts so as not to create any nuisance conditions at or around the property. Contractor shall promptly clean areas dirtied by any cause arising from its operation.
- B. Final Cleaning: Just prior to final acceptance by the Owner and Professional, the Contractor shall clean all of the Work and existing surfaces, building elements and contents that were soiled by the operations and make repairs for any damage or blemish that was caused by the Work.
- C. Contractor shall comply with State and local permits and ordinances.

1.4 CLEANUP

- A. All demolition debris and waste materials generated by the Contractor shall be removed from the work site daily. Any dirt or debris tracked onto paved or surfaced roadways shall be cleaned away. Salvageable uncontaminated or decontaminated materials resulting from

removal activities may be stored at the site with approval of the Professional. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Use only cleaning materials recommended by manufacturer or surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
 - a. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances.
 - b. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Remove stains, spills, and other foreign deposits from paved areas.
- B. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces and of concealed spaces.
- C. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from sight-exposed interior and exterior finished surfaces.
- D. Broom clean paved surfaces; rake clean other surfaces of grounds.
- E. Maintain cleaning until project, or portion thereof, is occupied by Owner.
- F. Contractors failing to provide final clean up as noted in Article 3.15 of the General Conditions will be given 24 hours notice to complete the work or the Construction Manager shall have the right to contract the work done and the costs thereof shall be deducted from the Contract Amount in accordance with the Conditions of the Contract.

END OF SECTION 01 71 50

SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including the following:

1. Construction Waste:

- a. Masonry and CMU.
- b. Asphalt.
- c. Brick.
- d. Lumber.
- e. Wood sheet materials.
- f. Metals.
- g. Piping.
- h. Electrical conduit.
- i. Packaging: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
 - 1) Paper.
 - 2) Cardboard.
 - 3) Boxes.
 - 4) Plastic sheet and film.
 - 5) Polystyrene packaging.
 - 6) Wood crates.
 - 7) Plastic pails.

1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 10 (ten) days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

- A. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- B. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.7 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification and waste reduction work plan.

Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator.
 - 1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 - 2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 - 3. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - 1. Comply with operation, termination, and removal requirements in Division 01 Section "Temporary Facilities and Controls."
- B. Waste Management Coordinator: Contractor shall be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
 - 1. Distribute waste management plan to everyone concerned within three (3) days of submittal return.
 - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.

2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 4. Store components off the ground and protect from the weather.
 5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.3 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 2. Polystyrene Packaging: Separate and bag materials.
 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

3.4 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 01 74 19

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SECTION 01 77 00 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Closeout requirements for specific construction activities are also included in the appropriate Sections.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project record document submittal.
 - 3. Final cleaning.
 - 4. Other closeout submittals as specified.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 - 2. Advise the Owner of pending insurance changeover requirements.
 - 3. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 4. Submit record drawings and similar final record information.
 - 5. Complete final cleanup requirements, including touchup painting.
 - 6. Touch up and otherwise repair and restore marred, exposed finishes.
- B. Inspection Procedures: On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
 - 1. The Architect will repeat inspection when requested and assured that the Work is

- substantially complete.
- 2. Results of the completed inspection will form the basis of requirements for final acceptance.
- C. Certificate of Substantial Completion: Refer to Exhibit 01 77 00 A, AIA Document G704-2000 for Certificate of Substantial Completion.

1.4 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
 - 1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
 - 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 - 3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, endorsed and dated by the Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Architect.
 - 4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the Owner took possession of and assumed responsibility for corresponding elements of the Work.
 - 5. Submit consent of surety to final payment.
 - 6. Submit a final liquidated damages settlement statement.
 - 7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Architect.
 - 1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance. If the Work is incomplete, the Architect will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
 - 2. If necessary, reinspection will be repeated.

1.5 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Architect's reference during normal working hours.
 - 1. One (1) complete set of Record Documents shall be provided to the Owner and one (1) complete set shall be provided to the Architect.

2. Refer to Section 01 78 39, Project Record Documents.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:

1. Record documents.

3.2 FINAL CLEANING

- A. General: The General Conditions require general cleaning during construction.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
 - a. Remove labels that are not permanent labels.
 - b. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances.
 - c. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Remove stains, spills, and other foreign deposits from paved areas.
- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.
 1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION 01 77 00

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DRAFT AIA® Document G704™ – 2000

Certificate of Substantial Completion

PROJECT:
(Name and address):

PROJECT NUMBER: /
CONTRACT FOR:
CONTRACT DATE:

OWNER: ☐

ARCHITECT: ☐

CONTRACTOR: ☐

FIELD: ☐

OTHER: ☐

TO OWNER:
(Name and address):

TO CONTRACTOR:
(Name and address):

PROJECT OR PORTION OF THE PROJECT DESIGNATED FOR PARTIAL OCCUPANCY OR USE SHALL INCLUDE:

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

Warranty

Date of Commencement

ARCHITECT

BY

DATE OF ISSUANCE

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

Cost estimate of Work that is incomplete or defective: \$

The Contractor will complete or correct the Work on the list of items attached hereto within () days from the above date of Substantial Completion.

CONTRACTOR

BY

DATE

The Owner accepts the Work or designated portion as substantially complete and will assume full possession at (time) on (date).

OWNER

BY

DATE

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

(Note: Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)

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SECTION 01 78 50 – PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 DESCRIPTION

Keep accurate record documents for all additions, substitution of material, variations in work, and any other revisions to the Contract Documents.

1.2 MAINTENANCE OF DOCUMENTS

A. Maintain at the jobsite, one copy of:

1. Site-Specific Health and Safety Plan
2. Project Work Plan
3. Permits
4. Record drawings showing progress of work
5. Specifications
6. Addenda
7. Contract Change Orders
8. Other modifications to Contract
9. Field test records
10. Contractor's daily progress or activity reports, including:
 - a. Records of all site work
 - b. Daily payment quantities
 - c. Manifest documents and variance reports
 - d. Inspection records for staging and storage
 - e. Reports on any emergency response actions
 - f. All laboratory and analytical results
 - g. Dust control and air monitoring reports
 - h. Photographs
 - i. Chain-of-Custody forms
 - j. Shipping documents
 - k. Accident reports
 - l. Spill reports

B. Provide files and racks for storage of documents. Documents shall be stored in a dry safe place apart from construction documents, and be available for inspection by the Professional or Owner.

C. The record documents shall not be used for construction purposes.

1.3 SUBMITTALS

A. Upon completion of field operations, the Contractor shall deliver record documents to the Professional, including consolidation and summary of the analytical quality control results in final report format and record drawings.

- B. Project record documents shall include all items specified in Subsection 1.02-Maintenance of Documents. The accompanying transmittal letter shall contain the following information:

1. Date
2. Project title and number
3. Contractor's name and address
4. Title and number of each record
5. Certification that each document as submitted is complete and accurate
6. Signature of Contractor
7. Section reference from the specifications

- C. Documents must be submitted to the Professional at project completion as a condition of final payment.

1.4 RECORDING

- A. Clearly label each document "PROJECT RECORD".
- B. Keep record documents current.
- C. Specification and addenda shall be legibly marked up to record changes made by change or field orders, on other matters not originally specified.
- D. All drawings shall be reproducible for future use and reference.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01 78 50

SECTION 02 00 00 – SITE PREPARATION

PART 1 GENERAL

1.01 SITE PLAN

- A. The Contractor shall prepare a site plan indicating the proposed location and dimensions of any area to be used for material stockpiles, employee and/or vehicle/equipment parking/storage, the number of trailers to be used, avenues of ingress/egress, vehicle and personnel decontamination units, primary roadways within the site, and location of dust/air monitoring devices. Any areas anticipated for use as access roads or which may have to be graveled to prevent the tracking of mud onto public roadways shall also be identified and permission gained from the Owner and Professional, as necessary. In addition, the Contractor shall identify the location, size, and type of vehicle and personnel decontamination units.

B. Identification of Employees

The Contractor shall be responsible for furnishing identification to each employee and for requiring each employee engaged in the Work to display identification. Identification shall be kept onsite during periods when an employee is not engaged in work. Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works and sign the Sign-In Log on a daily basis.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 02 00 00

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SECTION 02 11 00 – HANDLING OF HAZARDOUS MATERIALS

PART 1 GENERAL

1.01 DESCRIPTION

- A. The materials in the buildings may contain hazardous contaminant concentrations above applicable Resource Conservation and Recovery Act (RCRA) disposal limits. The hazardous material may include, but not limited to, fluorescent light bulbs, sodium lights, mercury vapor lamps, mercury switches/thermostats, lead-based paint material, Freon, ballasts, capacitors, transformers, polychlorinated biphenyls (PCBs), asbestos containing material (ACM), and other hazardous materials. The hazardous materials in the buildings shall be removed and disposed of at approved waste facilities in accordance with the federal and state regulations, prior to demolition of the building structures.
- B. Contaminated soils are present at the site as identified in the figures and related documentation presented in Appendix C. As presented in the figures; coal ash is present along the northern portion of the site, and volatile organic compound (VOC) and polynuclear aromatic hydrocarbon (PNA) contamination near the Amtrak station building and isolated locations along the south property line.
- C. As presented in the figures in Appendix C; soils under and near the Amtrak station building are contaminated with VOCs and PNAs, and coal ash is present near the Amtrak building along the northern property line. Contractor shall remove all above floor slab building and components of the Amtrak building. After the Amtrak building demolition and disposal, Michigan State University (MSU)'s designated contractor will remove the Amtrak building floor slab, foundations and footings, contaminated soils and coal ash as necessary, and pavement near the Amtrak building within MSU's excavation area as identified in the Contract Drawings.
- D. Contractor shall not remove PNA impacted soils near the southern property line. Upon removal of pavement in these impacted areas; MSU's contractor may remove the impacted material in these areas, if necessary.
- E. Access shall be maintained for MSU's contractor to excavate and remove the contaminated soils from the site as described in the Contract drawings and documents.
- F. Contractor shall immediately notify the Professional upon suspecting any below grade contamination not identified in Appendix C. Within 3 working hours after the notification, Professional will provide the Contractor either a clearance to continue work, or provide the limits of contaminated soils that shall be removed and stockpiled for later disposal or appropriate handling by MSU.
- G. Contractor shall be responsible for evaluating the employee exposure risks and complying with all occupational health and safety regulations.

1.02 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The

publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR Part 1910	Occupational Safety and Health Standards
29 CFR Part 1926	Safety and Health Regulations for Construction
40 CFR Part 260	Hazardous Waste Management
40 CFR Part 261	Identification and Listing of Hazardous Waste
40 CFR Part 262	Standards Applicable to Generators of Hazardous Waste
40 CFR Part 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR Part 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR Part 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR Part 273	Standards for Universal Waste Management
49 CFR Part 171	Department of Transportation Regulations to Stipulate Requirements for Containers and Procedures for Shipment of Hazardous Waste
49 CFR Part 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR Part 173	Shippers General Requirements for Shipment and Packaging
49 CFR Part 177	Carriage by Public Highway
49 CFR Part 180	Rules for Continuing Qualifications and Maintenance of Packaging

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 30	(1990) Flammable and Combustible Liquids Code
NFPA 70 B	(1990) Recommended Practice for Electrical Equipment Maintenance
NFPA 325M	Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids

STATE OF MICHIGAN

PA 451, PART 201	Environmental Remediation
PA 451, PART 111	Hazardous Waste Management Act
PA 451, PART 115	Solid Waste Management Act
PA 136	Michigan Liquid Industrial Waste Act
PA 154, PART 603	Lead Exposure in Construction

1.03 SUBMITTALS

The following shall be submitted to the Professional in accordance with Section 01 33 00:

A. Project Work Plan

1. Prior to proceeding with demolition work, the Contractor shall submit a work plan to the Professional, including the procedures proposed for the removal and disposal of hazardous materials. The Project Work Plan shall provide a detailed description of the methods and equipment to be used for each operation (such as sampling, staging, transportation, etc.), site-specific health and safety plan, disposal procedures, and sequence of operations.
2. No work at the site, with the exception of site inspection, shall be performed until the Work Plan is approved. The cost of work plan preparation is the responsibility of the Contractor. No adjustment for time or money will be made for resubmittals required as a result of noncompliance.

B. Disposal Documentation

1. The Contractor shall submit to the Professional a report summarizing all activities stated in this Section, including a copy of the records of inspections, tests, and all analytical results for disposal of hazardous contaminated materials.
2. The Contractor shall provide to the Professional copies of all licenses, certifications, permits, agreements, manifests, chain of custody records, weigh tickets, meter recordings, delivery tickets, bills of lading, and receipts required or issued for the transportation and disposal of materials, the methods used, and the disposal areas and facilities. The Contractor shall also provide to the Professional a copy of the results of tests performed to comply with the requirements of each disposal facility.

C. Manifests

The Contractor shall submit to the Professional a copy of the official manifest for each shipment of removed hazardous materials to an approved licensed disposal facility. All manifests shall be in accordance with the requirements of all the applicable federal, state, and local regulations. Manifests shall be signed by the Owner, or Owner-authorized representative.

1.04 SAMPLING AND ANALYTICAL TESTING

- A. All sampling and analysis shall be conducted as required by the waste disposal facility and in compliance with applicable laws.
- B. The waste characterization sampling and analytical requirements for hazardous material disposal shall be the Contractor's responsibility.

1.05 REGULATORY REQUIREMENTS

The Contractor shall comply with all applicable federal, state, and local regulatory requirements related to the work summarized in this Section.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 GENERAL

A. Preparation

The Contractor shall be responsible for obtaining all required permits, including confined space entry permits if required. The Contractor shall provide approved containers, vehicles, equipment, labor, labels, manifests, subcontracting services, and any other documents necessary for accomplishment of the Work.

B. Safety Guidelines

1. All work associated with hazardous materials shall be at the appropriate Personal Protection Level, as defined by 29 CFR Part 1910, especially Section .120 and Occupational Safety and Health Administration (OSHA). In the event that unknown hazardous material is identified at the site, the work shall be performed in at least Level B protection, as defined by OSHA.
2. Personnel working inside the site boundary shall be trained and made thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this work.

C. Control of Work

The Contractor shall perform work in accordance with the requirements of the drawings and specifications and shall take direction only from the Professional and Owner for this contract. Any other party that proposes to give direction to the Contractor shall be immediately referred to the Professional.

3.02 PROTECTION

As part of the overall Site-Specific Health and Safety Plan, the Contractor shall monitor air quality at the site, as required to protect workers and the public. The Contractor shall establish action levels for organic vapors, dusts, etc. to protect the health and safety of the employees and other onsite personnel. In addition, the oxygen and combustible gas levels shall be monitored if deemed necessary, or if removal operation of hazardous material is in the confined space. The Contractor may use stricter standards for working under such conditions.

3.03 REMOVAL AND DISPOSAL

A. General

The Contractor shall provide all labor, materials, equipment, transportation, packaging, sampling and testing, and incidentals required to perform removal and disposal of hazardous materials. The hazardous materials shall be handled in accordance with all applicable RCRA, federal, state, and local regulations.

B. Hazardous Materials

All hazardous materials shall be removed from the site and recycled or disposed of in an approved licensed facility. Contractor shall provide the Professional with manifests, certificates, and other such evidence as may be required by federal, state, and local regulations, to show that hazardous waste materials of all types were properly transported to, received at, and disposed of in approved disposal facilities. Contractor shall manage universal waste in accordance with all local, state, and federal regulations including but not limited to 40 CFR 273.

C. Fluorescent Tubes, Mercury Vapor Lamps, and Mercury Switches

Intact fluorescent tubes shall be disposed of at a fluorescent light recycling facility. The recycling facility shall be in compliance with federal, state, and local regulation. The facility shall recover a minimum of 98% by weight of the mercury from the tubes and shall produce a minimum 99% by weight free flowing mercury. The facility shall verify that the material end users are in compliance with federal, state, and local regulation. The facility shall routinely test tube- and switch-recovered materials for Toxicity Characteristic Leachate Procedure (TCLP) mercury. The contractor will submit verification that the recycling facility meets all federal, state and local regulations, and meet the requirements of the specifications.

D. Lead

Demolition debris shall be handled in accordance with applicable federal, state and local regulations, and the requirements of the disposal facility. For compliance purposes, all paint coatings on building surfaces, whether sampled or not, shall be deemed as lead-based paint.

E. Refrigerants

Remove all air-conditioning equipment without releasing Ozone Depleting Substances (ODS) to the atmosphere in accordance with federal, state and local regulations. Recover and recycle

all refrigerants prior to removing air conditioning equipment in accordance with appropriate federal, state, and local regulations and industry standards.

F. PCBs

See Section 13 28 10-PCB Abatement

G. ACM

See Section 13 28 20-Asbestos Abatement

3.04 TRANSPORTATION

Transportation of hazardous materials and universal wastes shall be in accordance with DOT, federal, state, and local laws and regulations. Universal wastes shall be placed in the appropriate disposal containers for transport to the disposal/recycling facility and labeled in accordance with all local, state, and federal regulations.

3.05 DISPOSAL

Disposal of hazardous materials and universal wastes shall be in accordance with all federal, state, and local solid and hazardous waste laws and regulations, including RCRA, Act 136, Act 451, and conditions specified herein. Contractor shall obtain the required disposal approval and permits necessary for the proper disposal. Contractor shall be responsible for completing all required manifesting and other paperwork, and providing the disposal documentation to the Professional.

END OF SECTION 02 11 00

SECTION 02 12 00 – OFFSITE TRANSPORTATION AND DISPOSAL

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Insure that all vehicles entering and leaving the site comply with all safety, placard, licensing, and other requirements of the federal, state, and local regulations.
- B. Prepare vehicles to prevent spillage or contamination.
- C. Inspect vehicles before leaving the site.
- D. Transport equipment to and from the site.
- E. Transport debris and waste generated from demolition activities, hazardous, and other material from the site to an approved facility.

1.02 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR Part 1910	Occupational Safety and Health Standards
29 CFR Part 1926	Safety and Health Regulations for Construction
40 CFR Part 261	Identification and Listing of Hazardous Waste
40 CFR Part 262	Standards Applicable to Generators of Hazardous Waste
40 CFR Part 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR Part 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR Part 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR Part 273	Standards for Universal Waste Management
49 CFR Part 171	Department of Transportation Regulations to Stipulate Requirements for Containers and Procedures for Shipment of Hazardous Waste
49 CFR Part 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

- 49 CFR Part 173 Shippers General Requirements for Shipment and Packaging
- 49 CFR Part 177 Carriage by Public Highway
- 49 CFR Part 180 Rules for Continuing Qualifications and Maintenance of Packaging

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

- NFPA 30 (1990) Flammable and Combustible Liquids Code
- NFPA 70 B (1990) Recommended Practice for Electrical Equipment Maintenance
- NFPA 325M Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids

STATE OF MICHIGAN

- PA 451, PART 201 Michigan Natural Resources and Environmental Protection Act (NREPA)
- PA 451, PART 211 Underground Storage Tanks
- PA 451, PART 213 Leaking Underground Storage Tanks
- PA 451, PART 111 Michigan, NREPA Hazardous Waste Management Act
- PA 451, PART 115 Michigan, NREPA Solid Waste Management Act
- PA 136 Michigan Liquid Industrial Waste Act
- PA 154, PART 603 Lead Exposure in Construction

1.03 PERMITS, LICENSES, AND CERTIFICATIONS

The Contractor shall obtain all applicable permits, waste approvals, and licenses required for transportation and disposal of any materials, debris or waste resulting from the Work.

1.04 SUBMITTALS

- A. Within ten calendar days after notice to proceed, the Contractor shall submit verification that each disposal facility is properly licensed by state and federal agencies to accept the types and quantities of intended debris or waste.
- B. Before disposal operations begin, the Contractor shall submit the transportation routes to the selected solid and liquid disposal facilities to the Professional for approval.
- C. The Contractor shall submit a Spill Contingency Plan for transportation of solids and liquids to the Professional for approval before disposal operations begin. This plan shall address all the potential hazards, necessary actions to follow in case of spills, and emergency phone numbers enroute to each disposal facility.

- D. The Contractor shall submit copies of all manifests and bills of lading to the Professional during transportation and disposal operations.
- E. The Contractor shall submit a Decontamination Plan that includes vehicle decontamination and prevention of mud-tracking offsite.
- F. All costs for submittals are incidental to the project.

1.04 PROJECT RECORD DOCUMENTATION

- A. Record weight, volume, and character of material disposed.
- B. The Contractor shall provide documentation that the measuring devices used are certified by the appropriate state inspection agency.
- C. The Contractor shall give to the Professional written documentation and records verifying receipt and the quantity received of each load at the disposal facility and verification of proper disposal. Copies of the actual receipt must be provided.
- D. The Contractor shall prepare and maintain accurate manifests or bills of lading for each load of waste materials being transported and disposed. The Contractor is responsible for obtaining the Professional, Owner, or Owner-authorized representative's signature on all manifests for transportation and disposal purposes.
- E. All of the materials shall be sampled and analyzed in accordance with the disposal requirements, as directed by the Professional. The testing parameters shall be determined based on the potential for the presence of respective contaminants.

PART 2 PRODUCTS

2.01 EQUIPMENT

The Contractor shall provide equipment, personnel, and facilities necessary to handle, load, and effectively manage materials for transport.

PART 3 EXECUTION

3.01 LOADING AND HAULING

- A. All haul vehicles are to be inspected for soil adhesion to wheels, under carriage, and other external components. These soils shall be removed and properly handled by the Contractor before the haul vehicle leaves the site. The decontamination procedures shall be carried out in the decontamination zone. Before leaving the site, all vehicles shall be approved by the Professional. All rinse waters are to be collected for temporary storage prior to disposal. The Contractor will sample collected rinse waters to ensure proper disposal. Contractor shall be responsible for the disposal and any associated testing. All associated decontamination costs are incidental to the project.

- B. Transport vehicles shall not be allowed to leave the site if they are leaking or spilling materials or there is evidence that leaking or spilling may likely occur.
- C. All transport vehicles shall be in strict conformance with all applicable federal, state, and local laws, including but not limited to, Department of Transportation.
- D. The Contractor shall keep accurate records for the following information: type and quantity of materials, including liquids, removed from the site and analytical testing results. Professional approval is required before any liquid or material leaves the site.
- E. The Contractor shall submit, to the Professional, copies of the aforementioned records, all required permits, manifests, waste hauling permits, and necessary affidavits regarding the waste materials, including liquid disposal.
- F. All transport vehicles shall be cleaned before loading with waste material.
- G. Prior to transportation, all of the established pre-transportation requirements shall be met.
- H. A certified waste hauler shall transport all waste in approved labeled containers.

3.02 DISPOSAL

- A. All disposal activities shall conform to federal, state, and local government regulations.
- B. For contaminated wastes, the Contractor shall use a State of Michigan-approved manifest system so that the waste can be tracked from generation to ultimate disposal. The manifest shall comply with all provisions of the transportation and disposal regulations. All transporters must sign the appropriate portions of the manifest and must comply with all provisions established in the applicable regulations. Contaminated waste manifests must be signed by the Professional, Owner, or Owner-authorized representative.
- C. Contaminated materials shall be disposed of at an approved licensed disposal facility.
- D. Arrangements for disposal shall be performed by the Contractor.

3.02 SPILLS

The Contractor is responsible for cleaning up all leaks and spills from containers and other items onsite or offsite that are due to Contractor's activities. Immediate containment actions shall be taken, as necessary, to minimize the effect of any spill or leak. The Contractor shall notify the Professional and appropriate governmental authorities of the incident. Cleanup shall be in accordance with applicable federal, state, and local laws and regulations at no additional cost to the Professional or Owner.

END OF SECTION 02 12 00

SECTION 02 13 00 – SITE DECONTAMINATION

PART 1 GENERAL

1.01 SUBMITTALS

A Decontamination Plan shall be submitted to the Professional as part of the Project Work Plan. The Decontamination Plan shall include the following information:

- A. Decontamination zone/area location
- B. Materials and equipment used for decontamination, such as pressure washers, decontamination pad construction, etc.
- C. Procedures and methods for personnel, equipment, and vehicle decontamination
- D. Rinse water collection and containment

PART 2 PRODUCTS (NOT USED)

Not Used

PART 3 EXECUTION

3.01 DECONTAMINATION

- A. The Contractor shall provide, operate, and maintain decontamination units for personnel, equipment, and vehicles at the project site as necessary to comply with all regulations and ordinances. The decontamination unit shall serve to remove, to the best extent possible, contaminated soil and materials from equipment and vehicles before they exit the site. The Professional may restrict vehicles from leaving the site until the vehicles are decontaminated to the approval of the Professional.
- B. All vehicles that come in contact with contaminated material and/or as specified by the Professional shall be decontaminated. Soils or contaminants shall be removed and properly handled by the Contractor. The Contractor shall provide wheel and under carriage wash using high-pressure water or steam as required. The rinse waters used in the operation shall be collected, stored, sampled, and properly disposed of, based on corresponding waste characterization analytical results. The Contractor shall coordinate these activities.
- C. All costs associated with decontamination, including, but not limited to, materials, equipment, analyses, transportation, and disposal, are incidental to the project.

END OF SECTION 02 13 00

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SECTION 02 22 00 – BUILDING DEMOLITION

PART 1 GENERAL

1.01 WORK INCLUDED

- A. All permits necessary to perform demolition and related activities shall be obtained.
- B. Buildings, concrete floors, foundations, footings, concrete pads, asphalt and concrete pavements, pits, vaults, crawl spaces, and sumps shall be demolished and removed, in their entirety within the demolition limits depicted in the Contract drawings. **Pavement may include multiple layers of a combination of asphalt and concrete.**
- C. All underground structures inside the buildings, including, but not limited to, piping, retaining walls, sewers, drains, manholes, and other miscellaneous debris shall be demolished and removed.
- D. All debris generated from the demolition work shall be properly disposed or recycled complying with applicable laws.
- E. All miscellaneous debris within the buildings and located anywhere on the property within the demolition limits shall be removed and properly disposed.
- F. Adjacent structures, pavements, roadways, railroads, sidewalks, other features to remain in place, and vehicular and pedestrian traffic shall be protected.
- G. Existing operations, including but not limited to, train and bus services, travelling public, and access to MSU storage building shall be maintained and protected.
- H. Verify that all utilities to the buildings to be demolished have been properly shut off. All utilities shall be capped and removed to the locations as identified in the Contract documents or as directed by the Professional.
- I. This section addresses the demolition, removal, and recycling/disposal of debris generated by the demolition, including debris within buildings and on the property including containers, drums, miscellaneous equipment and machinery; wood; steel; concrete; lead-based paint materials; specified and non-specified hazardous materials, excluding polychlorinated biphenyl (PCB)-impacted materials and regulated asbestos containing materials (ACMs). See Section 13 28 10-PCB Abatement, for PCB-impacted materials, and Section 13 28 20-Asbestos Abatement, for ACM.
 - 1. Recycling or disposal of steel from the buildings is incidental to the project. Contractor is encouraged to recycle all metals, when economically feasible.
 - 2. It is strongly encouraged that asphalt, concrete and brick meeting the requirements for recycling be recycled, when economically feasible.
- J. Sampling, analyses, and manifesting, as related to demolition, removal, and disposal of building debris and materials.

- K. Perform air monitoring and dust control during the entire period of the demolition and removal operation as required in Section 01 57 50 – Dust Control and Air Monitoring. The cost for air monitoring and dust control is incidental to the project.

1.02 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR Part 1910	Occupational Safety and Health Standards
29 CFR Part 1926	Safety and Health Regulations for Construction
40 CFR Part 262	Standards Applicable to Generators of Hazardous Waste

1.02 SUBMITTALS

A. Project Work Plan

Prior to proceeding with the demolition, removal, and disposal work, the Contractor shall submit a work plan to the Professional that includes the means, methods, and procedures proposed for completing, in accordance with Contract Documents, the demolition, removal, and recycling/disposal work. The means, methods, and procedures shall provide for safe conduct of the work; careful removal and disposition of the buildings, debris, universal wastes, miscellaneous solid materials, and other wastes; and protection of property that is to remain undisturbed. The procedures shall provide a detailed description of the methods and equipment to be used for each operation and the sequence of operations. The work plan shall also identify personnel and equipment that will be dedicated to this project for its duration, including an onsite supervisor who has the authority to make decisions for the Contractor. The name and location of disposal and recycling facilities for all removed materials shall be submitted in the Project Work Plan.

The Work Plan shall describe procedures to avoid disruptions to the rail and bus services, and traveling public. The bus and train traffic shall be maintained without any disruptions. The work plan shall be based on work experience and the guidance provided in this specification. The cost of Project Work Plan preparation is the responsibility of the Contractor.

B. Inspection Reports

The Contractor shall submit to the Professional a copy of the records of inspections, tests, and any corrective action taken to address any problems encountered or generated throughout the duration of the Work.

C. Disposal Documents

The Contractor shall submit to the Professional copies of all licenses, certifications, permits, agreements, manifests, chain of custody records, weigh tickets, meter recordings, delivery tickets, bills of lading, and receipts required or issued for the disposal or recycling of materials, the methods used, and the disposal areas and facilities. The Contractor shall also provide a copy of the results of tests performed to comply with the requirements of each disposal or recycling facility, and applicable regulations.

D. Manifests and Bills of Lading

The Contractor shall submit to the Professional a copy of the official manifest or bill of lading for each shipment of removed materials including, but not limited to, building debris, concrete and brick debris, miscellaneous site debris, and solid wastes evidencing delivery of the material to an approved licensed disposal facility. All manifests shall be in accordance with the requirements of all applicable federal, state and local regulations. Manifests shall be signed by the Professional, Owner, or Owner-authorized representative.

1.03 PROJECT/SITE CONDITIONS

The Contractor shall carefully coordinate the work in this Section with all other work. The work shall comply with OSHA regulations and other applicable safety requirements. All utilities serving the buildings to be demolished will be capped and removed to the locations as identified in the Contract documents or as directed by the Professional. Any damage or removal of pavement, sidewalk or curbs shall be repaired or replaced at no additional cost to the Owner or Professional. Any utilities shared with or servicing adjacent buildings (not demolished) or properties shall not be removed or damaged. Utility removal, protection and installation shall be in accordance with the Contract drawings, Division 33, and specifications.

A. Electrical Disconnection

The Contractor shall verify in writing that onsite electrical wiring entering all buildings to be demolished or in close enough proximity to be damaged by the demolition operations shall be disconnected and/or de-energized prior to proceeding with demolition operations. Contractor shall maintain electrical utility service to the buildings that are to remain during and after demolition. The Contractor shall coordinate with the local electrical utility companies for any necessary relocation of utilities and be responsible for any associated fees or expenses.

B. Water Disconnection

The Contractor shall verify in writing that onsite water lines entering all buildings to be demolished shall be disconnected and/or capped at the right-of-way of the water supply line, prior to proceeding with demolition operations. Contractor shall maintain water service to the buildings that are to remain during and after demolition. The Contractor shall coordinate with the local water utility company for any necessary relocation of utilities and be responsible for any associated fees or expenses.

C. Sanitary Sewer Disconnection

The Contractor shall locate and bulkhead all sanitary sewer connections from all buildings to be demolished prior to proceeding with demolition. The work shall be performed at the right-of-way line of the city sewer or as required by the utility provider, and in accordance with applicable state and local regulations. Contractor shall obtain any necessary permits and be responsible for any associated fee and expenses.

D. Storm Sewer Disconnection

The Contractor shall locate, remove and bulkhead storm sewer lines from all buildings to be demolished prior to proceeding with demolition. The work shall be performed as directed by the Professional, and in accordance with applicable state and local regulations. Any underground storm drains serving the buildings that are to remain shall not be removed. Contractor shall obtain permits or required authorizations from the City of East Lansing, Ingham County, or appropriate entity, as necessary. Storm sewer removal, protection and installation shall be in accordance with the Contract drawings and specifications.

E. Gas Disconnection

The Contractor shall verify in writing that onsite gas lines entering all buildings to be demolished shall be disconnected and capped prior to proceeding with demolition operations. Contractor shall maintain gas service to the buildings that are to remain during and after demolition. The Contractor shall coordinate with the local gas utility company for any necessary relocation of utilities and be responsible for any associated fees or expenses.

F. Telephone and Cable Disconnection

The Contractor shall verify in writing that onsite telephone, cable lines, high speed internet and other telecommunication lines entering the buildings shall be disconnected prior to proceeding with demolition operations. Contractor shall ensure these telecommunication service lines are maintained to the buildings that are to remain during and after demolition. The Contractor shall coordinate with the local telephone, cable, internet, and other telecommunication companies for any necessary relocation of utilities and be responsible for any associated fees or expenses.

1.04 GENERAL REQUIREMENTS

- A. The work includes demolition and removal of buildings, foundations, and subsurface structures, and recycling and/or disposal of resulting debris. Recycling of building materials and debris is strongly encouraged. Rubbish and debris shall be removed from the property daily, unless otherwise directed, to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Professional. In the interest of safety, the work shall be performed with regard to the protection of personnel, property, and the public. Work areas shall be protected using temporary fencing with gates at all times.

B. Dust Control and Air Monitoring

The Contractor shall take all necessary means and procedures to control dust and avoid airborne dust from impacting the public roadways and sidewalks, areas of the site with public access, and surrounding properties as a result of the demolition operations. Continuous air monitoring shall be performed during the entire period of demolition and removal operation. See Section 01 57 50-Dust Control and Air Monitoring.

C. Soil Erosion and Sedimentation Control (SESC)

The Contractor shall take all necessary means and procedures to control soil erosion and sedimentation, in accordance with Section 02 37 00 – Soil Erosion and Sedimentation Control. The Contractor shall inspect and maintain SESC measures during the entire period of demolition and removal operation, and site restoration.

D. Protection of Property and Personnel

1. During demolition, the Contractor shall continuously evaluate the conditions of the items being demolished and take immediate action to protect property, public, and all personnel working in and around the demolition site. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing, bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, excavation, or demolition work performed under this contract.
2. The Contractor shall furnish, install, and maintain, as long as necessary, adequate barriers, warning signs, or lights at all dangerous points throughout the Work for protection of property, workers, and the public. The Contractor shall remove such material when deemed no longer required. The Contractor shall hold the Owner and Professional harmless from damage or claims arising out of any injury or damage that may be sustained by any person or persons and property as a result of the Work under the Contract
3. The Contractor shall enclose the work area with a minimum 6-foot tall temporary construction fencing as identified in the Contract drawings and document. Gates shall be provided at all points of access. Gates shall be closed and secured in place at all times when Work under the Contract is not in progress. The temporary fence shall be removed and grounds restored to original condition upon completion of the Work. In addition, Contractor shall enclose all excavations to be open overnight by means of woven wire or snow fence having a minimum height of four feet.
4. The Contractor shall erect and maintain temporary barricades to limit public access to the construction areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed and clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

5. The Contractor shall erect and maintain all street and sidewalk barricades, signal lights, and lane change markers during periods that traffic lanes are closed for operations, if pedestrian or vehicular traffic may be affected by onsite work, and/or to protect vehicular and pedestrian traffic. There shall be full compliance with permits, rules and ordinances respecting such street barricading. All devices shall be removed when the hazard is no longer present. All street barricades shall meet the requirements of the Michigan Department of Transportation, State of Michigan, City of East Lansing, and local governing authority for work in the road rights-of-way. The Contractor shall be responsible for obtaining any necessary right-of-way permits and associated costs.

E. Protection of Existing Work

1. Before beginning any demolition and removal work, the Contractor shall carefully inspect the existing work and examine the drawings and specifications to determine the extent of work.
2. The Contractor shall take all necessary precautions to insure against damage to existing features (including, but not limited to, sidewalks, roadways, fencing, landscape, buildings, utilities, and adjacent properties) that are to remain in place and any damage to such features shall be repaired or replaced, as approved by the Professional and at no additional cost to the Owner.
3. The Contractor shall thoroughly document the condition of all features that are to remain in place, photographically and/or by video, prior to commencing demolition.
4. The Contractor shall construct and maintain shoring, bracing, and supports as required. The Contractor shall insure that structural elements are not overloaded and be responsible for increasing structural support or adding new support, as may be required as a result of any removal or demolition work performed under any part of this contract. All additional bracing, shoring, or subsequent supporting shall be installed at no additional cost to the Owner.

F. Ownership

The Contractor shall have claim to any items or components of items to be demolished as well as debris. The Contractor shall be responsible for the removal and recycling/disposal of materials and debris in a fashion that complies with all federal, state, and local laws and regulations. Ownership of items and materials to be removed by the Contractor does not transfer to the Contractor until such items and materials are physically removed from the site.

G. Sequencing and Scheduling

1. Work shall be sequenced in accordance with the Contract drawings and document. Work is sequenced in three Milestones as presented in the Contract Drawings.
2. Contractor shall perform work in such a way so that any regulated ACM, PCB-impacted materials, mercury-containing materials, small containers and contents, drums and contents, hazardous materials, and liquids discovered in buildings, or as

specified by the Professional, shall be removed or cleaned-up prior to demolition or debris removal from that building, to protect the safety and health of all personnel. Liquids accumulated in the building sumps, pits, floor drains, and basins shall be removed prior to demolition of buildings.

H. Burning and Explosives

Burning waste and debris materials and the use of explosives at this site are prohibited.

I. Adjacent Businesses

The Contractor's activities shall not interfere with the ongoing operations on the site and operations of adjacent businesses, privately or publicly owned properties, roadways, railways, sidewalks, or parks, and access to and from these entities shall not be blocked.

1.05 PERMITS AND LICENSING

The permits described here cover the general description of the permits required for demolition. The permits described below are not necessarily all of the permits required for completion of this project. The Contractor shall be responsible for obtaining all required permits and all permit fees.

A. Demolition Permits

The Contractor shall obtain Permits to Wreck from the City of East Lansing and/or other applicable entity(s) having jurisdiction over the property prior to commencing demolition. Applications for Permit to Wreck shall be completed and submitted as part of the work plan submittal. A separate application may be required for each distinctly separate building at the site.

B. NESHAP Notification of Intent to Demolish

The Contractor shall be responsible for all appropriate notifications, filling, fees, and submitting to the Michigan Department of Environmental Quality – Air Quality Division the Notification of Intent to Renovate/Demolish a minimum of 10 working days prior to the abatement/demolition. The notification shall describe the demolition tasks to be conducted and the quantity of ACM proposed for abatement.

C. Soil Erosion Sedimentation Control Permit

The Contractor shall be responsible for applying for and obtaining a Soil Erosion and Sedimentation Control Permit from the City of East Lansing and/or other applicable entity(s) having jurisdiction over the property.

D. Work in the Right-of-Way Permits

The Contractor shall be responsible for applying, obtaining, and maintaining all necessary permits from the Michigan Department of Transportation, State of Michigan, Ingham County, City of East Lansing, local governing agencies, and railroad companies for work within any road or railroad rights-of-way.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 DUST CONTROL

- A. The Contractor shall employ all necessary engineering controls and misting operations to prevent emission of dust and migration of airborne materials off site from impacting public roadways and surrounding properties, and other areas of the property with public access for the train and bus services.
- B. The removal operation shall employ adequate engineering controls and misting operations, so as to prevent visible emissions of dust and migration of airborne materials. Use of water will not be permitted when it will result in, or create hazardous or objectionable conditions such as ice, flooding, pollution, or electrical shock.
- C. If the Contractor wants to temporarily stockpile any demolition debris or materials that may generate dust at the site, the stockpiles shall be covered with a 10-mil plastic sheet.

3.02 DEMOLITION AND REMOVAL

A. Buildings

- 1. The Contractor shall demolish and remove buildings in entirety, including foundations, footings, and walls, as specified in Subsection 1.01-Work Included. The concrete floor slabs, pits, vaults, floor drains, and sumps shall be demolished and removed entirely. Debris located or contained within pits, or voids shall be removed. All debris piles shall be removed and disposed of in their entirety. All underground construction features shall be removed except for utilities as identified in the Contract drawings, and the Amtrak building foundations.
- 2. All metals shall be recycled, if economically feasible.
- 3. Any visibly stained concrete must be extensively cleaned prior to recycling or be properly disposed of at a licensed landfill. It is strongly encouraged that all concrete and brick meeting the requirements for recycling be recycled when economically feasible. Any removal of structural steel and reinforcing steel from concrete is incidental to the project.
- 4. Remove all concrete slabs, pavements and structures, and asphalt/concrete pavement. Recycle the concrete and asphalt if economically feasible.

B. Utilities

- 1. The Contractor shall identify any active utilities onsite and ensure that all utilities servicing the buildings are properly shut-off, except as identified in the Contract

drawings. Any utilities shared with or servicing adjacent buildings (not demolished) or properties shall not be removed or damaged. Utility removal, protection and installation shall be in accordance with the Contract drawings and specifications. The Contractor is responsible for the protection of workers and deactivation of powered utilities.

2. All utility lines, such as water, storm and sanitary sewer, gas, electric, etc., shall be removed and/or plugged with leak-proof devices at locations as identified in the Contract drawings, Division 33, or by the Professional.

C. Hazardous Materials

1. The removal and disposal of hazardous materials (including, but not limited to, drums and containers; electric lamps, including fluorescent, high intensity discharge, sodium vapor, mercury vapor, neon, and incandescent lamps; mercury containing devices such as thermostats and switches; refrigerants; other universal wastes; etc.) shall be handled as specified in Section 02 11 00-Handling of Hazardous Materials. The removal and disposal of hazardous materials and universal wastes shall be completed prior to beginning demolition of that building.
2. The Contractor shall be responsible for preventing mixing of non-hazardous debris and waste materials with regulated hazardous materials. The Contractor is also responsible for preventing non-hazardous materials from coming in contact with materials identified as being hazardous, so as to prevent increasing the volume of hazardous materials (by contact).

D. ACM

The removal and disposal of regulated ACM, as specified in Section 13 28 20-Asbestos Abatement, shall be completed prior to beginning demolition.

E. PCB Contaminated Materials

1. The Contractor shall remove, segregate from other material, and dispose of PCB materials, including electrical transformers, capacitors, ballasts, and PCB impacted concrete and soils. If the PCB contamination for the waste materials is greater than the Toxic Substance Control Act (TSCA) criterion (refer to Section 13 28 10-PCB Abatement), then it is required that this material be handled as a TSCA waste. The removal and disposal of PCB contaminated material in a building shall be completed prior to beginning demolition of that building.
2. Any PCB contaminated concrete shall be removed in full thickness of slab, segregated from other debris, and disposed of in a licensed TSCA landfill. The selected, licensed TSCA disposal facility shall be approved by the Professional.
3. All handling, disposal, waste manifesting, and recording requirements, as set forth in 40 CFR 761 – PCB Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions, and as specified in Section 13 28 10-PCB Abatement, shall be followed.

G. Lead

The demolition and removal work shall be performed in compliance with the OSHA Interim Final Rule, 29 CFR 1926.62, on Lead Exposure in Construction, and MIOSHA Standards, Michigan PA 154 Part 603. Demolition debris shall be handled in accordance with applicable federal, state and local regulations, and the requirements of the disposal facility. For compliance purposes, all paint coatings on building surfaces, whether sampled or not, shall be deemed as lead-based paint.

3.03 RECYCLING

- A. Oil and grease stained or otherwise visibly stained concrete must meet the requirements of the recycling facility (which may necessitate extensive cleaning of the concrete) prior to recycling or be properly disposed of at a licensed landfill. It is strongly encouraged that all concrete and brick meeting the requirements for recycling be recycled when economically feasible.
- B. All metals shall be recycled if economically feasible. Steel separated from demolition rubble may be recycled and becomes the property of the Contractor. The Contractor will not be allowed to abate onsite any lead paint found on the steel unless appropriate procedures and federal, state, and local codes or regulations are followed, and work plan submitted for the lead abatement. Any material stockpiled for recycling shall be removed from the site prior to site restoration.

3.04 CONSTRUCTION WATER RUNOFF CONTROL

A. General

The Contractor shall provide the means, methods, and procedures necessary to collect, remove, and dispose of construction water that has come in contact with contaminants as a result of their demolition effort and storm water during the project duration. In addition, the Contractor shall furnish, operate, and maintain equipment for the control, collection, and disposal of the construction water. Damages arising from the Contractor's inability to properly control construction water shall be repaired by the Contractor, at no additional cost to the Owner. Temporary storage areas for potentially contaminated water shall be approved by the Professional. Manholes, vaults, reservoirs, pits, and cavities shall be protected from storm water and other water infiltration during the Contractor's demolition efforts, using sand bags or a method approved by the Professional. The Contractor shall be responsible for obtaining all appropriate federal, state, and local permits and providing manifests for the activities performed.

B. Collection

Prior to construction, the Contractor shall provide and construct dikes or ditches to divert construction storm water, which could potentially come in contact with contaminated materials, into reservoirs or collection areas for testing and disposal. Dikes and ditches shall be sufficient to transport the amount of water used for construction purposes as well as storm water runoff. Polyethylene or other materials shall be used to line dikes, reservoirs, or ditches to minimize erosion. Dikes and ditches shall be sloped at a minimum 1/16 inch per foot toward the collection area.

C. Testing, Removal, and Disposal

1. The Contractor shall coordinate all testing and analysis of the collected construction water and storm water to determine the proper means of disposal. A laboratory selected to perform analytical testing for accumulated construction water shall be approved by the Professional. Liquid determined to be hazardous using the criteria set forth in the Michigan Hazardous Waste Management Act and the Federal Resources Conservation and Recovery Act, shall be managed by the Contractor in accordance with the provisions and regulations of those Acts. The appropriate manifests and related documents shall be submitted to the Professional within 48 hours of the final disposal.
2. Based on the analytical result, construction water shall be handled, transported, and properly disposed of in accordance with federal, state, and local regulatory requirements. Sampling, sample delivery, laboratory analysis, handling, transportation, and disposal are the responsibility of the Contractor and are incidental to the project.

3.05 DEBRIS DISPOSAL

All debris and building materials resulting from demolition activities and miscellaneous debris, waste, and unsatisfactory materials resulting from this work shall be removed from the site, unless otherwise specified or directed by Professional or Owner, and upon removal shall become property of the Contractor. All disposals shall conform to federal, state, and local requirements. All removed materials shall be documented by weight tickets, manifests, and disposal/recycling facility acceptance tickets, with copies given to the Professional within 48 hours after removal from the site.

END OF SECTION 02 22 00

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SECTION 02 31 50 – EXCAVATION AND FILL

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Repair and restore all ground areas after excavation is complete.
- B. General backfilling, leveling, and compacting.
- C. Placements of Michigan Department of Transportation (MDOT) Class II fill sand and 22A gravel.

1.02 RELATED SECTIONS

- A. Section 01 71 50-Final Cleaning
- B. Section 02 37 00-Soil Erosion and Sedimentation Control
- C. Section 31 12 00-Earthwork

1.03 TESTS

Testing shall be the responsibility of the Contractor and shall be performed at no additional cost to the Owner. Testing shall be performed by an approved commercial testing laboratory or may be performed by the Contractor, subject to approval by the Professional and Owner. Compaction testing for fill material shall be in accordance with Section 31 20 00.

- A. The Contractor shall submit analytical results from all backfill material to the Professional to verify that backfill from offsite sources are uncontaminated.

1.04 SUBMITTALS

- A. Project Work Plan

Procedures, methods, materials, and other information regarding excavation and backfill shall be included in the Project Work Plan developed by the Contractor, as specified in Section 01 33 00-Submittals. The Contractor shall implement and maintain the work plan for all site activities as part of this work. The cost of work plan preparation is incidental to the project. No adjustment for time or money will be made for resubmittals required as a result of noncompliance. The following information regarding excavation and backfilling shall be included in the Project Work Plan, at a minimum:

- 1. Description of the methods and equipment to be used for each related operation (i.e., sampling, excavation, transportation, etc.).
- 2. Transportation company
- 3. Method to protect any storm sewer during excavation in close proximity of the site.
- 4. Description of the means, methods, and procedures for site restoration.

B. Backfill Materials

The Contractor shall submit data on proposed backfill materials (sand and gravel) to the Professional for approval. This data shall include the source of backfill material; grain size analysis, including MDOT classification; and analytical results (including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and Michigan metals) verifying that backfill material is uncontaminated. Contractor shall be responsible for any analytical costs required for the backfill. Letter and documentation from the backfill supplier attesting that the backfill is free of contamination could be substituted for analysis.

C. Test Results

The Contractor shall submit the specified compaction, grain size and density test results to the Professional.

1.05 PROJECT COORDINATION

- A. The Contractor shall carefully coordinate the work in this Section with all other work. The work shall be compliant with Occupational Safety and Health Administration regulations and other applicable safety requirements.
- B. The Contractor shall verify onsite utility line locations that are in close proximity to the work areas. Utility lines may include, but are not limited to, the following: telephone, cable, electric, water, sanitary and storm sewer, fiber optic, and gas lines.

PART 2 PRODUCTS

2.01 SUITABLE FILL AND BACKFILL MATERIALS REQUIREMENTS

Backfill material shall be in accordance with Section 31 20 00.

2.02 POTENTIALLY UNSUITABLE MATERIALS

- A. Contaminated soils include, but are not limited to, soil that is visually or olfactorily impacted. If any VOCs, SVOCs, PCBs, or other contaminants are detected in backfill material from an offsite location and/or if the Professional detects any contamination through visual or olfactory senses, then this will constitute classification as "contaminated soil."
- B. Unsuitable materials include the following materials:
 - 1. Soils that, when classified under ASTM D 2487 – Classification of Soils for Engineering Purposes, fall in the classification of Pt, OH, CH, MH, or OL.
 - 2. Soils that cannot be compacted sufficiently to achieve the density specified for the intended use.
 - 3. Soils that contain greater concentrations of chloride or sulfate ions or have a soil resistivity or pH less than the existing onsite soils.
 - 4. Topsoil
 - 5. Slag

6. Crushed concrete

PART 3 EXECUTION

3.01 PREPARATION

- A. The Contractor shall contact MISS DIG and other applicable local utility companies/authorities for utility identification a minimum of three working days prior to any excavations. The Contractor shall comply with 1974 PA 53, as amended, MCL 460-701 et seq., and all other laws concerning underground utilities.
- B. The Contractor shall take extreme care during the site activities to prevent cross-contamination.
- C. Personnel working inside and around the excavation areas shall be trained and thoroughly familiar with the safety precautions and equipment required for controlling potential hazards associated with this work.
- D. As applicable, Contractor shall obtain permission and all necessary permits for excavation in adjacent properties and road rights-of-ways, if necessary (refer to Section 02 22 00 – Building Demolition). All costs associated with obtaining, submitting, and permitting fees shall be paid for by the Contractor and are incidental to the project.
- E. Prior approval shall be obtained from the Owner and Professional before removal of any trees as identified in contract drawings. Trees shall be removed as directed by the Professional. The cost for removal is incidental to the Contract. All trees, vegetation, and brush removed must be transported from the site and disposed of in an approved facility.
- F. Although not anticipated, prior to excavation, the Professional may stake the site and may give guidance to the Contractor for removal of contaminated soil, as necessary.

3.02 PROTECTION

- A. The Contractor shall supply temporary fencing and block excavations at the end of each workday. Excavations should be checked each day for adequacy of protection. Cost is incidental to the project.
- B. Protect the public, utilities, and surrounding properties and buildings from hazards related to excavation activities.
- C. The Contractor is responsible for protecting the sides of open excavations to prevent collapse.
- D. Provide maximum safety to the site workers and public.
- E. The Contractor shall provide necessary engineering controls to support the excavation while excavating soil near adjacent buildings, pavements, and other structures. If an engineering support is used, the Contractor shall remove the engineering support after the excavation has been backfilled. Any testing and design required for the engineering supports are the responsibility of the Contractor.

3.03 EXAMINATION, TESTING, AND ANALYSIS

Verification sampling and analysis are the Professional's responsibility. The Contractor is responsible for estimating within their schedule time needed for the verification sampling.

3.04 BACKFILLING

Backfill shall be completed in accordance with Section 31 20 00. The Contractor shall restore all ground surface areas disturbed as a result of the work, using satisfactory material.

3.06 RESTORATION

- A. Compact the site surfaces and finish the grade within the demolition area as depicted in the Contract Drawings. All impacted areas outside the demolition area, including pavements, roads, vegetation, and all other disturbed or altered structures/features due to Work shall be restored to pre-work condition.
- B. After demolition activities have been completed, all disturbed surfaces shall be rough graded and compacted with heavy equipment, prior to surface restoration, so as to leave no ruts, pits, piles, or ridges. If fill is required, the Contractor shall be responsible for settlement of fill over any fill areas for a period of one year after final acceptance of work by Professional. The Contractor shall be required to repair any voids or holes that appear within one year of final acceptance, at its own expense. The cost for fill for surface grading is incidental to the project.

3.07 QUALITY CONTROL

The Contractor shall establish and maintain a quality control system for all operations performed under this Section to assure compliance with contract requirements and maintain records of its quality control for all operations performed, including, but not limited to, the following:

- A. Observance of safety regulations
- B. Quality of materials
- C. Protection, maintenance, and repair

END OF SECTION 02 31 50

SECTION 02 37 00 – SOIL EROSION AND SEDIMENTATION CONTROL

PART 1 GENERAL

1.01 WORK REQUIRED

- A. The Contractor shall be responsible for all application fees and obtaining a soil erosion and sedimentation control (SESC) permit from City of East Lansing and/or other applicable entity(s) having jurisdiction over the property.
- B. The Contractor shall furnish, install, and maintain as long as necessary and remove when no longer required, all necessary engineering controls to prevent erosion and sedimentation of onsite materials as required by the City of East Lansing, in accordance with Part 91 of P.A. 451, the SESC permit, and as required by this Contact Drawings.

1.02 RELATED SECTIONS

Section 02 31 50-Excavation and Fill

1.03 REFERENCES

The following references are part of this specification to the extent referenced.

MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT)
Standard Specifications for Construction, 2012

STATE OF MICHIGAN
Part 91 of P.A. 451 Soil Erosion and Sedimentation Control (formerly P.A. 347)

1.04 SUBMITTALS

- A. The submittals identified in this Section shall be submitted to the Professional in accordance with Section 01 33 00-Submittals.
- B. Prior to proceeding with site work, the Contractor shall submit to the Professional a SESC Plan, including sequencing and schedule, for approval by the Professional. The SESC Plan may be submitted as part of the Project Work Plan.
 - 1. The SESC Plan shall include, at a minimum, the following:
 - a. Means, methods, procedures, and materials proposed for accomplishment of SESC. The procedures shall provide a detailed description of the methods, equipment, and materials to be used and the sequence and schedule of SESC measures to be implemented at the site.
 - b. Schedule and sequence for removal of temporary and permanent SESC measures.

2. The SESC plan shall be based on the City of East Lansing and Part 91 of P.A. 451 and the cost of preparation and implementation is incidental to the project.
3. The SESC plan shall incorporate, at a minimum, all requirements identified in the Contract drawings and documents, and all the applicable federal, state and local laws and regulations.

PART 2 PRODUCTS

2.01 GENERAL

Materials used for permanent and temporary erosion and sedimentation controls shall meet the requirements as described in MDOT 2012 Standard Specifications for Construction.

PART 3 EXECUTION

3.01 GENERAL

- A. The Contractor shall design and construct terrain features such as slope and drainage ways to minimize the erosion potential of the exposed site based on the soil type, time of year, proximity to waterways, duration of exposure, length and steepness of the slope, and the anticipated volume and intensity of runoff.
- B. The Contractor shall minimize the surface area of unstabilized soils left unprotected and vulnerable to runoff and wind at any one time.
- C. The Contractor shall minimize the amount of time that unstabilized areas are exposed to erosive forces.
- D. The Contractor shall protect and shield exposed soil areas with a cover of live vegetation, mulch, or other approved erosion resistant material during the temporary and permanent control periods.
- E. The Contractor shall avoid concentrating runoff. When concentrated runoff cannot be avoided, runoff velocities shall be reduced to non-erosive velocities.
- F. Eroded sediments will be trapped onsite with temporary and permanent barriers, basins, or other sediment retention devices while allowing for the controlled discharge of runoff waters at non-erosive velocities.
- G. Contractor shall implement BMPs to protect on-site and nearby off-site storm water inlets.
- H. The Contractor shall implement a continuous inspection and maintenance program.
- I. The Contractor shall implement and follow the SESC Plan during all work activities, and until the permanent soil erosion control measures are in place.

END OF SECTION 02 37 00

SECTION 02 95 00 – AS BUILT SURVEY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. As-Built Survey

1. An As-Built survey shall be completed to identify all underground and aboveground items that are to remain.
2. The As-Built survey shall be performed by an independent third party Land Surveyor registered in the State of Michigan.

B. Final Topographical Survey

1. Final Topographical Survey shall identify the final topography of the site.
2. The Contractor shall hire an independent third party Land Surveyor registered in the State of Michigan to complete the Final Topographical Survey.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REQUIREMENTS

A. As-Built Survey

1. All underground and aboveground items, which are to remain or extend outside the demolition excavation removal limits, shall be identified in the As-Built Survey. This includes, but is not limited to:
 - a. Foundation walls, footings, slabs, piling, piers, etc.
 - b. Utility structures
 - c. Tunnel, pits, basement
 - d. Underground utilities
 - e. Site improvements
2. The Contractor shall schedule and coordinate the As-Built Survey in conjunction with the demolition/excavation/grading process to ensure that no underground items that are identified to remain or that extend beyond the demolition limits go unmarked.
 - a. Contractor's independent licensed land surveyor shall provide global positioning system (GPS) coordinates for items located.

3. The Contractor's independent licensed land surveyor shall perform an As-Built survey of the base of the demolition excavation removal limits:
 - a. The independent licensed surveyor shall provide a drawing with 50-foot grid of spot elevations of the demolition excavation removal limits.
4. The As-Built survey shall indicate the nature of the item, the elevation of the item and shall be performed in such a manner that the shape of the item can be depicted.
5. Provide one (1) copy of the "As-Built" drawings to the Owner Representative every 30 days for review. The "As-built" drawings shall be updated to reflect Work that has occurred in the previous 30 days.
6. Submit a copy of the As-Built survey in AutoCAD or Civil3D file format.

B. Final Topographical Survey

1. The final topography of the site shall be surveyed by the Contractor independent licensed surveyor. Refer to Section 01050.
 - a. The independent licensed surveyor shall provide a drawing with a 50-ft grid of final spot elevations.
2. The Owner shall compare the results of the final topographical survey with the proposed site grading shown on the drawings.
 - a. A discrepancy of +/- 2" is allowed between the Final Topographical Survey and the proposed site grading shown on the Drawings, as long as the site drains in accordance with the intent of the Contract Drawings.
 - b. Any area that varies greater than +/- 2" shall be re-graded at no additional cost to the Owner. Upon completion of re-grading of the site, the Contractor shall perform a final topographical survey of the site to verify final elevations.
3. Submit a copy of the final topographic survey in AutoCAD or Civil3D file format.

END OF SECTION 02 95 00

SECTION 13 28 10 – PCB ABATEMENT

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Dispose all polychlorinated biphenyl (PCB) contaminated material in accordance with all federal, state, and local regulations, including the Toxic Substance Control Act (TSCA).
- B. PCB containing materials may include, but not limited to, transformers, capacitors, and ballasts.

1.02 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR Part 1910	Occupational Safety and Health Standards
29 CFR Part 1926	Safety and Health Regulations for Construction
40 CFR Part 262	Standards Applicable to Generators of Hazardous Waste
40 CFR Part 761	PCB Manufacturing, Processing, Distribution in Commerce and Use Prohibitions

STATE OF MICHIGAN

PA 451, PART 147	PCB compounds

1.03 SUBMITTALS

The following shall be submitted in accordance with Section 01 33 00-Submittals.

A. Project Work Plan

Prior to proceeding with the removal and disposal work, the Contractor shall prepare and submit to the Professional a work plan including the means, methods, and procedures proposed for the identification and accomplishment of removal and disposal of PCB contaminated materials. The work plan shall provide a detailed description of the methods and equipment to be used for each operation and the sequence of operation and safety precautions to protect personnel and property. The name and location of the licensed disposal facility for all removed PCB materials shall be stated in the work plan. In addition, the work plan shall address the means, methods, and procedures and safety issues dealing with PCB contaminated materials. The cost of work plan preparation is incidental to the project. No adjustment for time or money will be made for resubmittals required as a result of noncompliance.

B. Licensed TSCA Disposal Facility

If required, the Contractor shall submit to the Professional, for approval, the name and license verification of the selected TSCA disposal facility, for the disposal of appropriate PCB contaminated materials.

C. Disposal Documents

Copies of all licenses, certificates, permits, weigh tickets, and waste manifests for TSCA materials shall be submitted to the Professional, verifying proper disposal of the PCB contaminated material. All manifests shall be in compliance with the requirements of 40 CFR, Part 761; 40 CFR, Part 262; and state and local regulations. Manifests must be signed by the Professional, Owner, or Owner-authorized representative.

1.04 SAMPLING AND ANALYTICAL TESTING

A. All analytical testing and sampling as required under this Section to identify PCB contaminated materials shall be performed by a laboratory that routinely provides analytical services acceptable to the Owner and Professional. Sampling, as required or as specified by the Professional, shall be performed by the Contractor. It is the Contractor's responsibility to submit all samples in a timely manner for analysis. The Contractor shall allow five days turnaround time for results.

B. The sampling and testing requirements for PCB contaminated material disposal shall be the Contractor's responsibility.

1.05 REGULATORY REQUIREMENTS

The Contractor shall comply with all applicable federal, state, and local regulatory requirements related to the PCB removal and disposal work summarized in this Section.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 GENERAL

A. Preparation

The Contractor shall be responsible for obtaining all required permits. The Contractor shall provide approved containers, vehicles, equipment, labor, labels, manifests, and other documents necessary to accomplish the Work.

B. Safety Guidelines

1. All work associated with hazardous materials shall be performed at appropriate Personal Protection Level, as defined by Occupational Safety and Health Administration.
2. Personnel working at the site shall be trained and made thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this Work.

C. Control of Work

The Contractor shall perform work in accordance with the requirements of the drawings and specifications and shall take direction only from the Professional and Owner for this Contract. Any other party that proposes to give direction to the Contractor shall be immediately referred to the Professional.

3.02 PROTECTION

The Contractor shall, as part of the Site-Specific Health and Safety Plan, identify worker protection measures and personal protective equipment while working with and/or around PCB contaminated solids and liquids. The dust control and air monitoring plan shall include action levels for dust potentially contaminated with PCB.

3.03 DUST CONTROL

The removal operation shall employ adequate engineering controls and misting operations, so as to prevent visible emissions of dust and offsite migration of airborne materials. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding, pollution, or electrical shock.

3.04 REMOVAL AND DISPOSAL REQUIREMENTS

All handling, disposal, waste manifesting, record keeping requirements, as set forth in 40 CFR 761 – Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions shall be followed.

A. PCB Transformers and Capacitors Removal

Transformers and capacitors found onsite will be considered PCB-containing, unless clearly marked non-PCB containing, and shall be removed, segregated from other material, and disposed of in accordance with applicable federal, state, and local regulations. All dry transformers will be disposed of with general demolition debris and equipment. All liquid-filled transformers and capacitors will be considered PCB-containing, unless analytically proven otherwise. All others will be sampled and disposed of appropriately.

B. PCB Ballasts Removal

Fluorescent light fixtures likely containing PCB ballasts are present at the site. Because of the age of the buildings, all ballasts are assumed to contain PCBs, unless clearly marked non-PCB containing. The Contractor shall properly remove and segregate PCB ballasts from other material and properly dispose of the ballasts at an approved facility, in accordance with applicable federal, state, and local regulations.

C. PCB Contaminated Material Disposal

The PCB contaminated materials shall be segregated from other debris and disposed of in a licensed TSCA disposal facility. The selected, licensed TSCA disposal facility shall be approved by the Professional. The Contractor shall be responsible for any sampling required by the disposal facility, without additional cost to the Owner.

D. Spills

The Contractor shall, at its cost, clean up any spills of PCB onsite or offsite that occur because of the Contractor's negligence during removal and disposal operations. Immediate containment actions shall be taken as necessary to minimize the effect of any spill or leak. Procedures and methods for spill notification and cleanup shall be stated in the Spill Contingency Plan (Section 01 33 00-Submittals and Section 02 12 00-Offsite Transportation and Disposal). The Contractor shall notify the Professional and appropriate governmental authorities of the incident. Cleanup shall be in accordance with applicable federal, state, and local laws and regulations.

END OF SECTION 13 28 10

SECTION 13 28 20 – ASBESTOS ABATEMENT

PART 1 GENERAL

1.01 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z9.2 (1979) Fundamentals Governing the Design and Operation of Local Exhaust Systems

ANSI Z87.1 (1989) Occupational and Educational Eye and Face Protection

ANSI Z88.2 (1980) Practices for Respiratory Protection

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 732 (1982; R 1987) Aging Effects of Artificial Weathering on Latex Sealants

ASTM D 522 (1988) Mandrel Bend Test of Attached Organic Coatings

ASTM D 1331 (1989) Surface and Interfacial Tension of Solutions of Surface-Active Agents

ASTM D 2794 (1990) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)

ASTM D 4397 (1984; R1989) Polyethylene Sheeting for Construction, Industrial and Agricultural Applications

ASTM E 84 (1989a) Surface Burning Characteristics of Building Materials

ASTM E 96 (1990) Water Vapor Transmission of Materials

ASTM E 119 (1988) Fire Tests of Building Construction and Materials

ASTM E 736 (1986) Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members

ASTM E 1368 (1990) Visual Inspection of Asbestos Abatement Projects

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR Part 1910 Occupational Safety and Health Standards

29 CFR Part 1926 Safety and Health Regulations for Construction

40 CFR Part 61 National Emissions Standards for Hazardous Air Pollutants

40 CFR Part 763 Asbestos

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7 (1989; 4th Ed) Compressed Air for Human Respiration

CGA G-7.1 (1989; 3rd Ed.) Commodity Specification for Air

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 560/5-85-024 (1985) Guidance for Controlling Asbestos Containing Materials in Building

EPA 340/1-90-018 (1990) Asbestos/NESHAP Regulated Asbestos Containing Materials
Guidance

EPA 340/1-90-019 (1990) Asbestos/NESHAP Adequately Wet Guidance

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10 (1988) Portable Fire Extinguishers

NFPA 70 (1990) National Electrical Code

NFPA 90A (1989) Installation of Air Conditioning and Ventilating Systems

NFPA 101 (1988) Safety to Life from Fire in Buildings and Structures

NFPA 701 (1989) Methods of Fire Test for Flame-Resistant Textiles and Films

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH-01 (1991) Manual of Analytical Methods

UNDERWRITERS LABORATORIES (UL)

UL 586 (Oct 18, 1990; 7th Ed) High-Efficiency, Particulate, Air Filters Units

MICHIGAN ADMINISTRATIVE CODE

Rule 325.51301 and Rule 325.51302 Asbestos Standards for Construction

1.02 DEFINITIONS

A. Adequately Wet

A term as defined in 40 CFR Part 61, Subpart M and EPA 340/1-90-019 that means to sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material (ACM), then that material

has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.

B. Amended Water

Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter, when tested in accordance with ASTM D 1331.

C. Asbestos Regulated Work Area

An asbestos regulated work area is an area contained and controlled either by an enclosed containment (full containment area, single or double bulkhead containment area, mini-containment area), modified containment, glove bag, or outdoor techniques, where asbestos abatement operations are performed and isolated by physical boundaries to prevent the spread of asbestos fibers and control access to authorized persons. A full containment, single or double bulkhead containment area, mini-containment area, modified containment, and glove bag work area shall be isolated within a containment enclosure in which ACM operations are performed. An outdoor regulated work area is not isolated within a containment enclosure, but is otherwise secured by means of physical barriers, boundary warning tape, and signage, etc., to control access by unauthorized persons.

D. Category I Non-friable ACM

A term as defined in 40 CFR Part 61, Subpart M and EPA 340/1-90-018 that means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, Polarized Light Microscopy (PLM).

E. Category II Non-friable ACM

A term as defined in 40 CFR Part 61, Subpart M and EPA 340/1-90-018 that means any material, excluding Category I non-friable ACM, containing more than 1 percent asbestos as determined using the methods specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, PLM, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

F. Competent Person

One who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f). For Class I and II work, one who is specifically trained in a training course that meets the criteria of EPA's Model Accreditation Plan (40 CFR Part 763) for supervisor, or its equivalent. For Class III and Class IV work, one who is trained in a manner consistent with EPA requirements for training of local education agency maintenance and custodial staff, as set forth at 40 CFR Part 763.92(a)(2).

G. Friable ACM

A term as defined in 40 CFR Part 61, Subpart M and EPA 340/1-90-018 that means any material containing more than 1 percent asbestos, as determined using the method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, PLM, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

H. Non-friable ACM

A term as defined in 40 CFR Part 61, Subpart M and EPA 340/1-90-018 that means any material containing more than 1 percent asbestos, as determined using the method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, PLM, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

I. Regulated Asbestos Containing Material (RACM)

RACM is (a) friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

J. Time-Weighted Average (TWA)

The TWA is an 8-hour time weighted average of airborne concentration of fibers (longer than 5 micrometers) per cubic centimeter of air that represents the employee's 8-hour workday personal exposure limit (PEL), as determined by Appendix A of 29 CFR Part 1926, Section 1101.

1.03 PROJECT/SITE CONDITIONS

A. General Requirements

The work covered by this Section includes the removal and disposal of RACMs from structures, equipment, and debris piles, if encountered during demolition activities.

The Asbestos and Hazardous Material Survey Report (Appendix A) and Asbestos Building Inspection Reports (Appendix B) contain the materials that were sampled and determined to contain asbestos at the site. The Appendix A includes the ACM inspection reports for the Amtrak Station Building (0193) and Rental Storage Facility A (0162). The Appendix B includes the ACM inspection report for the Printing Services Building (Stores Building Number 1) (0161) and Surplus Building (0190).

The building materials sampled by the Professional were for information purposes only. During the Pre-bid Meeting, it is the responsibility of the Contractor to identify all non-concealed materials that may contain RACM. The Contractor is also responsible for any additional asbestos survey information required by the NESHAP Notification of Intent to Renovate/Demolish.

General requirements also include temporary facilities, incidental procedures, and equipment required to protect workers and nearby residents of the area, from potential exposure to airborne asbestos fibers, and the decontamination of asbestos regulated work areas. Perform asbestos work in accordance with 29 CFR 1926.1101, 40 CFR 61, 40 CFR 241; state; and local regulations, if any; and requirements specified herein. The asbestos abatement Contractor shall maintain current licenses as required by applicable state or local jurisdictions for the asbestos removal, transporting, disposal, or other regulated activity relative to the work in this Contract. The work also includes the disposal of the generated ACM wastes.

B. Responsibility

It shall be the responsibility of the Contractor to review the attached drawings and specifications; assess the areas where asbestos containing and contaminated materials are to be removed; and to become thoroughly familiar with the site, the conditions, and the relative difficulty thereof, which are present and which will affect a complete asbestos removal and disposal operation.

The Contractor is responsible for the removal of all RACM from a building prior to demolition of that building, which includes, but is not limited to, those items identified in Subsection 1.03(A).

C. Knowledgeable Person

It shall be the Contractor's responsibility to assure that the work is done by persons certified in the State of Michigan and knowledgeable, qualified, and trained in asbestos removal, hauling, and disposal of ACMs, and in subsequent cleaning of the affected environment. Such persons shall comply with the appropriate federal, state, and local regulations that mandate work practices and shall be capable of performing the work under this contract.

D. Supplying Necessary Items

The Contractor shall be responsible for supplying all labor, material, equipment, services, insurance, bonds, and all incidentals which are necessary or required to perform the work in accordance with applicable regulations and these specifications.

E. Liability

The Contractor shall assume full responsibility and liability for compliance with all federal, state, and local regulations pertaining to work practices, confined spaces, hauling, disposal, and protection of workers and visitors to the site. This shall include Hazard Communication to workers and visitors at the work site (29 CFR 1926.1101).

1.04 DESCRIPTION OF WORK

The work covered by this Section includes the abatement of RACM that is encountered prior to the building demolition and removal activities. Contractor shall describe, in the Work Plan and Asbestos Abatement Plan, procedures and equipment required to protect workers and occupants in the work area, and public from contact with airborne asbestos fibers. The work also includes the disposal of the generated ACM wastes. Additionally, the Contractor shall identify RACM within or buried in debris

piles, collapsed/unsafe buildings, and structures, or as specified by the Professional; remove all RACM found within the aforementioned structures and debris, as it is discovered; and take steps for its proper disposal.

1.05 SECURITY

A logbook shall be kept documenting entry into and out of the asbestos regulated work area. Entry into asbestos regulated work areas shall only be by personnel authorized by the Contractor and Professional. Personnel authorized to enter asbestos regulated work areas shall be trained, medically evaluated, and wear personal protective equipment, as required by applicable federal and state safety and health regulations and this specification, for the specific asbestos regulated work area to be entered.

1.06 MEDICAL REQUIREMENTS

Medical requirements shall conform to 29 CFR Part 1926, Section 1926.1101, and the requirements of the Contractor's Site-Specific Health and Safety Plan (HASP).

A. Medical Examinations

Prior to performing any asbestos abatement work, workers shall be provided with a comprehensive medical examination as required by 29 CFR Part 1926, Section 1101, and other pertinent state or local requirements. This requirement must have been satisfied within the past year. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation.

B. Medical and Exposure Records

Complete and accurate records shall be maintained of each employee's medical examinations, medical records, and exposure data, as required by 29 CFR Part 1926.1101, for a period of 50 years after termination of employment. For further requirements, refer to the HASP.

1.07 TRAINING

Within one year prior to assignment and commencement of work on this asbestos abatement project, each worker directly involved in handling ACM and ACM-generated wastes, including packaging and transporting such wastes for disposal, shall take and successfully complete a course of asbestos training, as specified by USEPA requirements 40 CFR Part 763, Subpart E, Appendix C. Workers shall take and successfully complete the "Worker" course. Onsite supervisors shall take and successfully complete the "Contractor/Supervisor" course. Worker and Contractor/Supervisor courses taken more than one year prior to commencement of work are acceptable provided that the individual has successfully completed the annual refresher training as required by the regulatory agency. In addition, prior to the commencement of work, each worker shall be instructed by the Contractor's onsite "competent person" supervisor in the following project specific training: the hazards and health effects of the specific types of ACM to be abated; the content and requirements of the Contractor's Asbestos Hazard Abatement Plan; Accident Prevention Plan; Respiratory Protection Program; Hazard Communication Program; site-specific safety and health precautions; work practices; the use requirements and limitations of the personal protective clothing, equipment, and respirators; hands-on-

training for each asbestos abatement technique to be employed; heat and/or cold stress monitoring specific to this project; personal hygiene and housekeeping requirements; air monitoring program and procedures; medical surveillance, including medical and exposure recordkeeping procedures and the association of cigarette smoke and asbestos-related disease; security procedures; emergency response requirements; and all additional requirements of 29 CFR Part 1926.1101. Training shall also include, for each employee, a respirator fit test administered by the Contractor's competent person, as required by 29 CFR Part 1926.1101.

1.08 RESPIRATORY PROTECTION PROGRAM

The Contractor and competent person shall establish, in writing, and implement a respiratory protection program, in accordance with 29 CFR Part 1926.1101, 29 CFR Part 1910, Section 134. The Contractor's respiratory protection program shall include, but shall not be limited to, the following elements:

- A. The company policy used for the assignment of individual responsibility, accountability, and implementation of the respiratory protection program
- B. The standard operating procedures covering the selection and use of respirators. Respiratory selection shall be determined by the hazard to which the worker is exposed.
- C. Medical evaluation of each user, to verify that the worker may be assigned to an activity where respiratory protection is required
- D. Training in the proper use and limitations of respirators
- E. Respirator fit testing, i.e., quantitative, qualitative, and individual functional fit checks
- F. Regular cleaning and disinfection of respirators
- G. Routine inspection of respirators during cleaning and after each use when designated for emergency use
- H. Storage of respirators in convenient, clean, and sanitary locations
- I. Surveillance of work area conditions and degree of employee exposure (e.g., through air monitoring)
- J. Regular evaluation of the continued effectiveness of the respiratory protection program
- K. Recognition and procedures for the resolution of special problems, as they affect respirator use (e.g., no facial hair that comes between the respirator face piece and face or interferes with valve function, prescription eyewear usage, prohibition of wearing contact lenses, etc.)
- L. Proper training in putting on and removing respirators

1.09 SAFETY AND HEALTH COMPLIANCE

In addition to detailed requirements of this specification, the work shall comply with applicable laws, ordinances, criteria, rules and regulations of federal, state, and local authorities regarding handling, storing, transporting, and disposing of asbestos waste materials, and with the applicable requirements of 29 CFR Part 1910, 29 CFR Part 1926, 40 CFR Part 61, Subpart A, and 40 CFR Part 61, Subpart M, NFPA 10, NFPA 70, NFPA 90A, NFPA 101. Matters of interpretation of standards shall be submitted to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, rules, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirement, as defined by the Professional, shall apply.

1.10 AIR MONITORING

Personal air sampling shall be conducted by the Contractor for their employees, as defined by the previously noted regulations. The Contractor's air monitoring program shall include, but shall not be limited to, the monitoring of airborne asbestos fibers.

1.11 NOTIFICATIONS

Necessary permits and licenses for asbestos abatement shall be obtained in conjunction with the project asbestos abatement, transportation, and disposal actions, and timely notification furnished of such actions required by federal, state and local authorities and as otherwise specified herein. The Contractor shall notify the Michigan Department of Labor and Economic Growth (MDLEG) and MDEQ-Air Quality Division, in writing at least 10 calendar days prior to the commencement of work, in accordance with 40 CFR Part 61, Subpart M, the mandatory "Notification of Demolition and Renovation Record" form.

1.12 SUBMITTALS

A. Materials and Equipment

The Contractor shall submit to the Professional, prior to the start of any site work, manufacturer's catalog data for all materials and equipment to be used in the Work, including brand name, model, capacity, performance characteristics, and any other pertinent information. Test results and certificates from the manufacturer of encapsulants substantiating compliance with performance requirements of these specifications must also be included. Material Safety Data Sheets (MSDSs) must be included for all chemicals to be used onsite in the same format as implemented in the Contractor's Hazard Communication Program.

The Contractor shall provide the aforementioned information for the following materials and equipment, including, but not limited to:

1. High efficiency filtered local exhaust equipment
2. Vacuum equipment
3. Pressure differential monitor
4. Air monitoring equipment
5. Personal protective equipment
6. Respirators
7. Glove bags

8. Duct tape
9. Disposal containers
 - (a) Disposal bags
 - (b) Fiberboard drums
 - (c) Paperboard boxes
10. Sheet plastic
11. Wetting agent
 - (a) Amended water
 - (b) Removal encapsulant
12. Strippable coating
13. Prefabricated decontamination unit(s)
14. Chemical encapsulant
15. Chemical encasement materials
16. MSDSs (for all chemicals proposed)
17. Signs and labels
18. Other items

B. Safety Plan

A written HASP shall be submitted to the Professional prior to start of work. The required respiratory protection and hazard communication program shall be incorporated into the HASP. This plan must be submitted in writing to the Professional, prior to start of any site work.

C. Asbestos Abatement Plan

The Contractor shall submit to the Professional a written Asbestos Abatement Plan prepared by a MDLEG-certified person (provide license number) that shall include a description of the methods to be used to conduct the asbestos removal work within building structures and the debris piles. This plan shall also include a description of the proposed method for removal and disposal of asbestos and potentially contaminated water. The name, address, and telephone number of the properly licensed disposal facility, waste hauler, or waste subcontractor used for removal, treatment, or disposal of the wastewater unsuitable to discharge into the sanitary or storm sewer shall be provided to the Professional. A copy of the written agreement or permit from the disposal facility agreeing to accept the impacted water for disposal shall be provided to the Professional.

D. Qualifications

Evidence of the qualifications of the Contractor, Contractor's onsite supervisor (competent person), Contractor workers, all subcontractors (to include disposal transportation and disposal facility firms), subcontractor supervisors, subcontractor workers, and the independent testing laboratory to perform asbestos abatement activities as required herein shall be submitted. This submittal shall specify the Contractor's staff organization to include subcontractors to be used for this project. The Contractor's qualification submittal shall contain information required below:

Evidence that Contractor's full-time onsite supervisor is designated as, and is qualified to be, a "competent person", in accordance with 29 CFR Part 1926.1101, and is experienced in the

administration and supervision of asbestos abatement projects, including work practices, abatement methods, protective measures for personnel, inspection of asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM-generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, etc. This designated "competent person" onsite supervisor shall be responsible for compliance with applicable federal, state and local requirements, these specifications and the Contractor's HASP.

E. Employee Training and Certification of Worker Acknowledgment

The following training documentation shall be provided to the Professional for each employee to be engaged in the abatement work who will be potentially exposed to asbestos, as determined by their direct handling of the material, entrance into an asbestos regulated work areas, or airborne exposure in excess of federal and state regulations as an 8-hour TWA:

1. Copy of certification of accreditation for completion of "workers" course (for workers) or "Contractor/Supervisor" Course (for Contractors and onsite supervisory staff) meeting the requirements of EPA's 40 CFR Part 763, or more stringent state criteria, and all subsequent annual refresher training certificates meeting the same requirements
2. A copy of a Contractor-generated form entitled "Certificate of Workers Acknowledgment" shall be completed for each employee.
3. Documentation signed by a physician that the employee has received a medical exam within the past year and is medically fit to conduct asbestos work
4. Workers must have in their possession their state certification card.
5. Fit test form, dated within one year of the worker's start date on this project

F. Training Material

A copy of the written project site-specific training material, as indicated in 29 CFR Part 1926.1101, that indicates that the employee has been informed of the results of the medical examination, has been provided a copy of the results, and has been informed of any medical condition that may result from asbestos exposure.

G. Field Tests

1. Air sampling reports
2. Asbestos waste disposal manifests

H. Air Sampling Results

Air sampling results shall be provided within 24 hours after completion of a sampling period. The Professional shall be notified immediately of any airborne levels of asbestos fibers in excess of established Clean Air Standard of 0.01 fibers per cubic centimeter. Written

sampling results shall be provided within 5 working days of the date of collection. The written results shall be signed by the testing laboratory analyst. The air sampling results shall be documented on a Contractor's daily air monitoring log.

I. Notifications

The Professional shall be notified in writing 10 days prior to the start of asbestos work. A copy of the written notification shall be provided to any rental company concerning the intended use of rental equipment, the possibility of asbestos contamination, and the decontamination procedures that will be used prior to the return of the equipment. A copy of the rental company's written acknowledgment and agreement shall be included in the submittal.

J. Respirator Program

Records of the respirator program, as required by ANSI Z88.2, 29 CFR Part 1910.134, 29 CFR Part 1926.1101

K. Asbestos Waste Shipment

Final completed copies of the Waste Shipment Record for all shipments of waste material, as specified in 40 CFR Part 61, Subpart M, and other required state waste manifest shipment records, as specified herein. Detailed information of all asbestos waste disposals on the "Mandatory Waste Shipment Record" form, in accordance with revised 40 CFR Part 61, Subpart M. Such completed forms, signed and dated by the agent of the landfill, shall be submitted upon completion of ACM disposal.

1.13 PERSONAL PROTECTIVE EQUIPMENT

Contractor shall provide personal protective clothing and equipment, as specified herein, and the Contractor shall ensure that it is worn properly. The Contractor's competent person shall select and approve all the required personal protective clothing and equipment to be used.

A. Respirators

Respirators shall be selected and used in accordance with manufacturers recommendations, and shall be approved by NIOSH for use in environments containing airborne asbestos fibers. Personnel who handle ACM, enter asbestos regulated work areas that require the wearing of a respirator, or who are otherwise carrying out abatement activities that require the wearing of a respirator, shall be provided with approved respirators that are fully protective of the worker at the measured or anticipated airborne asbestos concentration level to be encountered. For air-purifying respirators, the particulate filter portion of the cartridges or canister approved for use in airborne asbestos environments shall be Type H high-efficiency particulate air (HEPA). At a minimum, a half-mask respirator shall be worn during the startup of abatement activities, unless otherwise approved in writing by the Professional. The upgrading or downgrading of respirator type, from the minimum requirements specified for start-up, shall be made by the Contractor's Supervisor, based on the measured or anticipated airborne asbestos fiber concentrations to be encountered. All recommendations made by the Contractor's Supervisor to downgrade respirator type shall be submitted, in writing, to the Professional for acceptance.

Contractor's Supervisor actions to upgrade respirator type shall be verbally conveyed to the Professional. Respiratory protection shall comply with the 29 CFR Part 1926 and 29 CFR Part 1910. A qualitative or quantitative fit test conforming to 29 CFR Part 1926, Appendix C, shall be conducted by the Contractor's Supervisor for each Contractor worker required to wear a respirator and for the Professional and authorized visitors who enter an asbestos regulated work area where respirators are required to be worn. A respirator fit test shall be performed for each worker, prior to initially wearing a respirator on this project and annually thereafter. If physical changes in a worker develop that will affect the fit, a new fit test shall be performed. Functional fit checks shall be performed by employees each time a respirator is put on and in accordance with the manufacturer's recommendation.

B. Whole Body Protection

Personnel exposed to asbestos shall be provided, by the Contractor, with whole body protection, as specified herein, and such protection shall be worn properly. The Contractor's Supervisor shall select and approve the whole body protection to be used. Disposable whole body protection shall be disposed of as asbestos contaminated waste, upon exiting from the asbestos regulated work area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the asbestos regulated work area or be properly laundered in accordance with 29 CFR Part 1926, and as specified in the Contractor's Asbestos Hazard Abatement Plan. Asbestos abatement whole body protection shall not be removed from the work site by a worker to be cleaned.

1. Coveralls

Disposable, breathable, reusable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists and foot coverings secured at the ankles.

2. Gloves

Disposable plastic or rubber gloves shall be provided to protect hands. Cloth gloves may be worn inside the plastic or rubber gloves for comfort, but shall not be used alone. Where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.) a suitable outer glove shall be provided and used.

3. Under Clothing

Disposable under clothing shall be provided and worn next to the skin or cloth under clothing.

4. Work Clothing

An additional coverall, similar to that required in the aforementioned "Coveralls" paragraph, shall be provided when the abatement and control method employed does not provide for the exit from the asbestos regulated work area directly into an attached decontamination unit. Cloth work clothes shall be provided for wear under the protective coverall and foot coverings when work is being conducted in low temperature conditions. Cloth work clothes shall be either disposed of as ACM or properly laundered in accordance with 29 CFR Part 1926, and as specified in the

Contractor's Asbestos Hazard Abatement Plan.

5. Foot Coverings

If rubber boots are not used, footwear and disposable foot coverings shall be provided. Rubber boots shall be used in moist or wet areas. Only rubber boots shall be removed from the asbestos regulated work area after being thoroughly decontaminated. All other protective foot covering shall be disposed of as ACM.

6. Head Covering

Hood-type disposable head covering shall be provided. In addition, protective headgear (hard hats) shall be provided, as required. Hard hats shall only be removed from the asbestos regulated work area after being thoroughly decontaminated.

7. Protective Eyewear

Contact lenses shall not be worn in asbestos regulated work areas. When vision correction is necessary to perform the work task, prescription safety eyewear shall be used. Fog-proof goggles shall be worn by personnel engaged in asbestos abatement activities in the asbestos regulated work area, when the use of a full face-piece respirator is not required. Eye protection provided shall be in accordance with ANSI Z87.1.

8. Other Items

All other items of whole body protection shall be provided, as required and approved by the Contractor's Supervisor.

1.14 DECONTAMINATION UNIT

A temporary negative pressure decontamination unit shall be provided, as necessary. Utilization of prefabricated units shall have prior approval of the Professional. The decontamination unit shall have a separate equipment locker room and a clean locker room with an attached shower (located between work area and clean room) that complies with 29 CFR Part 1910, Section 141. Proper housekeeping and hygiene requirements shall be maintained. Hot water, soap, and towels shall be provided for showering, washing, and drying.

1.15 WARNING SIGNS AND TAPE

Warning signs and tape, printed in English, shall be provided at the regulated boundaries and entrances to asbestos regulated work areas. Signs shall be located at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Warning signs shall be in vertical format conforming to 29 CFR Part 1910 and 29 CFR Part 1926, minimum size of 20 by 14 inches, and display the following legend in the lower panel:

Legend

Danger

Lettering

3-inch Sans Serif Gothic or Block

Asbestos	1-inch Sans Serif Gothic or Block
Cancer and Lung Disease Hazard	1-inch Sans Serif Gothic or Block
Authorized Personnel Only	1-inch Sans Serif Gothic or Block
Authorized Personnel Only	1-inch Gothic
Respirators and Protective Clothing are Required in this Area	1-inch Gothic

Spacing between lines shall be at least equal to the height of the upper line of the two lines.

1.16 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers used to contain ACM, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels, conforming to requirements specified herein, are acceptable. Warning labels shall conform to 29 CFR Part 1926, and shall be of sufficient size to be clearly legible displaying the following legend:

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

1.17 TOOLS

Vacuums shall be leak proof to the filter, equipped with HEPA filters, be of sufficient capacity, and provide the necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport, and retain the ACM waste. Power tools shall not be used to remove ACM, unless the tool is equipped with effective, integral HEPA-filtered, exhaust ventilation capture and collection system, or has otherwise been approved for use by the Professional. All residual asbestos shall be removed from reusable tools prior to storage and reuse. Reusable tools shall be thoroughly decontaminated prior to being removed from asbestos regulated work areas.

1.18 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment, and the steps that will be taken to decontaminate such equipment. A written acceptance of the terms of the Contractor's notification shall be obtained from the rental agency.

1.19 AIR MONITORING EQUIPMENT

The Contractor's Supervisor shall select and approve the air monitoring equipment to be provided and used by the Contractor, for evaluation of airborne asbestos fiber concentrations. Air monitoring may also be conducted by the Professional, with particular attention given to site areas adjacent to the regulated work area. The equipment shall include, but not be limited to:

- A. High-volume sampling pumps that can be calibrated and operated at a constant airflow to

approximately 10 liters per minute when equipped with a sampling train of tubing and filter cassette

- B. Low-volume, battery-powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 2.5 liters per minute when equipped with a sampling train of tubing and filter cassette, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of eight hours. The pumps shall also be equipped with an automatic flow control unit, which shall maintain a constant flow, even as filter resistance increases due to accumulation of fiber and debris on the filter surface.
- C. Standard 25-millimeter diameter, 0.8-micron pore size, mixed cellulose ester membrane filters and cassettes with nonconductive barrels and shrink bands, to be used with low flow and high flow pumps for personal and ambient air sampling, respectively
- D. Appropriate plastic tubing to connect the air sampling pump to the selected filter cassette
- E. A flow calibrator capable of calibration to within plus or minus 2 percent of a reading over a temperature range of minus 4 degrees Fahrenheit to plus 140 degrees Fahrenheit and traceable to a National Institute for Standards and Technology (NIST) primary standard

1.20 EXPENDABLE SUPPLIES

A. Glove Bag

Glove bags shall be provided, as described in 29 CFR Part 1926.1101. The glove bag assembly shall be prefabricated with a preprinted Occupational Safety and Health Administration (OSHA) warning label and shall typically be constructed of 6-mil thick transparent polyethylene or polyvinyl chloride sheeting and at least two inward projecting long sleeves and an internal pouch. The glove bag shall be constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process. The glove bag shall have sufficient capacity to contain removed materials and permit leak-tight sealing. These bags shall be used at the discretion of the Contractor's supervisor.

B. Duct Tape

Industrial grade duct tape shall be provided in 2-inch and 3-inch widths and shall be suitable for bonding sheet plastic and disposal containers specified herein.

C. Disposal Containers

Leak-tight disposal containers shall be provided for ACM-generated wastes. Leak-tight means that solids, liquids, and dust cannot escape or spill out. All disposal containers shall be either pre-labeled or affixed with OSHA warning label, as specified in 29 CFR Part 1926.

D. Disposal Bags

Six-mil thick, leak-tight, pre-labeled (OSHA warning label) bags must be provided for placement of asbestos generated waste. Bag color shall be that required by the Contractor's

chosen disposal facility.

E. Leak-tight Wrapping

Two layers of 6-mil (minimum) thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials, such as reactor vessels, large tanks, boilers, insulated pipe segments, and other materials too large to be placed in disposal bags. Upon placement of the ACM component or waste, each layer shall be individually leak-tight sealed with industrial grade duct tape.

F. Sheet Plastic

Sheet plastic shall be provided by the Contractor, as specified herein, and in the largest sheet size necessary to minimize seams.

1. Polyethylene Sheet - General

Six-mil (minimum) thick polyethylene film shall be clear and conform to ASTM D 4397.

2. Polyethylene Sheet - Flame Resistant

Where a potential for fire exists, 6-mil (minimum) thick flame-resistant polyethylene sheet shall be provided. Flame-resistant polyethylene film shall be frosted or black and shall conform to the requirements of NFPA 701.

3. Polyethylene Sheet - Reinforced

Six-mil thick reinforced polyethylene sheet shall be provided where high skin strength is required, such as where it constitutes the only barrier between the asbestos regulated work area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced, or woven-polyethylene thread laminated between two layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

4. Viewing Inspection Window

Where feasible, a minimum of one clear 1/8-inch thick acrylic sheet, 18 inches by 24 inches, shall be installed as a viewing inspection window, at eye level on a wall in each containment enclosure. All such windows shall be sealed leak-tight with industrial grade duct tape.

G. Wetting Agents

1. Amended Water

Amended water shall meet the requirements of ASTM D 1331.

2. Removal Encapsulant

Removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM, equal to or greater than provided by amended water.

1.21 MATERIAL SAFETY DATA SHEETS

MSDSs shall be provided for all hazardous materials brought onto the worksite. One copy shall be given to the Professional, and one copy shall be included in the Contractor's onsite files.

1.22 OTHER ITEMS

A sufficient quantity of other items shall be provided, by the Contractor, that may include, but not be limited to: scrapers; brushes; brooms; staple guns; tarpaulins; shovels; rubber squeegees; dust pans; other tools; scaffolding; staging; enclosed chutes; wooden ladders; lumber necessary for the construction of asbestos regulated containment work areas; UL-approved temporary electrical equipment, material, and cords; ground fault circuit interrupters; water hoses of sufficient length; fire extinguishers; first-aid kits; portable toilets; logbooks; log forms; markers with indelible ink; spray paint in bright colors to mark areas; project boundary fencing; etc.

1.23 QUALITY CONTROL

A quality control system shall be established and maintained for all operations performed under this Section, to assure compliance with contract requirements and pertinent federal, state, and local laws, rules, and regulations, as cited throughout the text of this Section. Records of quality control shall be maintained for all operations performed. Copies of all records of inspection, testing, monitoring, or related items, as well as records of any corrective actions taken, shall be furnished to the Professional, in accordance with contract requirements and as otherwise directed.

1.24 PROJECT CLOSEOUT

To claim 100 percent completion of the contract, the Contractor shall complete all cleanup and disposal actions (see Subsection 3.09-Site Inspection, Subsection 3.11-Cleanup and Disposal, and Subsection 3.11(C)-Collection and Disposal of Asbestos). The Professional must certify that the work has been 100 percent completed, through visual inspection, review of air monitoring results, and review of project documents. The Professional will reinspect the work and work area after the Contractor's notice of completion of work. The Professional will verify final acceptance or notify the Contractor of work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance.

PART 2 PRODUCTS

2.01 ENCAPSULANTS

Encapsulants shall conform to USEPA requirements, shall contain no toxic substances, hazardous substances, or solvents, and shall meet the following requirements:

ALL ENCAPSULANTS

<u>REQUIREMENT</u>	<u>TEST STANDARD</u>
Flame Spread - 25, Smoke Emission – 50	ASTM E 84
Combustion Toxicity Zero Mortality	University of Pittsburgh Protocol
Life Expectancy - 20 years Accelerated Aging Test	ASTM C 732
Permeability - Minimum 0.4 perms	ASTM E 96

ADDITIONAL REQUIREMENTS FOR BRIDGING ENCAPSULANT

<u>REQUIREMENT</u>	<u>TEST STANDARD</u>
Cohesion/Adhesion Test - 50 pounds of force/square foot	ASTM E 736
Fire Resistance – Negligible effect on fire resistance rating over a 3-hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance – Minimum 43 in/lb Gardner Impact Test	ASTM D 2794
Flexibility - no rupture or cracking Mandrel Bend Test	ASTM D 522

ADDITIONAL REQUIREMENT FOR PENETRATING ENCAPSULANT

<u>REQUIREMENT</u>	<u>TEST STANDARD</u>
Cohesion/Adhesion Test - 50 pounds of force/square foot	ASTM E 736
Fire Resistance – Negligible effect on fire resistance rating over a 3-hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance – Minimum 43 in/lb Gardner Impact Test	ASTM D 2794
Flexibility - no rupture or cracking	ASTM D 522

Mandrel Bend Test

ADDITIONAL REQUIREMENT FOR LOCK-DOWN ENCAPSULANT

REQUIREMENT

TEST STANDARD

Fire Resistance – Negligible affect
on fire resistance rating over a 3-hour test
(tested with fireproofing over encapsulant
applied directly to steel member)

ASTM E 119

Bond Strength; 100 pounds, force/foot
(tests compatibility with cementitious
and fibrous fireproofing)

ASTM E 736

PART 3 EXECUTION

3.01 GENERAL

Personnel shall wear and utilize protective clothing and equipment, as specified herein. Eating, smoking, drinking, or applying cosmetics shall not be permitted in the asbestos regulated work area. All hot work (burning, cutting, welding, etc.) shall be conducted under strictly controlled conditions, in conformance with 29 CFR Part 1926. Personnel of other trades not engaged in asbestos abatement activities shall not be exposed at any time to airborne concentrations of asbestos, unless all the administrative and personal protective provisions, as required herein, are complied with. If an asbestos spill occurs outside of the asbestos regulated work area, work shall be stopped and the Professional shall be notified. The condition shall be corrected to the satisfaction of the Professional, including air sampling, prior to resumption of work. The Contractor shall stop abatement work in the asbestos regulated work area immediately when the measured airborne total fiber concentrations, as sampled and analyzed as required herein, (1) equals or exceeds 0.01 f/cc or the pre-abatement concentration, whichever is greater, outside the asbestos regulated work area, or (2) equals or exceeds 1.0 f/cc inside the asbestos regulated work area. The Contractor shall correct the condition to the satisfaction of the Professional, including visual inspection and air sampling. Work resumption will only be allowed upon notification by the Professional. Corrective actions shall be documented.

3.02 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

- A. Asbestos abatement work shall be performed without damage or contamination of adjacent work or area. Where such work or area is damaged or contaminated, as verified by the Professional using visual inspection and/or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor, at no expense to the Owner and as deemed appropriate by the Professional. When satisfactory visual inspections have been conducted by the Contractor's Supervisor and Professional, work may proceed.
- B. Asbestos abatement work shall be performed without contamination of adjacent work or areas. Where such work or area is contaminated, as verified by the Professional using visual inspection and/or sample analysis, it shall be decontaminated by the Contractor, as deemed necessary by the Professional and at no expense to the Owner. This includes inadvertent spill of dirt, dust, or debris for which it is reasonable to conclude that asbestos may exist. When

these spills occur, work shall stop in all effected areas immediately, and the spill shall be cleaned. When satisfactory visual inspection and/or sampling analysis results are obtained and have been evaluated by the Contractor's Supervisor and the Professional, work may proceed.

3.03 CLEAN-UP

The Contractor shall maintain a clean work area by performing, on a daily basis, the following housekeeping functions at the end of each shift:

- A. Loose ACM shall be prepared for disposal by packaging the waste and removing it from the work area to the load-out area.
- B. Work area shall be HEPA vacuumed or wet-cleaned with other high volume, HEPA-filtered, transfer equipment.
- C. Polyethylene in work and high traffic areas shall be inspected and repaired.
- D. Containment area shall be wet wiped, if air sample results exceed prescribed level.

3.04 GLOVE BAG

ACMs may be removed by negative pressure glove bag methods, if applicable. Designated boundary limits for the asbestos work shall be established with rope or other continuous barriers, and all other requirements for asbestos control areas shall be maintained, including area signage and boundary warning tape. Area monitoring of airborne asbestos fibers shall be conducted during the work shift, at the designated boundary limits, and personal air monitoring shall be performed for each worker engaged in asbestos handling (removal, disposal, transport, and other associated work) at such frequency, as specified in the Contractor's air monitoring plan. If the concentration of asbestos fibers monitored at the breathing zone of the workers or designated limits at any times exceeds 0.01 f/cc or the pre-abatement level, whichever is greater, work shall be stopped, and the Professional shall be notified. The Contractor shall correct the condition to the satisfaction of the Professional, to include visual inspection and air sampling. Work resumption will only be allowed upon notification by the Professional. If adjacent areas outside the regulated work area are contaminated, the Contractor, at his expense, shall clean the contaminated area, to the satisfaction of the Professional.

3.05 ASBESTOS HANDLING PROCEDURES

The Contractor shall utilize a certified Project Designer, to determine the most efficient manner in which to carry out the asbestos removal work in conformance with this specification. The Contractor shall also employ proper handling procedures, in accordance with 29 CFR Part 1926 and 40 CFR Part 61, Subpart M, and the specification requirements herein. The specific abatement techniques and items identified shall be detailed in the Contractor's Asbestos Hazard Abatement Plan, including, but not limited to, details of construction materials, equipment, and handling procedures.

- A. Preparation of Work Area

The following steps shall be performed when preparing the work area:

1. General Preparations:

- a. Erect barricades; post notices and warning signs.
- b. Provide and install decontamination enclosure systems, in accordance with Subsection 1.14-Decontamination Units.
- c. Provide a system to collect all water used by the Contractor. Collected water shall be passed through a water filtration system prior to being discharged into the sanitary sewer or storm sewer, or stored and characterized for proper offsite disposal. For discharge to the sanitary or storm sewer, a permit must be obtained from the appropriate regulating agency (e.g. City of Kalamazoo or MDEQ-Water Division).
- d. Ensure that the Contractor's communication equipment is in place, in operating condition, and in operation during work described in this Section.
- e. Separate by means of airtight barriers (temporary partitions) parts of the building that are not included in the work area(s) from parts of the building that will undergo asbestos abatement.
- f. For gross removal operations, completely seal airtight and isolate the work area. All openings, including, but not limited to doorways, windows, tunnels, ducts, grilles, cracks, diffusers, openings through which pipe or conduit pass, and any other penetrations of the work area, shall be covered with plastic sheeting, taped, or caulked airtight.
- g. Maintain emergency and fire exits from the work areas or establish alternative exits satisfactory to the local fire officials. Emergency exits and routes shall be established and clearly marked.
- h. Temporary lighting within the work area and decontamination system shall be provided as required to achieve minimum illumination levels specified in Section 01 50 00-Temporary Facilities.
- i. See Subsections 3.05(A)(2)-Gross Removal Area Preparations and 3.05(A)(3)-Glove Bag Removal Area Preparations.
- j. Air Filtration Devices (AFDs): Install and initiate operation of AFDs to provide a negative pressure of at least -0.02 inches of water within the work area relative to surrounding non-work areas. Modifications or changes made to the specified negative pressure work area enclosure must be approved by the Professional.

AFDs shall be located so that makeup air enters and transverses the work area as much as possible. AFDs shall be exhausted to the building exterior.

Once they are operational, AFDs shall not be shut down until the work area is released to the Professional, following completion of final clearance

procedures.

AFD backup for emergency or other use shall be provided. AFDs shall be installed and ready for operation.

Differential pressure recorders for the work area shall be provided. Field locate the unit subject to movement as directed by the Professional.

2. Gross Removal Area Preparations: The Contractor shall perform the following preparations, in conjunction with those outlined in Subsection 3.05 (A)(1)-General Preparations.

- a. Shut down, isolate, and lock out or tag heating, ventilating, and air conditioning (HVAC) systems that serve or pass through the work area. Vents within the work area and seams in HVAC components shall be sealed with tape and plastic sheeting. Filters in HVAC systems shall be removed and treated as asbestos-contaminated waste.
- b. Shut down, disconnect, and lock out or tag all electric power to the work area, so that there is no possibility of its reactivation until after clearance testing of the work area.
- c. Plasticize the area, after pre-cleaning, with a minimum of one layer of plastic sheeting using the following procedure:

Pre-clean any gross contamination from the immediate work areas using HEPA vacuum equipment and/or wet-cleaning methods, as appropriate. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, shall not be used.

Cover non-washable floors with one layer of 6-mil plastic sheet, turning layer a minimum of 16 inches up wall, and seal layer to wall.

Cover non-washable walls with one layer of 4-mil plastic sheet, lapping wall layer a minimum of 16 inches, and seal layer to floor layer.

Repeat procedure for second layer. All joints in plastic sheets shall be glued and taped in such a manner as to prohibit air passage. Joints on plastic layers shall be staggered, to reduce the potential for water to penetrate.

3. Glove Bag Removal Area Preparations: The following preparations shall be performed in conjunction with those outlined in Subsection 3.05(A)(1)-General Preparations, for areas to undergo glove bag removal asbestos abatement.

- a. Shut down, isolate, and lock out or tag heating, ventilating, and air conditioning (HVAC) systems that serve or pass through the work area. During the work, vents within the work area shall be sealed with tape and plastic sheeting

- b. Shut down, disconnect, and lock out or tag all electric power to systems on which glove bag removal will take place.
 - c. Work area pre-cleaning procedures: Pre-clean any gross contamination from the immediate work areas using HEPA vacuum equipment and/or wet-cleaning methods, as appropriate. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, shall not be used.
 - d. Cover all horizontal surfaces within ten feet of the glove bagging operation, including the floor, with one layer of 6-mil plastic sheet.
 - e. Prepare insulation sections to be removed as follows:

If insulation is damaged or if complete pipe sections are being removed, wrap the entire length of the pipe in polyethylene plastic and "candy-stripe" it with duct tape.

If insulation is not damaged, place one layer of duct tape around the pipe at each location where the glove bag will be attached.

For punctures through pipe lagging, or other areas of limited damage, place one layer of duct tape securely over damaged area.
4. Non-Contained Work Area: In the areas where the construction of a sealed enclosed work area is impracticable, the following preparations shall be performed.
- a. Provide a roped-off perimeter around the area where the RACM is to be removed and handled. Post notices and warning signs around the perimeter of the work area.
 - b. Provide a decontamination enclosure system adjacent to the work area, in accordance with Subsection 1.14-Decontamination Units.
 - c. Provide a system to collect all water used by the Contractor. Collected water shall be passed through a water filtration system prior to being discharged into the sanitary sewer or storm sewer, or stored and characterized for proper offsite disposal. For discharge to the sanitary or storm sewer, a permit must be obtained from the appropriate regulating agency (e.g. City of Kalamazoo or MDEQ-Water Division).
 - d. Seal with plastic and tape, from the interior, all doorways, windows, vents, and other openings in the exterior walls of the facility adjacent to the work.
 - e. Work area pre-cleaning procedures: Pre-clean any gross contamination from the immediate work areas using HEPA vacuum equipment and/or wet-cleaning methods, as appropriate. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, shall not be used

- f. Cover all horizontal surfaces within ten feet of the removal operation, including the ground, with one layer of 6-mil plastic sheet.

B. Removal of Asbestos-Containing Ceiling Tile Materials:

1. The Contractor shall use work methods and equipment that will keep the fiber count inside the containment area, during removal operations, to less than 0.5 fibers/cc of air, when tested by NIOSH Method 7400.
2. Prepare the area, as described in Subparagraph 3.05(A)(2)-Gross Removal Area Preparations.
3. Spray areas of asbestos material with a fine mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to saturate materials to substrate. Do not over saturate and cause excess dripping. Spray the asbestos material repeatedly during work process, to maintain wet condition and to minimize asbestos fiber dispersion.
4. Remove asbestos-containing tiles without dropping them to the floor. The material shall not be allowed to dry out. As the material is removed, pack it in accordance with Subsection 3.10-RACM Waste Packaging and Load Out Procedures.
5. Once the asbestos-containing tiles have been removed, scrape any remaining mastic and/or glue from the substrate of glued-on ceiling tiles. HEPA vacuum and wet wipe the suspended ceiling tile support rails after tiles have been removed. As the material is removed, pack it in accordance with Subsection 3.10-RACM Waste Packaging and Load Out Procedures.
6. After completion of all stripping work, surfaces from which RACM have been removed shall be wet brushed and sponged or cleaned by some equivalent method to remove all visible residue. (Do not use wire brushes.)

C. Removal of Asbestos-Containing Pipe Insulation

1. General: The Contractor shall be responsible for the proper removal of RACM from the work area using standard abatement industry removal techniques. Work shall be observed by the Professional.

RACM shall be wetted with amended water or removal encapsulant, prior to being disturbed. Keep RACM wet during removal through to the disposal of these materials (material packed in disposal containers shall be in a wet condition).
2. Insulation and Lagging on Ducts, Boilers, Tanks, Pipes, Pipe Fittings, and Other Equipment: The Contractor may use the following "Gross Removal Procedure" or other standard abatement industry removal techniques suited to the type, shape, and construction of the RACM, its attachment, devices, and protective coverings. The Contractor shall use methods and equipment that will keep the fiber count inside the containment area, during removal operations, below 0.5 fibers/cc of air, when tested by NIOSH Method 7400.

- a. Gross Removal Procedure:
 1. Prepare the area as described in Subparagraph 3.05(A)(2)-Gross Removal Area Preparations. Spray asbestos materials with a fine mist of amended water or removal encapsulant, saturating materials to the substrate. Spray the asbestos material repeatedly during the work process, to maintain a wet condition and to minimize asbestos fiber dispersion.
 2. Remove the saturated asbestos material in small sections. As it is removed, pack the material in sealable plastic bags that shall be placed in labeled drums for transport. Remove insulation materials carefully from equipment; do not permit them to fall to the floor.
- b. After completion of all stripping work, surfaces from which RACM has been removed shall be wet brushed and sponged or cleaned by an equivalent method to remove all visible residue. (Do not use wire brushes.)
3. Insulation and Lagging on Pipes and Fittings in Work Area: The Contractor shall use the following procedure when using the glove bag technique for the removal of RACM from piping and small tanks. The Contractor shall use methods and equipment that will keep the fiber count, during removal operations, below 0.1 fibers/cc of air, when tested by NIOSH Method 7400.

Procedure:

- a. Prepare the area, as described in Subsection 3.05(A)(3)-Glove Bag Removal Area Preparations. For removal of RACM using the Glove bag technique where the establishment of a sealed enclosed work area is impracticable, prepare work area, as described in Subsection 3.05(A)(4)-Non-Contained Work Area.
- b. Place the glove bag around the section of pipe to be worked on, secure glove bag, and reinforce it. Glove bags shall provide an airtight seal around the area from which the asbestos is to be removed. When required, check for leakage by introducing smoke into the bag and then gently squeezing the bag with hand pressure. If any leaks occur, the bag shall be resealed and retested until no leakage occurs. This seal shall be continually maintained until all asbestos has been removed from the equipment surface enclosed within the glove bag.
- c. If the section of pipe is covered with an aluminum jacket, the aluminum jacket shall be removed first. It is important to fold in the sharp edges of the jacket, to prevent cutting the bag when it is placed in the bottom. With the insulation exposed, cut the insulation inside the glove bag at each end of the section to be removed. Slit insulation from end to end and remove insulation from pipe. Throughout this process, spray water on the cutting area to keep dust to a minimum.

- d. When all insulation is removed, introduce water spray into glove bag and carry out recommended washing down procedure (tools, pipe, and upper half of bag). Scrub and wipe down the exposed pipe inside the glove bag. Apply lockdown sealant to all exposed insulation and pipe.
 - e. Remove excess air from glove bag with HEPA vacuum and remove glove bag from pipe. Continuous stripping or sliding of the glove bag shall not be allowed. Use glove bag for only one application prior to disposal. Place glove bag in a plastic disposal bag and seal bag prior to placing it in a labeled drum for transport.
4. Complete Pipe Section Removal: The following procedure may be used for removal of complete pipe sections. Note that all piping scheduled for demolition shall be purged prior to cutting. The Contractor shall use methods and equipment that will keep the fiber count, during removal operations, below 0.1 fibers/cc of air, when tested by NIOSH Method 7400.

Procedure:

- a. Prepare the area, as described in Subsection 3.05(A)(3)-Glove Bag Removal Area Preparations.
- b. Using the Glove Bag removal technique described in Subsection 3.05(C)(3)-Insulation and Lagging on Pipes and Fittings, remove strips of insulation along the pipe to be demolished. Width of strip should be sufficient for the use of a torch or power cutting equipment, to cut pipe while leaving remaining insulation undisturbed.
- c. Spray aerosol adhesive on insulated pipe and wrap it airtight in one layer of 6-mil plastic sheet. Cut pipe at exposed strips. Remove pipe section and wrap it in a second layer of 6-mil plastic sheet. Secure plastic with duct tape, prior to placing piping sections in labeled drums for transport.

D. Removal of Asbestos-Containing Debris

Gross Removal Procedure:

1. Prepare the area, as described in Subparagraph 3.05(A)(2)-Gross Removal Area Preparations. Spray asbestos materials with a fine mist of amended water or removal encapsulant, saturating materials to the substrate. Spray the asbestos material repeatedly during the work process, to maintain a wet condition and to minimize asbestos fiber dispersion.
2. Remove the saturated asbestos material in small sections. As it is removed, pack the material in sealable plastic bags that shall be placed in labeled drums for transport. Remove insulation materials carefully from equipment; do not permit them to fall to the floor.

E. Removal of ACM Without Containment

Where establishment of a containment barrier is not practical, the Contractor shall use engineering controls and work practices which shall prevent visible asbestos emissions and prevent exceeding asbestos exposure levels, in accordance with 29 CFR 1926.1001 and 40 CFR 61. Work area perimeters shall be appropriately marked with warning signs and/or ribbons, in accordance with Subsection 1.15-Warning Signs and Tape. All other requirements for asbestos control areas must be maintained. The perimeter shall be a minimum of 20 feet from the work area, in order to control acceptable airborne fiber levels in adjacent areas. The Professional may require that the perimeter distance be expanded to more than 20 feet, should air monitoring results show such expansion is warranted and/or delay work if excessive winds or winds are from a direction that could expose unprotected personnel or the public, or contaminate adjacent areas or property.

F. Abatement of Asbestos Contaminated Soil (ACS)

ACS, if identified as a result of unforeseen conditions, shall be removed from areas to the existing floor. Soil shall be thoroughly dampened with amended water and then removed by manual shoveling into labeled containers or HEPA vacuumed into an appropriate container and labeled. The workers shall be closely monitored, to protect from hazardous asbestos exposure and heat exhaustion.

G. Additional Requirements

1. Respiratory Protection

Minimum respiratory equipment applicable for use in environments containing airborne asbestos and other requirements, as stipulated by the Contractor's HASP and OSHA, as indicated in 29 CFR 1910 and 1926, shall be used.

2. Warning Signs and Labels

At each work location, the Contractor shall provide warning signs and labels, as specified in Subsection 1.15-Warning Signs and Tape and Subsection 1.16-Warning Labels.

3. Personnel and Equipment Decontamination Units

The Contractor shall provide a Personnel Decontamination Unit and an Equipment Decontamination Unit, as specified in the Subsection 1.14- Decontamination Unit.

4. Asbestos Contaminated Water Sampling Protocol

Asbestos contaminated waters shall be collected for Contractor disposal.

5. Bulk Asbestos Sampling and Analysis Protocol

Bulk asbestos sampling and PLM analysis has been conducted for various materials located throughout the site. The PLM test results are included in Appendix B.

During the course of demolition and debris removal, previously unidentified potential ACM may be identified requiring bulk sampling and analysis. All bulk sample analysis as required under this Section shall be paid by the Contractor and is incidental to the Contract. Bulk sampling, as required or as specified by the Professional, shall be performed by an accredited asbestos inspector, in accordance with MDEQ/MDLEG regulations. It is the Contractor's responsibility to employ a laboratory for testing and analysis that routinely provides analytical services acceptable to the Owner. Test results shall be available within 24 hours of sample collection and presented to the Professional.

6. Asbestos Abatement Approval

If the Contractor identifies concealed ACM during demolition activities, the Contractor must immediately notify the Professional. The Contractor shall proceed with the asbestos abatement of additionally identified RACM, only after receiving written approval from the Professional.

If the Contractor abates RACM that the Contractor considers to have been concealed, without approval of the Professional, the abatement will have been done at the Contractor's expense with no additional cost to the Professional or Owner.

3.06 FINAL CLEANING AND VISUAL INSPECTION

The abated asbestos regulated work area shall be cleaned by collecting, packing, and storing all gross contamination, and all surfaces in the work area shall be wet-cleaned. Upon completion of the cleaning, the Contractor shall conduct a visual pre-inspection of the cleaned area, in preparation for a final inspection, before final air clearance monitoring is conducted. Upon completion of the final cleaning, the Contractor and the Professional shall conduct a final visual inspection of the cleaned work area and document the results. If the Professional rejects the abatement area as not meeting final cleaning requirements, the Contractor shall re-clean, as necessary, and have a follow-up inspection conducted with the Professional. Additional cleaning and follow-up inspections shall be at the Contractor's expense.

3.07 LOCK DOWN

Prior to removal of plastic barriers and after cleanup of gross contamination and final visual inspection, a post removal (lock down) encapsulant shall then be spray applied to ceiling, walls, floors and other surfaces in the removal area. The abatement area shall include, but not be limited to, constructed enclosures, barriers, polyethylene sheeting that covers any furnishings, equipment to be discarded, critical barriers, air locks, load out units for bag removal, and onsite constructed decontamination unit.

3.08 AIR SAMPLING

Sampling and analysis of airborne concentration of asbestos fibers shall be performed in accordance with 29 CFR Part 1926.1101, the Contractor's air monitoring plan, and as specified herein. Personal air monitoring samples shall be performed by the Contractor and collected for at least 25 percent of the workers in each shift or a minimum of two, whichever is greater. Results of the personal samples shall be posted at the job site and made available to the Professional, as specified herein. The Contractor

shall maintain a fiber concentration inside enclosed containment regulated work area equal to or less than 0.1 f/cc, expressed as an 8-hour TWA during abatement work activities. If fiber concentration rises above 0.1 f/cc, work procedures shall be evaluated by the Professional to determine the cause. At the discretion of the Professional, fiber concentration may exceed 0.1 f/cc but shall not exceed 1.0 f/cc expressed as an 8-hour TWA. The Contractor's workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as averaged over a sampling period of 30 minutes. (Short Term Excursion Limit-STEL). Should a short excursion concentration of 1.0 f/cc expressed as a 30-minute sample occur inside the contained (enclosure) regulated work area or glove bag work area, the Contractor shall stop work immediately, notify the Professional, and implement additional engineering and work practice controls, to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the Professional.

Personal sampling required by 29 CFR Part 1926.1101, NIOSH-01 Method 7400, shall be used for sampling and Phase Contrast Microscopy (PCM) analysis. The Contractor shall be responsible for the personal sampling and record keeping on its employees and the employees of all subcontractors. For environmental quality control and final air clearance, NIOSH-01 Method 7400 PCM shall be implemented with optional confirmation of results by NIOSH-01 Method 7402 Transmission Electron Microscopy (TEM). The Contractor is not responsible for the cost of obtaining and analyzing the confirmation samples to be taken for environmental quality control and obtained at the boundary of the regulated area/areas. For environmental and final clearance samples, sampling may be conducted by the Professional, at a sufficient velocity and time to collect a sample volume necessary to establish the limit of detection of the method used at 0.005 f/cc. Confirmation TEM analysis may be performed in accordance with NIOSH-01 Method 7402. When such confirmation is conducted, it shall be from the same sample filter used for the initial NIOSH-01 Method 7400 PCM analysis.

A. Sampling During Asbestos Abatement Work

The Contractor's Supervisor shall provide personal sampling, as indicated in 29 CFR Part 1926.1101, federal, state, and local requirements, and in accordance with the Contractor's Air Monitoring Plan. Area sampling shall be conducted at least once every shift, adjacent to the work in the regulated area, outside the clean room entrance to the containment area (outside air lock for mini and modified containment areas), inside the clean room (inside the air lock for mini and modified containment areas), outside the load-out unit exit, if used, and at the exhaust discharge point of the local exhaust system. If the sampling outside the containment area shows airborne fiber levels have exceeded background or 0.01 f/cc, whichever is greater, the Professional can stop the abatement work at his/her discretion. The condition causing the elevated fiber concentration shall be corrected. Work shall not restart until authorized by the Professional. In areas where the construction of a containment area is not required, after initial TWA airborne fiber concentrations are established, and provided the same type of work is being performed, the PCM sampling shall be conducted at the boundary of the asbestos regulated work area in such locations and at such frequency, as recommended by the Professional. Where glove bag methods are used, personal and area air sampling shall be performed at locations and frequencies that will accurately characterize any evolving airborne fiber levels.

B. Sampling After Final Clean-up (Clearance Sampling)

Prior to conducting final air clearance monitoring, the Contractor and the Professional shall conduct a final visual inspection of the regulated work area(s). Final clearance air monitoring

shall not begin until acceptance of this final cleaning by the Professional. The sampling and analytical method used will be NIOSH-01 Method 7400 PCM, with optional confirmation of results by NIOSH-01 Method 7402 TEM.

1. NIOSH Method Clearance Sampling

For PCM sampling and analysis using NIOSH-01 Method 7400, the fiber concentration inside the regulated work area for each airborne sample shall be less than 0.01 f/cc. Decontamination of the abated asbestos regulated work area is considered complete when every PCM final clearance sample is below the clearance limit. If any sample result is greater than 0.01 f/cc, the clearance samples shall be recollected and reanalyzed by PCM or, at the sole discretion of the Professional, the asbestos fiber concentration from that same filter shall be confirmed using NIOSH-01 Method 7402 TEM at Contractor's expense. If the average TEM count is greater than 0.01 f/cc, then abatement is incomplete and re-cleaning is required. Upon completion of any required re-cleaning, re-sampling with results meeting the above clearance criteria is required.

2. EPA Method

For TEM sampling and analysis using the EPA Mandatory Method specified in 40 CFR Part 763, decontamination of the regulated work area is considered complete when the arithmetic mean concentration of 5 inside samples is less than or equal to 70 structures per square millimeter (70 S/mm). When the arithmetic mean is greater than 70 S/mm, 3 blank samples shall be analyzed. If the three blank samples are greater than 70 S/mm, re-sampling is required. If less than 70 S/mm, the 5 outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination can be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and re-cleaning is required. Upon completion of any required re-cleaning, re-sampling with results meeting the above clearance criteria is required.

C. Air Clearance Failure

Should clearance sampling results fail to meet the final clean-up requirements, the Contractor shall pay all costs associated with all required re-cleaning, re-sampling, and analyses, until final clean-up requirements are met.

3.09 SITE INSPECTION

While performing asbestos removal work, the Contractor shall be subject to onsite inspection by the Professional, who may be assisted by or represented by quality assurance, safety, and industrial hygiene personnel. If the work is found to be in violation of this specification, the Professional or hygienist will issue a stop work order, to be in effect immediately and until the violation is resolved. Standby time required to resolve the violation shall be at the Contractor's expense and shall not be cause for a contact time extension.

3.10 RACM WASTE PACKAGING AND LOAD OUT PROCEDURES

Packaging of RACM shall conform to OSHA Standard 29 CFR 1926.1101, DOT 49 CFR 171,172, and 173, EPA Standard 40 CFR Part 61, and the requirement as specified herein. RACM waste shall be placed in a wet condition into properly labeled disposal bags. Asbestos-contaminated materials that are likely to puncture plastic disposal bags shall be placed in hard wall shipping containers for handling and transport to disposal site.

3.11 CLEAN-UP AND DISPOSAL

A. Housekeeping

When asbestos removal is complete, all asbestos waste is removed from the work site, and final clean-up is completed, the Professional will inspect the areas before the warning signs and boundary warning tape can be removed. The Professional will visually inspect all surfaces within the containment for residual material or accumulated debris. The Professional shall certify, in writing, that the area is safe before unrestricted entry is permitted.

B. Title to Materials

Material resulting from abatement work, except as specified otherwise, shall become the property of the Contractor and shall be disposed of as specified in applicable federal, state, and local regulations, and herein.

C. Collection and Disposal of Asbestos

Asbestos waste, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing shall be collected and placed in sealed leak-tight containers (e.g., double 6-mil plastic bags), sealed 6-mil double wrapped polyethylene sheet, or other approved containers. Waste within the containers must be adequately wetted. A warning and Department of Transportation (DOT) label shall be affixed or preprinted on each bag.

Asbestos waste material shall be disposed of at an approved local landfill. For temporary storage, sealed impermeable containers shall be stored in asbestos waste load-out unit or in a storage/transportation conveyance (i.e.; dumpster, roll-off waste boxes, etc.), in a manner accepted by and in an area assigned by the Professional. Procedure for hauling and disposal shall comply with 40 CFR Part 61, Subpart M, federal, state, and local standards.

D. Asbestos Waste Shipment Record

The Contractor shall complete and provide final completed copies, to the Professional, of the Waste Shipment Record, for all shipments of waste material, as specified in 40 CFR Part 61, Subpart M, and other required state waste manifest shipment records, within three days of delivery to the landfill.

END OF SECTION 13 28 20

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SECTION 22 11 19 - DOMESTIC WATER PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following domestic water piping specialties:
 - 1. Backflow preventers.

1.3 PERFORMANCE REQUIREMENTS

- A. Minimum Working Pressure for Domestic Water Piping Specialties: 125 psig, unless otherwise indicated.

1.4 ACTION SUBMITTALS

- A. Product Data
- B. Shop Drawings

1.5 INFORMATION SUBMITTALS

- A. Field quality-control test reports.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For domestic water piping specialties to include in emergency, operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR PIPING SPECIALTIES

- A. Potable-water piping and components shall comply with NSF 61 and NSF 14.

2.2 PERFORMANCE REQUIREMENTS

- A. Minimum Working Pressure for Domestic Water Piping Specialties: 125 psig (860 kPa) unless otherwise indicated.

2.3 BACKFLOW PREVENTERS

- A. Reduced-Pressure-Principle Backflow Preventers:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Ames Co.
 - b. Apollo Valves by Conbraco Industries, Inc.
 - c. FEBCO; SPX Valves & Controls.
 - d. Watts Industries, Inc.; Water Products Div.
 - e. Zurn Plumbing Products Group; Wilkins Div.
2. Standard: ASSE 1013.
3. Operation: Continuous-pressure applications.
4. Pressure Loss: 12 psig maximum, through middle 1/3 of flow range.
5. Body: Bronze for NPS 2 and smaller; cast iron with interior lining complying with AWWA C550 or that is FDA approved steel with interior lining complying with AWWA C550 or that is FDA approved stainless steel for NPS 2-1/2 and larger.
6. End Connections: Threaded for NPS 2 and smaller; flanged for NPS 2-1/2 and larger.
7. Accessories:
 - a. Valves: Ball type with threaded ends on inlet and outlet of NPS 2 and smaller; outside screw and yoke gate-type with flanged ends on inlet and outlet of NPS 2-1/2 and larger.
 - b. Air-Gap Fitting: ASME A112.1.2, matching backflow-preventer connection.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Piping joining materials, joint construction, and basic installation requirements will comply with authorities having jurisdiction.
- B. Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Comply with authorities having jurisdiction.
 1. Install in an accessible location to facilitate testing and servicing with the height between 12" and 60" above the floor or grade unless instructed otherwise by applicable code.
 2. Locate backflow preventers in same room as connected equipment or system.

3. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe to floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are not acceptable for this application.
4. Do not install bypass piping around backflow preventers.

3.2 FIELD QUALITY CONTROL

- A. Perform the following tests and prepare test reports:
 1. Test each backflow preventer according to authorities having jurisdiction and the device's reference standard.
- B. Domestic water piping specialties will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports.

END OF SECTION 22 11 19

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SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Special Provisions apply to this Section.

1.2 SUMMARY

- A. This Section specifically includes the topsoil stripping, clearing and grubbing, removal of above grade improvements, and the removal of below grade improvements as necessary to provide a clean site within the demolition limits as noted in the Contract Documents

1.3 PROJECT CONDITIONS

- A. Traffic: Conduct site-clearing operations to ensure minimum interface with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, access drives, or other occupied or used facilities without permission from authorities having jurisdiction.
 - 1. Contractor shall maintain Temporary Bus Route as depicted on the Contract Drawings. Contractor shall coordinate the schedule with the Owner.
 - 2. Contractor shall maintain access drive to Building 0205 as shown on the Contract Drawings.
- B. Salvage Items: Contractor shall be carefully remove items to be salvaged and store on Owner's premise.
- C. Contractor shall not commence and land disturbing activities until temporary erosion control measures are in-place.
- D. Contractor shall limit equipment movement on portions of the existing pavement that are designated to remain in-place.

1.4 DEFINITIONS

- A. Topsoil: Natural or cultivated friable clay loam surface-soil layer containing organic matter reasonably free of subsoil, clay lumps, gravel, and other objects more than 1 inch in diameter.
- B. Site Debris and Trash: Debris and trash, located outside of the building footprints, including

but not limited to, garbage, abandoned equipment, furniture, wood products, metal products, broken pavement, empty containers, and similar products in piles or scattered across the site.

1.5 MATERIAL OWNERSHIP

- A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.6 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
 - 1. Use sufficiently detailed photographs or videotape.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.
- B. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 SITE CLEARING

- A. General: Remove grass and other vegetation, topsoil, organic soils, site trash and debris, improvements, or obstructions, within designated demolition limits, as identified on the Drawings. Remove similar items elsewhere on site or premises as specifically indicated. Removal includes digging out and off-site disposal of stumps and roots.
- B. Clearing and Grubbing: Clear site of all vegetation, except as otherwise noted.
 - 1. Unless otherwise noted, remove stumps, roots, and other debris protruding through ground surface or otherwise exposed as a result of excavation.
 - 2. Fill depressions caused by clearing and grubbing operations with satisfactory soil material in accordance with the requirements in Section 312000.
- C. Topsoil Stripping:
 - 1. Topsoil shall be stripped from all areas unless otherwise indicated. Strip topsoil to whatever depths encountered in a manner to prevent intermingling with underlying

subsoil or other objectionable material. Remove heavy growths of vegetation from areas before stripping.

2. Stockpile topsoil in storage piles in areas, which have been approved by the Owner. Construct storage piles to provide free drainage of surface water. Cover storage piles, or temporarily seed with lawn, to prevent wind erosion.

D. Site Improvements

1. Unless otherwise noted on the Contract Drawings or herein, remove and properly dispose of all existing above and below grade improvements located within the demolition limits.
2. Contractor shall neatly saw-cut along line of existing pavement to be protected and remain in-place.

3.2 DISPOSAL OF WASTE MATERIALS

- A. Burning on Owner's Property: Burning is not permitted on Owner's property or at an off-site location.
- B. Removal from Owner's Property: Remove and properly dispose of waste materials, site debris, and trash from Project Site at an approved off-site licensed waste disposal facility.

END OF SECTION 311000

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SOIL EROSION & SEDIMENTATION CONTROL INSPECTION LOG

Project Name or Description:

Page ____ of ____

NPDES Number: _____

Date: _____ Time: _____ Certified Operator: _____ Operator #: _____

Reason for Inspection: _____ Weekly Inspection _____ Inspection After Storm Water Runoff

Observations: _____

Corrective Actions Taken/Needed: _____

Signature: _____ Operator Number: _____

Print Name: _____

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SECTION 312000 - EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Earthwork associated with placing, grading and compacting Backfill and Fill at the Project Site.
- B. The Contractor shall provide the necessary Backfill and Fill to the fill all voids created from the demolition and removal of the structures, utilities, pavement, trees, and all other site improvements designated for removal.
- C. No topsoil, crushed concrete, brick, or block, unsatisfactory material or foundry sand can be used to achieve the proposed grades.

1.3 DEFINITIONS

- A. Backfill: Satisfactory soil materials used to fill an excavation.
- B. Base Course: Aggregate layer placed between the sub-base course and asphalt paving.
- C. Bedding Course: Layer placed over the excavated sub-grade in a trench before laying pipe.
- D. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Excavation: Removal of material encountered above sub-grade elevations.
- F. Fill: Satisfactory soil materials used to raise existing grades.
- G. MDOT: Michigan Department of Transportation.
- H. Pavement: Walks, drives, roads, parking areas, and athletic courts to include all asphalt, concrete, brick and aggregate pavement.
- I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- J. Subbase Course: Aggregate layer placed between the sub-grade and base course for asphalt paving, or layer placed between the sub-grade and a concrete pavement or walk.

- K. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below sub-base, drainage fill, or topsoil materials.
- L. Utilities: Include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 SUBMITTALS

- A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
 - 1. Classification according to ASTM D 2487 of each on-site/off-site borrow soil material proposed for fill and backfill.
 - 2. Laboratory compaction curve according to ASTM D 1557 for each on-site/off-site, borrow soil material proposed as Fill and Backfill.
 - 3. Gradation test reports according to ASTM C 136.05 to determine compliance with the gradation requirements stated herein.
- B. Field Compaction Test Reports: From a qualified testing agency indicating and interpreting test results for the compliance with the compaction of Backfill and Fills requirement of 95% of modified proctor.
 - 1. All test reports shall be provided to the Owner Representative prior to payment for the backfill related work.

1.5 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.

1.6 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner's Representative or others unless permitted in writing by Project Manager and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Owner's and Utility's (if different) written permission.
 - 3. Contact utility-locator service for area where Project is located before excavating.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with Owner and/or utility companies to shut off services if lines are active.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS DEFINITIONS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM, or a combination of these group symbols; free of rock or gravel larger than 1 ½ inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Except where noted above, ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT, or a combination of these group symbols.
 - 1. Unsatisfactory Soils also include Satisfactory Soils not maintained within 2 percent of optimum moisture content at the time of compaction.
- D. Sub-base Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2- inch (38-mm) sieve and not more than 10 percent passing a No. 200 (0.075-mm) sieve.
- E. Base Course: Provide as shown on plans. For asphalt and concrete pavement sections: MDOT 21AA, 21A, or 22A aggregate according to the 2012 Standard Specifications for Construction, Section 302.
- F. Bedding: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and all other improvements indicated to remain or located within public right-of-way, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- C. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.2 GENERAL EXCAVATION

- A. Contractor shall excavate the site in order to remove the concrete foundations, slabs, tunnels, utilities, stumps, and other below-grade improvements identified for removal.
- B. Contractor shall be responsible for the removal and proper disposal of Unsatisfactory Soils excavated to meet the finished grades as shown of the Contract Drawings.

3.3 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
 - 2. Install a dewatering system to keep sub-grades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.
 - 3. Cover excavations to prevent the accumulation of storm water.

3.4 EXPLOSIVES

- A. Explosives: Do not use explosives.

3.5 APPROVAL OF SUBGRADE

- A. Notify Owners Representative when excavations have reached required sub-grade.
- B. Proof roll sub-grade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated sub-grades (remove material to expose dry soil).
- C. Reconstruct sub-grades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Owners Representative.

3.6 STORAGE OF SOIL MATERIALS

- A. Stockpile satisfactory excavated soil materials. Stockpile materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent wind blown dust. The Owner's Representatives, prior to implementation, shall approve stockpile area locations.
 - 1. Stockpile materials away from edge of excavations.
 - 2. Stockpiles with more than 10 cubic yards need to be kept a minimum of 25 feet from adjacent properties.
 - 3. Erosion control methods and stockpile materials shall conform to all erosion

control requirements and methods identified by the Contract Documents.

3.7 BACKFILL

- A. Contractor shall be responsible for all costs associated with obtaining and placing Satisfactory Soils to fill all voids within the demolition limits.
- B. Place Backfill material in 8" loose layers and compact to required elevations, but not before completing the following:
 - 1. Surveying locations of existing and abandoned underground utilities for record documents.
 - 2. Inspecting and testing underground utilities.
 - 3. Removing concrete formwork.
 - 4. Removing trash and debris.
 - 5. Removing temporary shoring and bracing, and sheeting.
 - 6. Installing permanent or temporary horizontal bracing on horizontally supported walls.

3.8 UTILITY MANHOLE STRUCTURE, VAULT, AND PIT BACKFILL

- A. Unless otherwise noted on the Contract Drawings, Contractor shall remove all utility manhole structures, vaults, and pits in their entirety.

3.9 FILL

- A. Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing Fills.
- B. Contractor shall be responsible for all costs associated with obtaining and placing Satisfactory Soils as Fill to meet final grades. Place Fill material in 8" loose layers and compact to required elevations.
- C. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so Fill will bond with existing material.

3.10 MOISTURE CONTROL

- A. Uniformly moisten or aerate sub-grade and each subsequent Fill or Backfill layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place Backfill or Fill material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight, only as directed by the Owners Representative.

3.11 COMPACTION OF BACKFILLS AND FILLS

- A. Place Backfill and Fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place Backfill and Fill materials evenly and uniformly, to required elevations, in the excavated areas.
- C. Compact soil to not less than 95 percent of maximum dry unit weight according to ASTM D 1557 modified proctor.

3.12 GRADING

- A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 - 1. Provide a smooth transition between adjacent existing grades and new grades.
 - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
 - 3. Provide Backfill and Fill materials as required to achieve the proposed grades as shown on the Contract Drawings.
- B. Finished Grading:
 - 1. Base Bid – Lawn or Unpaved Areas: Plus or minus 4 inches

3.13 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

- A. Place Subbase Course on sub-grades free of mud, frost, snow, or ice.
- B. Subbase Course on prepared Subgrade as follows:
 - 1. Place Base Course material over Subbase Course under pavements and walks.
 - 2. Shape Base Course to required crown elevations and cross-slope grades.
 - 3. Place Base Course 6 inches or less in compacted thickness in a single layer.
 - 4. Place Base Course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
 - 5. Compact Subbase and Base Courses at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.14 FIELD QUALITY CONTROL

- A. Testing Agency: The Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test Sub-grades, each Fill or Backfill layer, the sub

base, and the base course. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.

- C. Excavation Sub-grade: At excavation Sub-grades, at least one test of each soil stratum will be performed to verify compaction. Subsequent verification and approval of other footing Sub-grades may be based on a visual comparison of Sub-grade with tested Sub-grade when approved by Owners Representative.
- D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations, frequencies, and each Fill and Backfilled layer:
 - 1. General excavation areas
 - a. At sub-grade and at each compacted Fill and Backfill layer, at least one test for every 5,000 sq. ft.
 - 2. Under Paved Areas
 - a. Each compacted sub base and base course layer, at least one test per every 1,000 sq. ft.
- E. When testing agency reports that Sub-grades, Fills, Backfills, Sub Base, or Base have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; re-compact and retest until specified compaction is obtained. Tests shall be performed by an independent testing agency.

3.15 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 - 1. Scarify or remove and replace soil material to depth as directed by Owner, reshape and re-compact. Additional Compaction tests may be required for repaired or reestablished grades as determined by the Owner. Tests shall be performed by an independent testing agency at the Contractors expense.
- C. Where settling occurs before work correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.16 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Contractor shall remove and properly dispose of all waste materials, unsatisfactory soils, trash, and debris in accordance with all local, state and federal regulations.

END OF SECTION 311200

SECTION 32 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Hot-mix asphalt paving.
 - 2. Pavement-marking paint.
- B. Related Sections:
 - 1. Division 31 Section 31 20 00 "Earth Moving" for aggregate base course.
 - 2. Division 32 Section 32 13 73 "Concrete Paving Joint Sealants" for joint sealants and fillers at paving terminations.

1.3 DEFINITION

- A. Hot-Mix Asphalt Paving Terminology: Refer to ASTM D 8 for definitions of terms.
- B. MDOT: Michigan Department of Transportation.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.
 - 1. Job-Mix Designs: For each job mix proposed for the Work.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified manufacturer and Installer. All asphalt mixes shall be produced in an MDOT approved plant.
- B. Material Certificates: For each paving material, from manufacturer.
- C. Material Test Reports: For each paving material.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All asphalt mixes shall be produced in an MDOT approved plant.
- B. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing indicated.
- A. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of Section 501 of the current MDOT Standard Specifications and provisions thereto for asphalt paving work.
 - 1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.
- B. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:
 - a. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
 - b. Review condition of subgrade and preparatory work.
 - c. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.
 - d. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.
- B. Store pavement-marking materials in a clean, dry, protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
 - 1. Prime Coat: Minimum surface temperature of 60 deg F (15.6 deg C).
 - 2. Tack Coat: Minimum surface temperature of 60 deg F (15.6 deg C).
 - 3. Slurry Coat: Comply with weather limitations in ASTM D 3910.
 - 4. Asphalt Base Course: Minimum surface temperature of 40 deg F (4.4 deg C) and rising at time of placement.

5. Asphalt Surface Course: Minimum surface temperature of 60 deg F (15.6 deg C) at time of placement.
- B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F (4.4 deg C) for oil-based materials or 55 deg F (12.8 deg C) for water-based materials, and not exceeding 95 deg F (35 deg C).

PART 2 - PRODUCTS

2.1 AGGREGATES

- A. General: Use materials and gradations that have performed satisfactorily in previous installations.
- B. Coarse Aggregate: ASTM D 692, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.
- C. Fine Aggregate: ASTM D 1073, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.
 1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.
- D. Mineral Filler: ASTM D 242, rock or slag dust, hydraulic cement, or other inert material.

2.2 ASPHALT MATERIALS

- A. All materials shall conform to applicable requirements of the current MDOT Standard Specifications Sections 902 and 904, except for methods of measurement and basis of payment sections. All bituminous mixture shall be as follows:
 1. HMA base, intermediate and surface: mainline with a minimum ESAL of 250,000
- B. Prime Coat: ASTM D 2027, medium-curing cutback asphalt, conforming to MDOT Standard Specifications Section 904.
- C. Tack Coat: rapid-cure liquid asphalt conforming to MDOT Standard Specifications Section 904.
- D. Water: Potable.

2.3 AUXILIARY MATERIALS

- A. Herbicide: Commercial chemical for weed control, registered by the EPA. Provide in granular, liquid, or wettable powder form.
- B. Sand: ASTM D 1073, Grade Nos. 2 or 3.

- C. Joint Sealant: ASTM D 6690, Type I, II or III, hot-applied, single-component, polymer-modified bituminous sealant.
- D. Pavement-Marking Paint: All pavement marking materials shall be in accordance with MDOT Standard Specifications for epoxy paint.
 - 1. Color: White, Yellow, or Blue as indicated.
- E. Wheel Stops: Precast, air-entrained concrete, 2500-psi (17.2-MPa) minimum compressive strength, size as indicated on Drawings. Provide chamfered corners, drainage slots on underside, and holes for anchoring to substrate.
 - 1. Dowels: Galvanized steel, 3/4-inch (19-mm) diameter, 10-inch (254-mm) minimum length.

2.4 MIXES

- A. Hot-Mix Asphalt: Dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and complying with the following requirements:
 - 1. Install mix per detail drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to begin paving.
- B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
 - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph (5 km/h).
 - 2. Proof roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).
 - 3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- C. Proceed with paving only after unsatisfactory conditions have been corrected.
- D. Verify that utilities and other items requiring a cut and installation beneath the asphalt surface have been completed prior to installation of asphalt.

3.2 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

- B. Prime Coat: Apply uniformly over surface of compacted unbound-aggregate base course at a rate of 0.15 to 0.50 gal./sq. yd. (0.7 to 2.3 L/sq. m). Apply enough material to penetrate and seal but not flood surface. Allow prime coat to cure.
 - 1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
 - 2. Protect primed substrate from damage until ready to receive paving.
- C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.3 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 - 1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
 - 2. Place hot-mix asphalt surface course in single lift.
 - 3. Spread mix at minimum temperature of 250 deg F (121 deg C).
 - 4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
 - 5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.
 - 1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete a section of asphalt base course before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.4 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
 - 1. Clean contact surfaces and apply tack coat to joints.

2. Offset longitudinal joints, in successive courses, a minimum of 6 inches (150 mm).
3. Offset transverse joints, in successive courses, a minimum of 24 inches (600 mm).
4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method according to AI MS-22, for "Resumption of Paving Operations."
5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.5 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.
 1. Complete compaction before mix temperature cools to 185 deg F (85 deg C).
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 1. Average Density: 96 percent of reference laboratory density according to ASTM D 6927, but not less than 94 percent nor greater than 100 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.
- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.6 INSTALLATION TOLERANCES

- A. Confirm installation tolerances do not result in exceeding acceptable slopes for accessibility. This includes, but is not limited to, all trails, sidewalks, picnic table location and accessible

portions of the parking lot. These areas shall not have a cross slope greater than 2%, nor running slope greater than 5%. Accessible parking and associated access aisle shall not have running or cross slopes greater than 2%. If any discrepancies are found, bring to the attention of Architect.

- B. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:
 - 1. Base Course: Plus or minus 1/2 inch (13 mm).
 - 2. Surface Course: Plus 1/4 inch (6 mm), no minus.
- C. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot (3-m) straightedge applied transversely or longitudinally to paved areas:
 - 1. Base Course: 1/4 inch (6 mm).
 - 2. Surface Course: 1/8 inch (3 mm).

3.7 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.
- B. Allow paving to age for 2 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils (0.4 mm).

3.8 WHEEL STOPS

- A. Install wheel stops in bed of adhesive as recommended by manufacturer.
- B. Securely attach wheel stops to pavement with not less than two galvanized-steel dowels embedded at one-quarter to one-third points. Securely install dowels into pavement and bond to wheel stop. Recess head of dowel beneath top of wheel stop.

3.9 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.
- C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

- D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to ASTM D 979.
 - 1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
 - 2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
 - a. One core sample will be taken for every 1000 sq. yd. (836 sq. m) or less of installed pavement, with no fewer than 3 cores taken.
 - b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.
- E. Replace and compact hot-mix asphalt where core tests were taken.
- F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.
- G. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.10 DISPOSAL

- A. Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an EPA-approved landfill.
 - 1. Do not allow milled materials to accumulate on-site.

END OF SECTION 32 12 16

SECTION 32 13 13 - CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Walks.
- B. Related Sections:
 - 1. Division 31 Section 31 20 00 "Earth Moving" for subgrade preparation, grading and base course.
 - 2. Division 32 Section 32 13 73 "Concrete Paving Joint Sealants" for joint sealants in expansion and contraction joints within concrete paving and in joints between concrete paving and asphalt paving or adjacent construction.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Test Reports: For each of the following:
 - 1. Aggregates. Include service-record data indicating absence of deleterious expansion of concrete due to alkali-aggregate reactivity.
 - 2. Admixtures. Provide certification from admixture manufacturer that chloride content complies with requirements.

- B. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").
- B. Concrete Testing Service: The Contractor shall engage a qualified testing agency to perform material evaluation tests and to design concrete mixtures.
- C. ACI Publications: Comply with ACI 301 (ACI 301M) unless otherwise indicated.
- D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section 01 31 00 "Project Management and Coordination."
 - 1. Review methods and procedures related to concrete paving, including but not limited to, the following:
 - a. Concrete mixture design.
 - b. Quality control of concrete materials and concrete paving construction practices.

1.7 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.1 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.
 - 1. Use flexible or uniformly curved forms for curves with a radius of 100 feet (30.5 m) or less. Do not use notched and bent forms.
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420); deformed.

2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:
 - 1. Portland Cement: ASTM C 150, gray portland cement Type I. Supplement with the following:
 - a. Fly Ash: ASTM C 618, Class F.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- B. Normal-Weight Aggregates: ASTM C 33, Class 4S, uniformly graded. Provide aggregates from a single source with documented service-record data of at least 10 years' satisfactory service in similar paving applications and service conditions using similar aggregates and cementitious materials.
 - 1. Maximum Coarse-Aggregate Size: Max. 1-1/2 inches (38 mm) where slab greater than 6" thick, 3/4 inch (19 mm) nominal elsewhere,
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: Potable and complying with ASTM C 94/C 94M.
- D. Air-Entraining Admixture: ASTM C 260.
- E. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.

2.4 FIBER REINFORCEMENT

- A. Synthetic Fiber: Fibrillated polypropylene fibers engineered and designed for use in concrete paving, complying with ASTM C 1116/C 1116M, Type III, 1/2 to 1-1/2 inches (13 to 38 mm) long.
 - 1. Products: Subject to compliance with requirements, provide the following:
 - a. Fibrillated Fibers:
 - 1) Euclid Chemical Company (The), an RPM company; Fiberstrand F.
 - 2) Grace, W. R. & Co. - Conn.; Grace Fibers.
 - 3) Propex Concrete Systems Corp.; Fibermesh 300.

2.5 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. White, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class B.

2.6 RELATED MATERIALS

- A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber in preformed strips.
- B. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- C. Epoxy Bonding Adhesive: ASTM C 881/C 881M, two-component epoxy resin capable of humid curing and bonding to damp surfaces; of class suitable for application temperature, of grade complying with requirements, and of the following types:
 - 1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- D. Chemical Surface Retarder: Water-soluble, liquid, set retarder with color dye, for horizontal concrete surface application, capable of temporarily delaying final hardening of concrete to a depth of 1/8 to 1/4 inch (3 to 6 mm).

2.7 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301 (ACI 301M), for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.
 - 1. Use a qualified independent testing agency for preparing and reporting proposed concrete design mixtures for the trial batch method.
 - 2. When automatic machine placement is used, determine design mixtures and obtain laboratory test results that meet or exceed requirements.
- B. Proportion mixtures to provide normal-weight concrete with the following properties:
 - 1. Compressive Strength (28 Days): 4000 psi (27.6 MPa).
 - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
 - 3. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).

- C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:
 - 1. Air Content: 5-1/2 percent plus or minus 1.5 percent for 1-1/2-inch (38-mm) nominal maximum aggregate size.
 - 2. Air Content: 6 percent plus or minus 1.5 percent for 3/4-inch (19-mm) nominal maximum aggregate size.
- D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- E. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.
- F. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 - 1. Fly Ash or Pozzolan: 25 percent.
 - 2. Ground Granulated Blast-Furnace Slag: 50 percent.
 - 3. Combined Fly Ash or Pozzolan, and Ground Granulated Blast-Furnace Slag: 50 percent, with fly ash or pozzolan not exceeding 25 percent.
- G. Synthetic Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.5 lb/cu. yd. (0.90 kg/cu. m).

2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.
 - 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.
 - 1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph (5 km/h).
 - 2. Proof-roll with a pneumatic-tired and loaded, 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).

3. Correct subbase with soft spots and areas of pumping or rutting according to requirements in Division 31 Section "Earth Moving."

- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

3.5 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
 1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.
 1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.
 2. Provide tie bars at sides of paving strips where indicated.
 3. Keyed Joints: Provide preformed keyway-section forms or bulkhead forms with keys unless otherwise indicated. Embed keys at least 1-1/2 inches (38 mm) into concrete.

- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.
 - 1. Locate expansion joints at intervals of 40 feet maximum unless otherwise indicated.
 - 2. Extend joint fillers full width and depth of joint.
 - 3. Terminate joint filler not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished surface. All joints to receive joint sealer.
 - 4. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
 - 5. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint. Caulk with sealant.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:
 - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch (6-mm) radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate grooving-tool marks on concrete surfaces.
- E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch (6-mm) radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.6 CONCRETE PLACEMENT

- A. Before placing concrete, inspect and complete formwork installation, steel reinforcement where specified, and items to be embedded or cast-in.
- B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- D. Comply with ACI 301 (ACI 301M) requirements for measuring, mixing, transporting, and placing concrete.
- E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.
- F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- G. Consolidate concrete according to ACI 301 (ACI 301M) by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- H. Screed paving surface with a straightedge and strike off.
- I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- J. Curbs: Use design mixture for automatic machine placement. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing.
- K. Slip-Form Paving: Use design mixture for automatic machine placement. Produce paving to required thickness, lines, grades, finish, and jointing.
 1. Compact subbase and prepare subgrade of sufficient width to prevent displacement of slip-form paving machine during operations.
- L. Cold-Weather Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:
 1. When air temperature has fallen to or is expected to fall below 40 deg F (4.4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.
 2. Do not use frozen materials or materials containing ice or snow.
 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.
- M. Hot-Weather Placement: Comply with ACI 301 (ACI 301M) and as follows when hot-weather conditions exist:
 1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.7 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.

- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
 - 1. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.

3.8 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm) and sealed by waterproof tape or adhesive. Immediately repair any holes or tears occurring during installation or curing period using cover material and waterproof tape.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas that have been subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

3.9 PAVING TOLERANCES

- A. Confirm installation tolerances do not result in exceeding acceptable slopes for accessibility. This includes, but is not limited to, all sidewalks and accessible portions of the parking lot.

These areas shall not have a cross slope greater than 2%, nor running slope greater than 5%. Accessible parking and associated access aisle shall not have running or cross slopes greater than 2%. If any discrepancies are found, bring to the attention of Architect.

B. Comply with tolerances in ACI 117 and as follows:

1. Elevation: 1/4 inch (6 mm).
2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).
3. Surface: Gap below 10-foot- (3-m-) long, unlevelled straightedge not to exceed 1/4 inch (6 mm).
4. Joint Spacing: 3 inches (75 mm).
5. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.
6. Joint Width: Plus 1/8 inch (3 mm), no minus.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Owner shall engage a qualified testing agency to perform tests and inspections and prepare test reports.
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain at least one composite sample for each 5000 sq. ft. (465 sq. m) or fraction thereof of each concrete mixture placed each day.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when it is 80 deg F (27 deg C) and above, and one test for each composite sample.
 5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
 6. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at seven days and two specimens at 28 days.
 - a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.
- C. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).

- D. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- E. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
- F. Concrete paving will be considered defective if it does not pass tests and inspections.
- G. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- H. Prepare test and inspection reports.

3.11 REPAIRS AND PROTECTION

- A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.
- B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.
- C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 32 13 13

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SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cold-applied joint sealants.
 - 2. Hot-applied joint sealants.
- B. Related Sections:
 - 1. Division 32 Section 32 12 16 "Asphalt Paving" for constructing joints between concrete and asphalt pavement.
 - 2. Division 32 Section 32 13 13 "Concrete Paving" for constructing joints in concrete pavement.

1.3 PRECONSTRUCTION TESTING

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, Samples of materials that will contact or affect joint sealants.

1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Product Certificates: For each type of joint sealant and accessory, from manufacturer.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each type of joint sealant from single source from single manufacturer.

1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 COLD-APPLIED JOINT SEALANTS

- A. Single-Component, Self-Leveling, Silicone Joint Sealant for Concrete: ASTM D 5893, Type SL.

2.3 HOT-APPLIED JOINT SEALANTS

- A. Hot-Applied, Single-Component Joint Sealant for Concrete: ASTM D 3406.
- B. Hot-Applied, Single-Component Joint Sealant for Concrete and Asphalt: ASTM D 6690, Types I, II, and III.

2.4 JOINT-SEALANT BACKER MATERIALS

- A. General: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.

2.5 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install joint-sealant backings of kind indicated to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of joint-sealant backings.
 - 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
 - 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place joint sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.
- F. Provide recessed joint configuration for silicone sealants of recess depth as indicated on Drawings.

3.4 CLEANING

- A. Clean off excess joint sealant or sealant smears adjacent to joints as the Work progresses, by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

END OF SECTION 32 13 73

SECTION 32 92 00 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Hydroseeding.
 - 2. Erosion-control materials.
- B. Related Sections:
 - 1. Division 31 Section 31 10 00 "Site Clearing" for topsoil stripping and stockpiling.
 - 2. Division 31 Section 31 20 00 "Earth Moving" for excavation, filling and backfilling, and rough grading.

1.3 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- C. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- D. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.4 INFORMATIONAL SUBMITTALS

- A. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
- B. Qualification Data: For qualified landscape Installer.
- C. Product Certificates: For soil amendments and fertilizers, from manufacturer.

- D. Material Test Reports: For existing in-place surface soil and imported topsoil.
- E. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of turf during a calendar year. Submit before expiration of required initial maintenance periods.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.
 - 1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
- B. Soil-Testing Laboratory Qualifications: An independent laboratory or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- C. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of the soil.
 - 1. Report suitability of tested soil for turf growth.
 - a. Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. (92.9 sq. m) or volume per cu. yd. (0.76 cu. m) for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
 - b. Report presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.
- D. Preinstallation Conference: Conduct conference at Project site.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws, as applicable.

1.7 PROJECT CONDITIONS

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of planting completion.

1. Spring Planting: April 15- May 15
2. Fall Planting: August 15 – September 30

- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

1.8 MAINTENANCE SERVICE

- A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable turf is established but for not less than the following periods:
1. Seeded Turf: 60 days from date of planting completion.
 - a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.
- B. Notify Owner in writing at end of maintenance period.

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 15 percent weed seed:
1. Seed Mix 1: Turf Type Tall Fescue mix at a rate of 346lb per acre. Mix shall consist of (or approved equal):
 - a. 120lb Barlexas II Turf Type Tall Fescue
 - b. 120lb Barrera Turf Type Tall Fescue
 - c. 70lb Barrington Turf Type Tall Fescue
 - d. 18lb Labarinth Turf Type Tall Fescue
 - e. 18lb Barrister Kentucky Bluegrass

2.2 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

2.3 PLANTING SOILS

- A. Planting Soil Mix: Mix topsoil with amendments and fertilizers as recommended by independent testing agency.
- B. Topsoil: ASTM D 5268 topsoil, with pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch (25 mm) or larger in any dimension and other extraneous materials harmful to plant growth. Unamended or raw topsoil and surface soil, including agricultural topsoil, in first three paragraphs below seldom contain more than 1 or 2 percent organic matter.
 1. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
 - a. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from bogs or marshes.

2.4 MULCHES

- A. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
- B. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting performance.
 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
 3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
 - 1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
 - 2. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

- A. Limit turf subgrade preparation to areas to be planted.
- B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches (100 mm). Remove stones larger than 1 inch (25 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 - 1. Spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil.
 - a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
 - 2. Spread planting soil to a depth of 6 inches (150 mm) but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
 - a. Spread approximately 1/2 the thickness of planting soil over loosened subgrade. Mix thoroughly into top 4 inches (100 mm) of subgrade. Spread remainder of planting soil.
 - b. Reduce elevation of planting soil to allow for soil thickness of sod.
- C. Unchanged Subgrades: If turf is to be planted in areas unaltered or undisturbed by excavating, grading, or surface-soil stripping operations, prepare surface soil as follows:
 - 1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
 - 2. Loosen surface soil to a depth of at least 6 inches (150 mm). Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 4 inches (100 mm) of soil. Till soil to a homogeneous mixture of fine texture.

3. Remove stones larger than 1 inch (25 mm) in any dimension and sticks, roots, trash, and other extraneous matter.
 4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.
- D. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch (13 mm) of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.
- E. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- F. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 HYDROSEEDING

- A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
 2. Apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre (15.6-kb/92.9 sq. m) dry weight, and seed component is deposited at not less than the specified seed-sowing rate.

3.5 TURF MAINTENANCE

- A. Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering:
1. Water turf with fine spray at a minimum rate of 1 inch (25 mm) per week unless rainfall precipitation is adequate.

- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
 - 1. Mow turf-type tall fescue to a height of 2 to 3 inches (50 to 75 mm).
- D. Turf Postfertilization: Apply fertilizer after initial mowing and when grass is dry.
 - 1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) to turf area.

3.6 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:
 - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 5 by 5 inches (125 by 125 mm).
- B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

3.7 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- C. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION 32 92 00

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SECTION 33 10 00 – WATER DISTRIBUTION SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

- A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.
- B. This section includes the furnishing and installation of a water distribution system.
- C. Related sections include the following:
 - 1. Division 31 Section “Earthwork.”

1.3 REFERENCES

- A. Except as herein specified or as indicated on the Drawings, the work of this section shall comply with the following:
 - 1. ASTM Standard Specifications:
 - a. A48 - Grey Iron Castings.
 - b. A126 - Grey Iron Castings for Valves, Flanges, and Pipe Fittings.
 - c. A167 - Standardized Specification for Stainless and Heat-Resistant Chromium-Nickel Steel Plate, Sheet, and Strip.
 - d. A240 - Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels.
 - e. B62 - Composition Bronze or Ounce Metal Castings.
 - f. B88 - Seamless Copper Tube.
 - g. D449 - Asphalt Used in Dampproofing and Waterproofing.
 - 2. ANSI/AWWA:
 - a. C104/A21.4 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
 - b. C105/A21.5 - Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids.
 - c. C110/A21.10 - Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids.
 - d. C111/A21.11 - Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings.
 - e. C150/A21.50 - Thickness Design of Ductile-Iron Pipe.
 - f. C151/A21.51 - Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds for Water or Other Liquids.

- g. C153/A21.53 - Ductile-Iron Compact Fittings, 3-inch through 24-inch (76 mm through 610 mm), and 54-inch through 64-inch (1,400 mm through 1,600 mm) for Water Service.
 - h. C301 - Prestressed Concrete Pressure Pipe, Steel-Cylinder Type, For Water and Other Liquids.
 - i. C304 - Design of Prestressed Concrete Cylinder Pipe.
- 3. AWWA Standards/Manuals:
 - a. C502 - Dry-Barrel Fire Hydrants.
 - b. C509 - Resilient-Seated Gate Valves for Water Supply Service.
 - c. C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances.
 - d. C651 - Disinfecting Water Mains.
 - e. C800 - Underground Service Line Valves and Fittings.
- 4. DIPRA - Ductile Iron Pipe Research Association.
- 5. MDOT:
 - a. Standard Specifications for Construction.
 - b. Standard Plans.
- 6. NSF Standards:
 - a. 60 - Drinking Water Treatment Chemicals.
 - b. 61 - Drinking Water System Components.

1.4 DEFINITIONS

A. Abbreviations:

- 1. DI - Ductile iron.
- 2. EJIW - East Jordan Iron Works.

1.5 SUBMITTALS

A. Product Data:

- 1. Pipe.
- 2. Gaskets (if special).
- 3. Hydrants.
- 4. Valves.
- 5. Thrust control materials.

B. Tapping Materials and Methods: Required information:

- 1. Dimensions.
- 2. Details of construction and installation.
- 3. Name of manufacturer.
- 4. Model.

C. Sequencing/Phasing Plan for Watermain Construction (required prior to other work):

- 1. Phase limits and duration.
- 2. Sequence of watermain construction relative to other utility construction.
- 3. Details of temporary water mains or connections, not indicated on the Drawings, but to be completed at the Contractor's discretion to facilitate other proposed work.

4. Anticipated dates and durations of proposed shutdowns and tie-ins.
5. Schedule meeting with MSU and Engineer to discuss watermain construction plan prior to beginning any utility work.

D. Procedures: For flushing, pressure testing and chlorinating. Required information:

1. Equipment.
2. Methods.

E. Submit manufacturer's sworn and notarized statements that the materials furnished comply with this Specification.

1.6 QUALITY ASSURANCE

A. Installation Personnel Qualifications:

1. Trained and experienced in the installation of the materials.
2. Knowledgeable of the design and the reviewed Shop Drawings.

B. Water Distribution System: Pressure and leak tests.

C. Water Quality: Bacteriological tests.

1.7 PROJECT CONDITIONS

A. Scheduling of Water Shutoffs:

1. Approval required.
2. Not to exceed 4 hours.
3. Standby service may be required by utility agency.
4. Required Notice:
 - a. MSU.
 - b. Fire Department: 1 week.
 - c. Affected Customers: 1 week.
5. Operation of Existing Valves: By Owner's employees only.

B. Contamination of Existing Lines:

1. Prevent.
2. Be responsible for all costs of chlorinating and flushing contaminated lines.

PART 2 - PRODUCTS

2.1 PIPE AND FITTING MATERIALS

A. Ductile Iron Pipe:

1. ANSI/AWWA C150/A21.50 and C151/A21.51.
2. Class: 52.

3. Cement Mortar Lining:
 - a. ANSI/AWWA C104/A21.4.
 - b. Standard thickness.
4. Joints:
 - a. ANSI A-21.50 and ANSI A-21.51.
 - b. Bell Tite, Tyton; or equal.
 - c. Mechanical joint.
 - d. Restrained: 6-inch through 24-inch:
 - 1) U.S. Pipe: TR Flex Restrained Joint; Field Lok gasket.
 - 2) American: Flex-Ring Restrained Joint; Fast Grip gasket.
 - 3) Clow: Super-Lock Restrained Joint.
 - 4) Griffin Pipe: Snap-Lok Restrained Joint.
 - 5) Mechanical joint restraint with Megalugs by Ebaa Iron Sales; Uniflanged Series 1400 by Frod Meter Box Co.; or equal.
 - e. Lubricant: Provide in accordance with manufacturer's recommendation.
5. Polyethylene Encasement:
 - a. 8 mils minimum thickness.
 - b. Tube type.
 - c. Flat tube width of 54 inches.

B. Fittings:

1. All fittings shall be restrained to pipe.
2. Ductile Iron Fittings:
 - a. 6-inch through 24-inch:
 - 1) ANSI/AWWA C153/A21.53, compact fittings.
 - 2) Manufacturer's restrained joints.
 - 3) 350 psi pressure rating.
 - 4) Lining:
 - a) Standard thickness, cement mortar lining in accordance with ANSI A 21.11.
 - b) Fusion bonded epoxy in accordance with AWWA C550, nominal 6 to 8 mils.
 - b. Joint Restraint for Ductile Iron Fittings to Ductile Iron Pipe:
 - 1) 6-inch through 24-inch Pipe:
 - a) Mechanical joints with Megalugs by Ebaa Iron Sales or Uniflange Series 1400 by Fort Meter Box Co.; or equal.
 - b) Push on joint with stainless steel gripper gasket.
 - c. Polyethylene Encasement:
 - 1) 8 mils minimum thickness.
 - 2) Tube type.
 - 3) Flat tube width of 54 inches.

C. Gaskets:

1. ANSI/AWWA C111/A21.11.
2. Styrene Butadiene (SBR).

2.2 MANUFACTURED UNITS

A. Valves:

1. 6-inch through 24-inch Valves:
 - a. Manufacturer: Clow; American Flow Control; U.S. Pipe; EJIW; or equal.
 - b. Resilient-Seated Gate Valves; ANSI/AWWA C509:
 - 1) Nonrising stem (NRS).
 - 2) Open left (counter clockwise).
 - 3) Mechanical joint end connections.
 - 4) Manufacturers:
 - a) US Pipe Metroseal R/S valve.
 - b) American Darling "CRS-80".
 - c) Mueller Resilient Seat Valve A-2370-20-modified, with stuffing box nuts and bolts, bonnet nuts and bolts, and cap nut to be AISI type 304 stainless steel.
2. Valve Boxes:
 - a. Manufacturers and Models: EJIW. 8560 Series with No. 160 base; Tyler Pipe, 6860 series with No. 160 base.
 - b. Valve box lid shall say "Water."

B. Hydrants:

1. Manufacturers and Models: East Jordan Iron Works, 5-BR250.
2. AWWA C502.
3. Bury Length: 5.0 feet.
4. Outlet Nozzles:
 - a. Hose:
 - 1) Number: 2.
 - 2) Diameter: 2-1/2 inches.
 - 3) Threads: NFPA.
 - b. Pumper:
 - 1) Number: 1.
 - 2) Lansing standard, Storz connection.
5. Main Valve: 5-1/4 inches in diameter.
6. Inlet Connection:
 - a. Side.
 - b. Diameter: 6 inches.
 - c. Mechanical joint.
 - d. Maximum of 18 inches from hydrant.
7. Operating Stem and Mechanism: Operating Nut: 1-1/8-inch pentagon.
8. O-ring packing.
 - a. Air-Gap Fitting: ASME A112.1.2, matching backflow-preventer connection

PART 3 - EXECUTION

3.1 EARTHWORK

- A. In accordance with Division 31 Section "Earthwork."

3.2 LINE AND GRADE

- A. Lay pipe to the grades and elevations indicated on the Drawings.
- B. Where no grades are indicated:
 - 1. Lay pipe with a minimum of 5 feet of cover below finish grade.
 - 2. Lay pipe at constant uphill and downhill grades to and from air release valves.
 - 3. Avoid high points except at air release valves.

3.3 INSTALLATION

- A. General:
 - 1. Except as herein provided or indicated on the Drawings, install in accordance with:
 - a. DI: AWWA C600.
 - 2. Protect materials before, during and after installation.
 - 3. Install pipe, fittings and appurtenances in accordance with manufacturer's recommendations except as indicated herein or on the Drawings.
 - 4. Prevent entrance of foreign materials.
 - 5. Restrain pipe, fittings, valves and couplings as required.
- B. Placement of Pipe:
 - 1. Bearing: Support entire length of pipe barrel evenly with extra excavation at joints.
 - 2. Bell and Spigot: Clean and lubricate immediately prior to assembly.
 - 3. Jointing:
 - a. Mechanical: Tighten evenly to 75 to 90-foot-pounds of torque.
 - b. Restrained: Manufacturer's recommended method.
 - 1) Mechanical Joint/Flanged Joint Connection: Tighten bolts evenly to 75 to 90-foot-pounds of torque on slip on ductile flanges.
 - 4. Cutting Pipe:
 - a. Power saw.
 - b. Ductile Iron Pipe: Taper cut end by grinding or filing back at least 1/8-inch on a 30 degree bevel.
- C. Setting Valves and Valve Boxes:
 - 1. Set plumb on 4 inches of compacted MDOT 902 Granular Material Class II, MDOT 902 Open Graded Aggregate 34R, or pea stone.
 - 2. Valve Boxes:
 - a. Shall not transmit shock to valve.
 - b. Plumb over operating nut.
 - c. Set cover to finished grade.
 - d. Witness.
 - 3. Pressure Tap Sleeve and Valve:
 - a. Set at the direction of tapping Subcontractor.
 - b. Set and remove tapping machine.

- D. Hydrants: Place “Out of Service” placards on pumper nozzle of all hydrants immediately after installation. Remove after water line is placed in service.
1. Under Each Hydrant:
 - a. Excavate ground to a depth of at least 1 foot below hydrant base and over an area of at least 3 feet square.
 - b. Fill excavation to the elevation of the hydrant base with well compacted pea gravel.
 2. Connect the hydrant to the main by using approved retainer glands and/or stainless steel clamps and stainless steel.
 3. After connection to the main an additional depth of pea gravel shall be placed a minimum of 6 inches above the drain hole and tamped around the hydrant. The remaining fill shall be placed and compacted, taking care to avoid jarring or shifting the hydrant.
 4. Location:
 - a. When Placed Behind the Curb:
 - 1) Barrel shall be set so that no portion of the pumper or hose nozzle cap will be closer than 3 feet from the curb face.
 - 2) Or less than 20 feet from the curb line intersection of any street.
 - 3) If between streets the hydrant shall be placed in the manner designated by the Engineer.
 - b. When set in lawn space between the curb and the sidewalk or between the sidewalk and the property line: No portion of the hydrant or nozzle cap shall be within one foot of the sidewalk.
 - c. Pumper Nozzle:
 - 1) 24 inches above finished grade.
 - 2) Extensions required to place hydrant at proper grade shall be considered included in the cost of the hydrant.
- E. Thrust Control:
1. Provide at all fittings.
 2. Installation:
 - a. In accordance with Shop Drawings reviewed by Engineer.
 - b. In accordance with manufacturer's instructions.
 - c. As indicated in Table 1 – Length of Restrained Pipe Required, located at end of this section.

3.4 TESTING AND DISINFECTION

- A. Observation: By Engineer.
- B. Notification:
1. Pressure Testing: Arrange with Engineer following successful pretesting.
 2. Bacteriological Testing: Arrange with Engineer following successful pressure test.
- C. Equipment and Manpower: Provide everything required for testing, disinfection and flushing.
- D. Water: To be provided by Owner.
- E. Disinfection:
1. In accordance with AWWA C651:
 - a. Sodium hypochlorite or calcium hypochlorite.
 - b. Continuous-feed method.
 - c. Simultaneously MSU will fill water main.

2. Alternate Procedure:
 - a. Place HTH chlorine tablets in each length of laid pipe.
 - b. Secure to the top of the pipe with permatex or approved equal mastic.
 - c. Minimum 50 parts per million chlorine residual solution when completely dissolved.
 - d. Fill pipe by MSU.
 - e. Chlorine solution to remain in place for 48 hours.
- F. Pressure and Leak Tests for DI Pipe:
 1. ANSI/AWWA C600, Section 4.
 2. Duration: 2 hours.
 3. Pressure:
 - a. Maintain 150 pounds per square inch at the average elevation in water main segment being tested.
 - b. Do not exceed the pipe's rated test pressure.
 4. Water:
 - a. To be provided by Owner.
 - b. Contractor shall be responsible for providing temporary connections from municipal water system to force main, or for hauling water.
 5. Make-Up Water: From measurable source.
 6. Maximum Allowable Leakage:
 - a. $L = SD(P).5/133,200 + 0.0078$ gal/hr/in of diameter for each closed valve tested against.
 - b. L = Leakage in gallons per hour.
 - c. S = Length of pipe tested in feet; maximum value 2,000. When length of pipe tested exceeds 2,000 feet, the allowable leakage will be based on 2,000 feet.
 - d. D = Pipe diameter in inches.
 - e. P = Test pressure: 150 pounds per square inch.
 7. Maximum Length of Pipe to be Tested: 2,000 feet, or nearest 2 valves if water on opposite side of valve is not in service.
 8. Perform test against tapped cap or plug with a standpipe and not against existing valve if water on opposite side of valve is in service.
 9. Repair leaks and repeat tests until acceptable results are achieved.
- G. Flushing:
 1. In accordance with AWWA C651.
 2. Water: MSU supplied.
 3. Velocity: Minimum 2-1/2 feet per second.
 4. Duration:
 - a. Initial: Until entire volume of water in pipeline has been replaced.
 - b. Final: Until residual chlorine equals that of adjoining system.
 5. Dispose of chlorine residual in accordance with applicable state and local requirements.
 6. Disposal location to be inspected by Engineer. If there is any questions that the discharge will harm the environment, apply a reducing agent to the water to neutralize the chlorine to a 1 ppm residual.

H. Bacteriological Testing:

1. Performed by MSU in accordance with AWWA 651.
2. Repeat flushing if first bacteriological test fails and retest.
3. Repeat disinfection if bacteriological test fails after second test.

I. Sequence:

1. Chlorinate.
2. Wait 48 hours.
3. Flush.
4. Pressure test.
5. Bacteriological sample.
6. Wait 24 hours.
7. Bacteriological sample.
8. Place in service if bacteriological test passes.

TABLE 1
LENGTH OF RESTRAINED PIPE REQUIRED

Pipe Diameter	22-1/2 Degree Bends and Less	45 Degree Bends	90 Degrees Bends, Plugs	Tee Run	Tee Branch
6-inch	5-foot	10-foot	20-foot	10-foot	10-foot
8-inch	5-foot	10-foot	25-foot	10-foot	20-foot
10-inch	5-foot	15-foot	35-foot	10-foot	25-foot
12-inch	10-foot	15-foot	40-foot	10-foot	30-foot
16-inch	10-foot	20-foot	50-foot	10-foot	40-foot

END OF SECTION 33 10 00

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SECTION 337000 – ELECTRICAL UTILITIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. Standards publications of technical organizations and regulatory agencies are referenced herein, and unless stricter requirements are indicated, materials and equipment so specified shall be manufactured, tested and installed to conform, as a minimum, to the requirements of such reference standards and publications.
- B. The following list of organizations (with their identifying initials) involved in electrical standards is not intended to be all inclusive:

American National Standards Institute	ANSI
American Society for Testing and Materials	ASTM
Association of Edison Illuminating Companies	AEIC
Certified Ballast Manufacturers Association	CBM
Illuminating Engineering Society	IES
Institute of Electrical and Electronics Engineers	IEEE
Insulated Cable Engineers Association	ICEA
International Municipal Signal Association	IMSA
Joint Industrial Council	JIC
National Electrical Manufacturers Association	NEMA
National Fire Protection Association	NFPA
Underwriters' Laboratories, Inc.	UL
Occupational Safety and Health Administration	OSHA
National Electrical Code	NEC

1.2 SUMMARY

- A. This section specifies requirements for furnishing and installing the electrical power. The work under this section includes furnishing all labor, material, tools, equipment and incidentals necessary to install the complete operational power and lighting as described herein, and as directed by the Engineer.
- B. The Contractor will be responsible for arranging and providing all electrical power to the temporary station, temporary parking lot, sidewalk lighting as required for this contract. The Contractor will pay all costs for such general services and any required temporary facilities, until the completion of construction.
- C. Electrical Services:
 - 1. The Contractor shall coordinate with Consumers Energy to provide for project site electrical services for temporary station power, temporary parking lot lighting, and sidewalk lighting and any related construction power requirements.
 - 2. The Contractor will coordinate the electric services work between Consumers Energy and Michigan State University (MSU). To assure electric service to existing facilities to remain is

not interrupted. The Contractor will have the responsibility to coordinate for all electrical work to be performed under this contract.

3. The Contractor must hold a kick off meeting between the two electrical utility owners (Consumers Energy and MSU) to clarify roles and who will be responsible for delivering what electric service.
4. If the Contractor requires electric power to perform work, they will coordinate with Consumers Energy to arrange and pay for the installation of such facilities to meet their needs. Using trades will furnish their own extension cords, lights, generators, pumps, or other items as required.
5. It is understood that when the electric power and lighting systems are used for construction purposes, the Contractor will (1) obtain the approval of the Engineer; (2) assume full responsibility for the power and lighting systems used and (3) pay all costs for restoring electrical facilities to existing condition upon completion of the work.
6. At the completion of the construction work all temporary wiring, lighting and other temporary electrical equipment and devices not associated with the temporary station or site lighting will be removed by the Contractor and those of his subcontractors. Any damage to existing facilities will be restored as required.
7. All parking lot and pedestrian sidewalk illumination must be 2 footcandle average maintained, with a 2.0 and 1.0 average to minimum ratio.
8. MSU will be responsible for providing continuity of power to the existing Amtrak Station Building located at the north perimeter of the site until such time it is ready for demolition.
9. Existing Amtrak platform lighting must remain in service at all times.
10. The Contractor will pay Consumers Energy for electric service directly, and then submit paid invoices from Consumers Energy for payment. No cost mark-ups of any kind will be added.

1.3 ACTION SUBMITTALS

- A. The Contractor is required to submit a lighting plan providing required illumination levels for the temporary parking lot, and sidewalk from the temporary station to the Amtrak Platform to the engineer for review and approval.
- B. Product Data: For each product indicated.

PART 2 PRODUCTS

A. Wiring

1. The Contractor must furnish and install aerial electric cable, including messenger wire of the sizes as described herein. The conductor size must be a Number 6 AWG minimum. The messenger wire must be steel and of adequate size to support the size of the electric cables from structure to structure under normal and adverse weather conditions.

2. The electric cables must be secured to the steel messenger wire with the binding strips continuous throughout each span of the cable and must be adequate strength to support the size of electric cables required for this project.
3. Cables
 - a. The conductors must be annealed copper wire complying with ASTM B3. The conductors must be stranded, complying with ASTM B3, CLASS B. The conductors must be insulated with cross linked-thermosetting polyethylene, Type XHHW insulation complying with ICEA S-524.
 - b. The insulation must be suitable for use in wet and dry locations, with a temperature rating of 90 degrees C (194 Degrees F) and it must be rated for 600 volts.

B. Utility Poles

1. Wood poles must be preservative treated wood poles, fabricated in conformance with the American National Standards Institute (ANSI) Standard Specification. ANSI Publication 05.1.
2. Poles must be in good condition and must be acceptable to the Engineer, and must be in conformance with the applicable ANSI requirements for sweep, crook, defects, and mechanical damage. Poles deem unacceptable must be removed from the site. Hardware must include cable hardware as well as pole hardware, including insulators

C. Lighting Luminaries

1. Each luminaire must be a metal halide fixture and provide with Type III medium cut off lighting distribution, and must be optically sealed, mechanically strong, and easy to maintain. The ballast compartment and socket must be mounted in the door of the luminaire. The reflector, mounting adjustments, wiring terminals, and ballast components must be readily accessible. When closed for operation, the optical assembly must be sealed against the entry to moisture, dirt, and insects.
2. Each luminaire must be bracket mounted near the top of the pole. Each luminaire must be provided with a leveling surface and a leveling device and must be capable of being tilted by plus or minus 30° and rotated to any degree with respect to the supporting bracket. Each luminaire must have a pipe arm barrier to limit the amount of inflection.
3. The luminaire must be furnished with a surge arrestor.
4. Each luminaire must have an integral ballast. The integral ballast must be a high power factor, linear, low reactor type. It must be designed to furnish proper electrical characteristics for starting and operating a Metal Halide lamp of the specific rating an ambient temperature of minus 30° C, to plus 40°C.
5. Each Fixture must be equipped with photo cell, a tool less lift, and a turn receptacle for dusk to dawn automatic on-off control.
6. All lamps must be protected from accidental contact or breakage by a suitable fixture or lamp holder, with a lamp guard or a vandal-resistant housing and lens.

D. Grounding

1. The equipment ground conductor must be distinct and separate from the system neutral ground conductor, and must not be used as a load carrying conductor.
2. Lighting fixtures must be securely connected to the equipment ground conductor.

E. Electrical Service Installation

1. The contractor is responsible for installing all electrical equipment as required by Consumers Energy to allow service connections to the temporary station and site lighting.
2. The contractor is responsible for coordinating with Consumers Energy to arrange an inspection to verify Consumers Energy's requirements are met prior to the installation of the electrical service connections.

PART 3 - EXECUTION

- A. Installation of electrical power and site lighting must be executed in accordance with the phasing for this contract.
- B. Receptacles must not be connected to the same circuits used for lighting.
- C. Provide ground fault protection for construction maintenance personnel.
- D. Wiring must be sized to limit voltage drop to acceptable values per NEC.

END OF SECTION 03 70 00



May 9, 2013

Ms. Debbie Alexander
Capital Area Transportation Authority
4615 Tranter Street
Lansing, MI 48910

RE: Asbestos and Hazardous Material Survey Report
Amtrak Station & Storage Building A
East Lansing Multi Modal Satation
East Lansing, Michigan

Dear Ms. Alexander:

DLZ Michigan, Inc. is pleased to present this Report of Asbestos and Hazardous Materials Survey for the above referenced site.

INTRODUCTION

DLZ was retained by Capital Area Transit Authority (CATA) to perform an asbestos and hazardous material survey at two of the four buildings at the East Lansing Multi Modal facility that are slated for demolition as part of the renovations occurring at the site. The Amtrak Station and Storage Building A were inspected on April 26, 2013. The Printing Shop and Surplus Storage Building were previously inspected for the owner of the property, Michigan State University (MSU). The results are contained in the April 23, 2008 Asbestos Building Inspection Report by Fibertec Industrial Hygiene Services, Inc. for the Stores Building #1, Building #161 (Printing Shop), and the October 17, 2006 Asbestos Inspection Report for the Surplus Building by Nova Environmental Inc .

PURPOSE

The structures located at the site are subject to the requirements of the federal National Emission Standard for Hazardous Air Pollutants (NESHAP) for asbestos regulations contained in the Code of Federal Regulations, Title 40, Part 61, Subpart M, (40 CFR 61, Subpart M). The NESHAP regulations require the Owner/Operator to use an accredited asbestos inspector to thoroughly inspect the affected facility, or part of the facility, where the demolition or renovation will occur for the presence of asbestos including Category I Non-Friable and Category II Non-Friable asbestos containing material. The Owner/Operator is then required to have all Regulated Asbestos Containing Materials (RACM) removed prior to any demolition activities that may result in the disturbance of these materials.

The purpose of this report is to document the location, quantity, and condition of the Asbestos Containing Materials (ACM) and to document any hazardous materials and/or universal waste identified



during the pre-demolition asbestos and hazardous materials survey so these materials can be properly handled and removed prior to and during the demolition.

METHODOLOGY

DLZ conducted the asbestos and hazardous materials survey on April 26, 2013, using State of Michigan Department of Consumer and Industry Services Accredited Asbestos Inspector. Mr. Dirk Anderson (State of Michigan Accreditation Number A11605, expiring June 27, 2013) performed the asbestos inspection and sample collection.

The inspection methodology included the following:

- Inspection of the building for potentially friable and non-friable ACM, delineation of the homogenous areas (materials which are uniform in color and texture), and the procurement of bulk samples from the suspect materials. Samples were collected from visible, suspect friable ACM and non-friable ACM. Based on the nature of the suspect material and its accessibility, some suspect friable ACM and non-friable ACM materials were presumed to be an asbestos containing material and were not sampled.
- Sample procurement was performed according to the standards of the Asbestos Hazard Emergency Response Act (AHERA) as set forth in 40 CFR 763, Subpart E and the NESHAP regulations contained in 40 CFR 61, Subpart M).
- The asbestos inspection notes, included in Attachment A, shows the sample identification number, sample location, sample description, and other comments regarding the suspect ACM bulk samples that were used to document the inspection process.
- The samples were submitted under proper Chain-of-Custody protocol to Fibertec Environmental Services in Holt, Michigan for asbestos analysis.
- Analysis of potential ACM containing bulk samples was performed by Fibertec Environmental Services a National Voluntary Laboratory Accreditation Program (NVLAP) approved laboratory with NVLAP Accreditation number 101510. Bulk sample analysis was conducted by the Polarized Light Microscopy (PLM) methodology in accordance with the U.S. EPA Method 600/R-93/116.
- If the PLM analysis reveals a marginal positive or negative result or the results are inconsistent with other samples within the same HA-group, the PLM results may be verified using an alternative method known as Point Counting. Point Counting is more accurate than PLM for determining the asbestos content of a material that is initially reported to contain a small percentage of asbestos fibers. This procedure allows the laboratory to more accurately determine



the amount of asbestos in a material by removing some of the non-asbestos components (i.e. binder, carbonate minerals, etc.) that can potentially interfere with the analysis of the material.

- The bulk sample results are compared to the NESHAP criteria as defined in 40 CFR 61, Subpart M. NESHAP defines an asbestos containing material as any material that contains greater than 1% asbestos.
- During the asbestos inspection, potential hazardous materials and universal waste were noted.

RESULTS

DLZ performed an AHERA inspection that resulted in the identification of 9 suspect asbestos containing homogeneous areas (HA-1 through HA-9) within the Amtrak building, and 17 samples were collected for laboratory analysis. The following 2 vinyl floor tile samples were positive for asbestos.

Sample	Homogeneous Area	Description	General Location of Sample Collection	Approximate Size	Asbestos	% Asbestos
ASB-2	HA-2	9"X9" Green with White Streak Vinyl Floor Tile	Amtrak Waiting Area	825 sqft	Chrysotile	3
		9"X9" Green Floor Tile Brown Mastic			NAD	
ASB-16	HA-8	9"X9" Gray, Gray with White & Gray Blotches Vinyl Floor Tile	Greyhound Office	400 sqft*	Chrysotile	3
		9"X9" Gray Floor Tile Brown Rubbery Mastic			NAD	

*Includes Gray floor tile in Amtrak Office and underneath carpet.

No suspect asbestos materials were identified in Storage Building A. Copies of the laboratory analytical data is enclosed in Attachment B.

UNIVERSAL WASTE AND ENVIRONMENTAL HAZARD IDENTIFICATION

In the course of the asbestos inspection, DLZ personnel were to identify and note any building contents or conditions, which may, in the professional opinion of the site inspectors, require special consideration or handling prior to, during, or after demolition of the building. The following items were observed:

- Mercury Switch Thermostats
 - 3rd east bay Storage Building A
 - Amtrak Building Shop



- Fluorescent lights
 - 2 in East Bays Storage Building A
 - 1 in Amtrak Building Shop possible PCB ballast
 - 3 in Amtrak Office possible PCB ballast
 - 1 Compact Fluorescent light Amtrak Building lean to
 - 1 Compact Fluorescent light Amtrak Building Shop
- Lead Based Paint (LBP) – Based on the age of the buildings, it will be assumed that any paint on the buildings contains lead. It is not anticipated that the presence of LBP will require special handling or disposal techniques. However, reasonable health and safety precautions must be implemented during any planned demolition activities to minimize dust generated that may contain LBP.

During the survey minor staining of the concrete floor was observed in several locations in Storage Building A. Also, the Amtrak Building Shop contained several containers of roofing material, premixed plaster, paint spray cans, various less than 1 gallon containers of miscellaneous liquids, and miscellaneous equipment. It is DLZ's understanding that MSU will empty the buildings prior to demolition activities.

RECOMMENDATIONS

Based on the results of the asbestos and hazardous materials survey, DLZ recommends the following:

- As required by NESHAP, 40 CFR 61, Subpart M, the Notice of Intent to Renovate/Demolish form must be submitted to the Michigan Department of Environmental Quality (MDEQ), 10 working days prior to the asbestos abatement and/or any demolition activities occurring at this site. The form must also be submitted to the Michigan Department of Labor and Economic Growth 10 working days prior to the commencement of the asbestos abatement.
- The drywall on the walls and ceilings, ceiling tiles, and flooring that are non-asbestos containing material does not require abatement before demolition of the building. However, dust control measures should be used during the demolition to minimize exposure of workers to particulates.
- The 9"X9" Green and 9"X9" Gray vinyl floor tile throughout the building contains **Chrysotile asbestos** and must be properly abated prior to any demolition activities at the site. The Gray vinyl floor tile extends beneath carpeted areas.
- The mercury thermostats, florescent light bulbs and ballasts require proper handling and disposal during demolition activities.



- The asbestos, and universal wastes identified during the inspection, and potential unknowns will be properly addressed in the bid specification package.
- Prior to building demolition, MSU removes all equipment, roofing supplies, premixed plaster, spray paint cans and other items in the Amtrak Building.
- Based on the age of the structure, it is likely that painted surfaces contain lead. Caution must be exercised during any planned demolition activities to minimize the amount of airborne dust created. This may include using water to control dust produced during demolition, and will be addressed in the specifications.

LIMITATIONS

The asbestos inspection included only the sampling and quantification of all visible suspect ACM. The asbestos inspection did not include the removal of any permanent structures (i.e. walls, floors, and ceilings) to identify potential hidden ACM. As a result, the potential exists for unforeseen additional quantities of ACM to be present in these structures due to these materials not being readily observable or accessible.

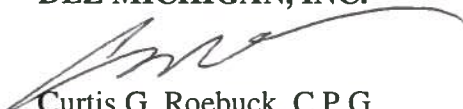
The results of this inspection are based on the condition of the building and potential ACM on the date of the inspection. Any change in these conditions may result in different recommendations.

DLZ appreciates this opportunity to provide environmental services to CATA and looks forward to developing the specifications.

If you have any questions, or require additional information, please contact our office.

Very truly yours,

DLZ MICHIGAN, INC.



Curtis G. Roebuck, C.P.G
Environmental Department Manager

CGR/DA

Attachments

\\lan1\proj\PROJ\1341\6517 CATA Multi Modal Facility\Enviro\Asbestos Inspection\CATA ELMMF ACM Report.docx

PHOTOGRAPH LOG

Amtrak Station & Storage Building A - Photograph Log

ACM Investigation & Hazardous Materials Survey



Photograph No. 1
HA-2 Amtrak Building Waiting Area 9"X9" Green Floor Tile 3% Chrysotile asbestos



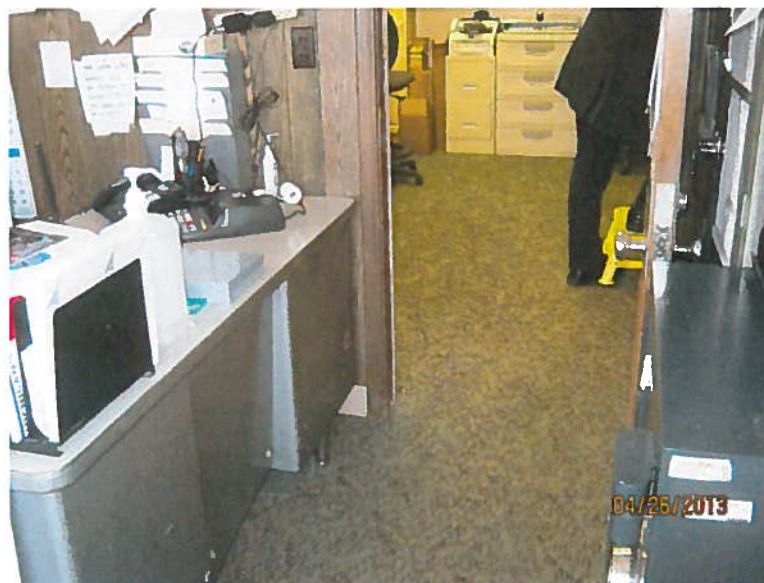
Photograph No. 2
HA-8 Amtrak Building Greyhound Office 9"X9" Gray Floor Tile 3% Chrysotile asbestos

Amtrak Station & Storage Building A - Photograph Log

ACM Investigation & Hazardous Materials Survey



Photograph No. 3
9"X9" Green Floor Tile



Photograph No. 4
9"X9" Gray Floor Tile Underneath Carpet

Amtrak Station & Storage Building A - Photograph Log

ACM Investigation & Hazardous Materials Survey



Photograph No. 5
Mercury Thermostat Amtrak Building Shop



Photograph No. 6
Mercury Thermostat Storage Building A 3rd East Bay and Floor Staining

Amtrak Station & Storage Building A - Photograph Log

ACM Investigation & Hazardous Materials Survey



Photograph No. 7
Amtrak shop area



Photograph No. 8
Miscellaneous containers Amtrak shop/storage area

Amtrak Station & Storage Building A - Photograph Log

ACM Investigation & Hazardous Materials Survey



Photograph No. 9
Fluorescent Light Amtrak Station



Photograph No. 10
Compact Fluorescent Light Bulbs Storage Building A

ATTACHMENT A

CLIENT CATA
PROJECT Amtrak + Storage Bldg
SUBJECT Asm survey

PROJECT NO. _____
SHEET NO. 1 OF _____
COMP. BY DDA DATE 4-26-13
CHECKED BY _____ DATE _____

Lean to & concrete floor, wood truss roof w/ shingles north
wall concrete other 3 wood stud
Included: Light 1 CFL Bulb no Heat, various maint
Chemical to be moved when bldg cleaned out
Door closed + locked

Storage BARN concrete floor, concrete walls wood wall
on EAST + west conc. N+S

Shop AREA 1-mercury switch, thermostat, 1 CFL Bulb 1-Flou
rescent lamp POSSIBLE PCB BATTERY, many Roofing chemicals
in Shop should be moved when before Demo

Amtrak Bldg

Entry way - Dot Dot worm pattern 2x4 15x8, Dry wall walls

ASB-1- 12X12 ^{VFT} TAN Brown + white blotches

ASB-2 9x9 VFT GREEN w white streaks 26X28 + 5X5 +
5X8 + 4X8

ASB-3- 9x9 GRAY w/ white DARK gray blotches 2X3, 2X3 Rear
Exit

ASB-4- DCT 2X4 Dot worm pattern same AS ASB-2 quantity
- 28X32 AREA for lights working AREA

men's + women's Bathroom - ceramic tile on floor, Dry wall walls
Fiberglass Det 2X4

Entry way Dry wall 15 9X16

514-525-23184

CLIENT CAYA
 PROJECT Bldg Demo
 SUBJECT Acu Survey Amtrak Bldg

 PROJECT NO. _____
 SHEET NO. 2 OF _____
 COMP. BY ADCA DATE 4-26-13
 CHECKED BY _____ DATE _____

Waiting area

9x9 Green VFT 9x9" GRAY VFT,
 ASB-5 drywall 10x10 + 10x5 + 10x33 16x20 10x16 9x18' in Rest
 EXIT ABOVE ceiling at men's Bathroom

ASB-6 plaster ABOVE ceiling in Rest/EXIT

ASB-7 Plaster ABOVE ceiling at women's Restroom

ASB-8 Plaster at N-E corner ABOVE ceiling

ASB-9 DCT 2'x4' Dot worn pattern N-E corner of waiting AREA

ASB-10 Dct 2'x4' Dot worn pattern ADJ women's Bathroom

ASB-11 Drywall at women's Bathroom above the Drop ceiling

ASB-12 Drywall ceiling tiles women Bathroom

ASB-13 Drywall ceiling tiles women's Bathroom 7x10

ASB-14 Drywall ceiling tiles men's Bathroom 10x12

ASB-15 Drywall in men's Bathroom ABOVE ceiling
 in Back entry 14x8' 7x8'

ASB-16 9x9" VFT GRAY / GRAY w/ white + GRAY blotches
 GREY Hallway office

ASB-17 12x12" VFT GRAY in GRAY + white blotches
 7x14' Entry way at back EXIT

GREY Hallway office

9x9 VFT GRAY 11.5x10 plaster 11.5x10
 Drywall 10x10 10x7 10x7

CLIENT CATA
PROJECT CATA Amtrak bldg
SUBJECT ACM survey

PROJECT NO. _____
SHEET NO. 3 OF _____
COMP. BY DDA DATE 4-26-13
CHECKED BY _____ DATE _____

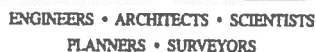
Amtrak Office

9x9" VFT GRAY SAME AS GREY Hound office 10'x12'
Paneling on walls Dry wall behind 10x8 10x8 10x6, 10x10
Plaster Ceiling 10x12
Fluorescent Lights POSSIBLE PER BATHST
NO Thermostat

ticket office Amtrak

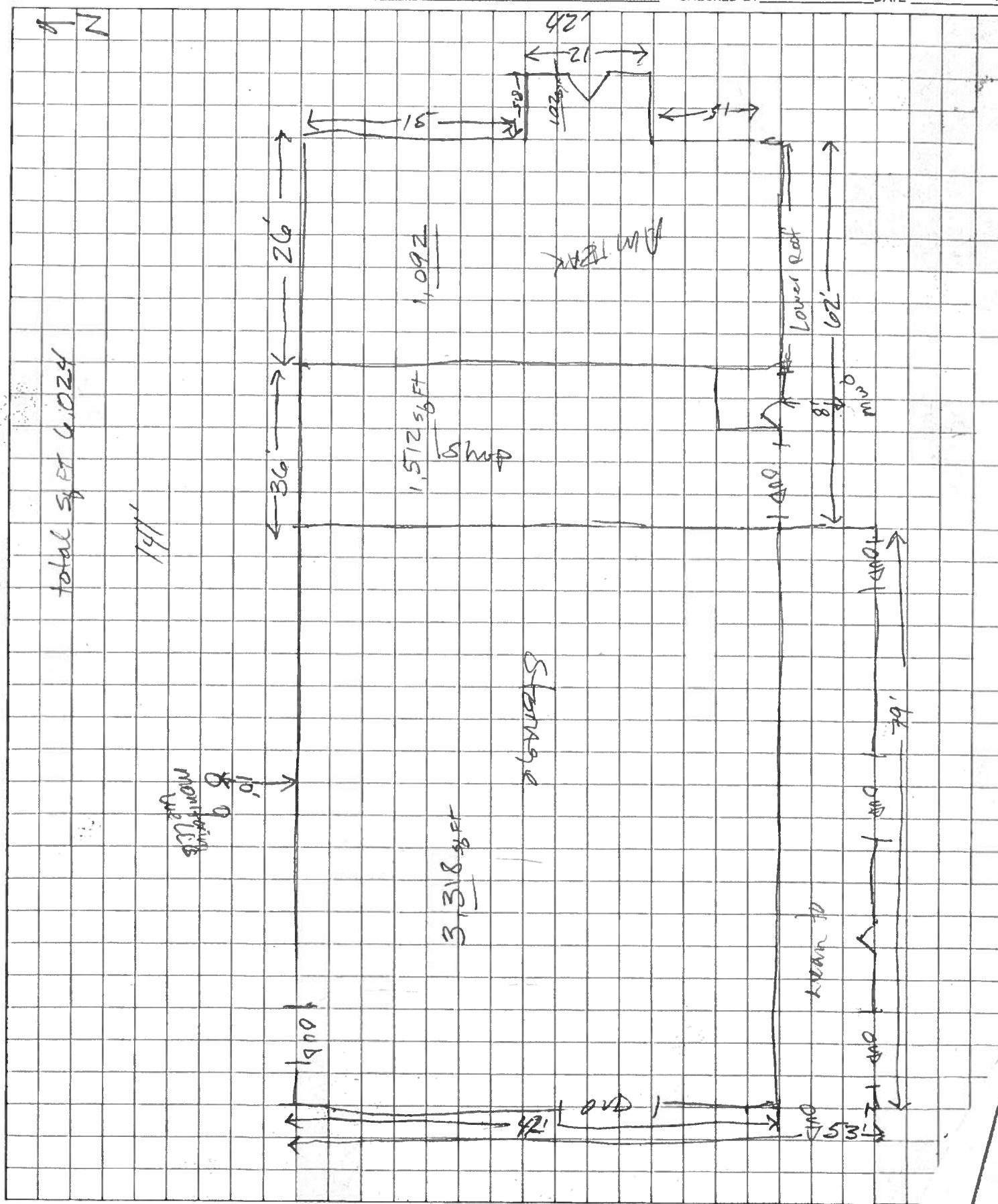
Plaster Ceiling 10x15
Paneling w/ possible Dry wall behind 12x10 10x10 10x7 3x10
Floor tile VFT 9x9 GRAY 10x15 SAME AS greyhound office
NO Thermostat

Unable to Access janitors closet



CLIENT CASA
PROJECT AMTRAK bldg
SUBJECT ACM survey

PROJECT NO. _____
SHEET NO. 4 OF _____
COMP. BY DPLA DATE 4-26-13
CHECKED BY _____ DATE _____





ENGINEERS • ARCHITECTS • SCIENTISTS
PLANNERS • SURVEYORS

CLIENT MSU - CATA

PROJECT Storage bldg "A"

SUBJECT Asbestos Survey

PROJECT NO. _____

SHEET NO. 5 OF _____

COMP. BY DCA DATE 4-26-12

CHECKED BY _____ DATE _____

Concrete block Bldg, concrete floor, with

no heat EAST 2 bays - 2 fluorescent fixtures
No possible NO PCB BALLAST + green bulbs 1 low-mercury
Light staining on concrete floors (locked door only)
no paint

3rd EAST BAY 1 mercury thermostat, staining on
concrete floor N-W corner from main door to north
partial wall 2 incandescent lights + bulbs no paint

main door to Rear storage AREA no heat, incandescent
lights + bulbs concrete floor block walls no paint
5 empty steel tanks 1st off door locked

Locker #1 Block wall conc. floor, small oil stain
NO paint or heat incandescent lights + bulbs

Locker #2 Locked

Locker #3 Block walls ^{have} conc floor, no paint no heat

Locker #4 Block walls have conc floor no paint no heat
incandescent light + bulb closed but no lock for door
EARLIER TRUCK came + removed 4x8 pallet truck (etc)
1 Floor drain

Exterior paint assumed to be lead based on age
of bldg.



PROJECT

SUBJECT Acn Survey

Drawing Storage 'A'

PROJECT NO.

SHEET NO.

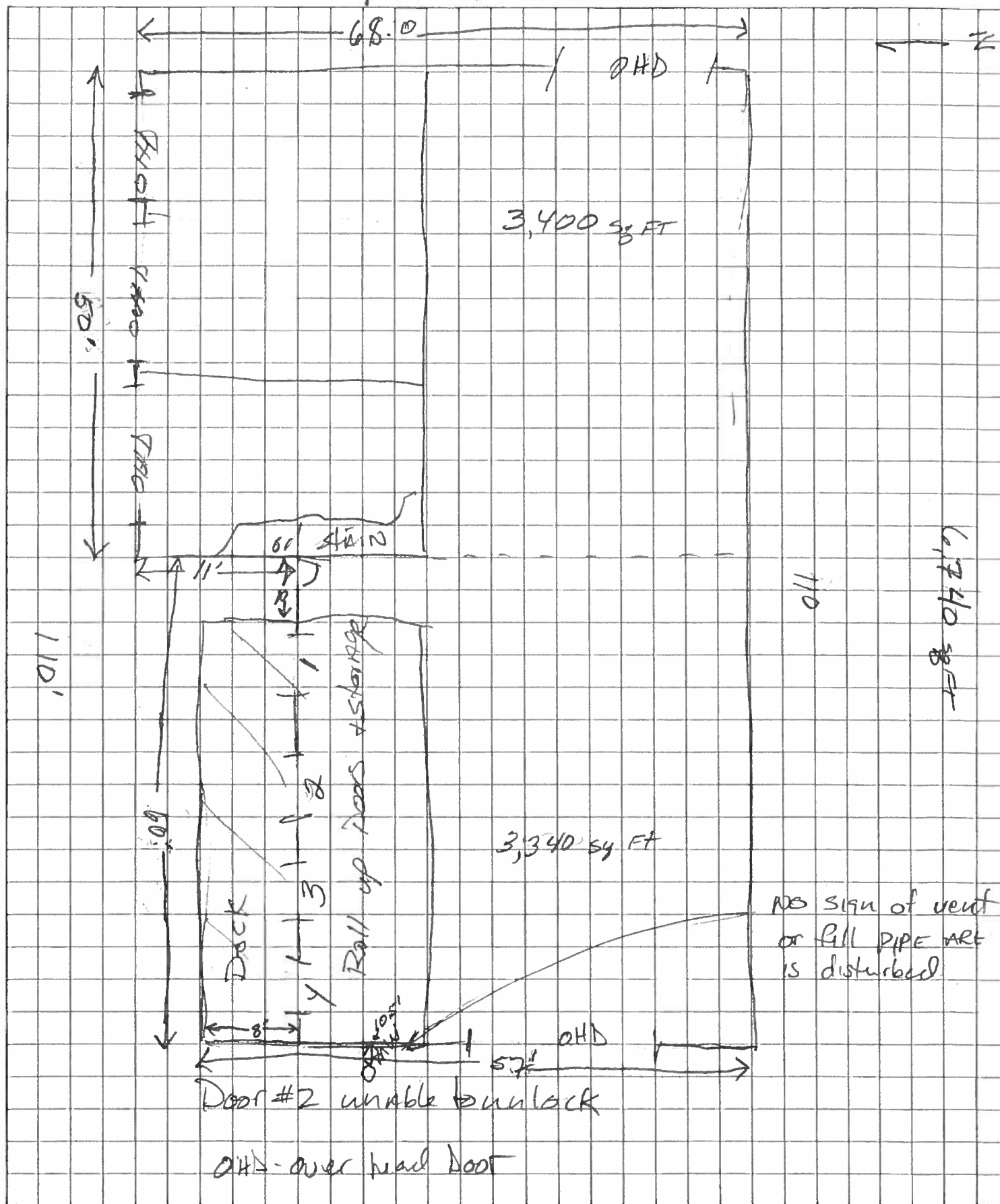
OF

COMP. BY

DATE 4-26-72

CHECKED BY

DATE _____



ATTACHMENT B

BULK SAMPLE ANALYTICAL REPORT

Fibertec IHS Project #33314-1
NVLAP Accreditation #101510-0

Client Name: DLZ MI
Project Name: CATA, Amtrak Building
Summary: 17 Submitted Bulk Samples, 30 Sample Layers Analyzed.

Date Sampled: 4/26/2013
Date Submitted: 4/16/2013
Date Analyzed: 5/2/13, 5/3/13

Client P.O. #: N/A
C.O.C. #: 92332, 92333

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos Containing Portion	Analyst
1-1	1-1	Tan tabular material, tan 12" x 12" vinyl floor tile, front entry.	NAD	Non-fibrous material 98% Cellulose fibers 2%	JAW
2-1	2-1	Green tabular material, green 9" x 9" vinyl floor tile, waiting area. Layer 1 of 2.	Chrysotile 3%	Non-fibrous material 93% Cellulose fibers 4%	JAW
2-1	2-1	Brown rubbery material, green 9" x 9" vinyl floor tile mastic, waiting area. Layer 2 of 2.	NAD	Non-fibrous material 92% Cellulose fibers 8%	JAW
3-1	3-1	White tabular material, green 9" x 9" vinyl floor tile, waiting area. Layer 1 of 2.	NAD	Non-fibrous material 98% Cellulose fibers 2%	JAW
3-1	3-1	Brown rubbery material, green 9" x 9" vinyl floor tile mastic, waiting area. Layer 2 of 2.	NAD	Non-fibrous material 96% Cellulose fibers 4%	JAW
4-1	4-1	White fibrous material, 2' x 4' drop ceiling tile, waiting area.	NAD	Non-fibrous material 50% Cellulose fibers 30% Fibrous glass 20%	JAW
5-1	5-1	White tabular material, drywall, waiting area. Layer 1 of 2.	NAD	Non-fibrous material 92% Cellulose fibers 8%	JAW

BULK SAMPLE ANALYTICAL REPORT

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Client P.O. #: N/A
C.O.C. #: 92332, 92333

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos-Containing Portion	Analyst
5-1	5-1	Brown fibrous material, drywall, waiting area. Layer 2 of 2.	NAD	Cellulose fibers 93% Non-fibrous material 7%	JAW
6-1	6-1	White tabular material, plaster, Men's Restroom. Layer 1 of 2.	NAD	Non-fibrous material >99% Cellulose fibers <1%	JAW
6-1	6-1	Gray cementitious material, plaster, Men's Restroom. Layer 2 of 2.	NAD	Non-fibrous material >99% Cellulose fibers <1%	JAW
7-1	7-1	White tabular material, plaster, waiting area. Layer 1 of 2.	NAD	Non-fibrous material >99% Cellulose fibers <1%	JAW
7-1	7-1	Gray cementitious material, plaster, waiting area. Layer 2 of 2.	NAD	Non-fibrous material >99% Cellulose fibers <1%	JAW
8-1	8-1	White tabular material, plaster, northeast waiting area. Layer 1 of 2.	NAD	Non-fibrous material >99% Cellulose fibers <1%	JAW
8-1	8-1	Gray cementitious material, plaster, northeast waiting area. Layer 2 of 2.	NAD	Non-fibrous material >99% Cellulose fibers <1%	JAW

BULK SAMPLE ANALYTICAL REPORT

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Client P.O. #: N/A
C.O.C. #: 92332, 92333

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos-Containing Portion	Analyst
9-1	9-1	White fibrous material, 2' x 4' drop ceiling tile, waiting area.	NAD	Non-fibrous material 40% Cellulose fibers 40% Fibrous glass 20%	JAW
10-1	10-1	White fibrous material, 2' x 4' drop ceiling tile, Women's Restroom.	NAD	Non-fibrous material 55% Cellulose fibers 30% Fibrous glass 15%	JAW
11-1	11-1	White tabular material, drywall, above Women's Restroom Layer 1 of 2.	NAD	Non-fibrous material 93% Cellulose fibers 7%	JAW
11-1	11-1	Brown fibrous material, drywall, above Women's Restroom Layer 2 of 2.	NAD	Cellulose fibers 90% Non-fibrous material 10%	JAW
12-1	12-1	White tabular material, drywall ceiling tile, Women's Restroom. Layer 1 of 2.	NAD	Non-fibrous material 90% Cellulose fibers 10%	JAW
12-1	12-1	Brown fibrous material, drywall ceiling tile, Women's Restroom. Layer 2 of 2.	NAD	Cellulose fibers 86% Non-fibrous material 14%	JAW
13-1	13-1	White tabular material, drywall ceiling tile, Women's Restroom. Layer 1 of 2.	NAD	Non-fibrous material 92% Cellulose fibers 8%	JAW

BULK SAMPLE ANALYTICAL REPORT

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Client P.O. #: N/A
C.O.C. #: 92332, 92333

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos-Containing Portion	Analyst
13-1	13-1	Brown fibrous material, drywall ceiling tile, Women's Restroom. Layer 2 of 2.	NAD	Cellulose fibers 80% Non-fibrous material 20%	JAW
14-1	14-1	White tabular material, drywall ceiling tile, Men's Restroom. Layer 1 of 2.	NAD	Non-fibrous material 88% Cellulose fibers 12%	JAW
14-1	14-1	Brown fibrous material, drywall ceiling tile, Men's Restroom. Layer 2 of 2.	NAD	Cellulose fibers 93% Non-fibrous material 7%	JAW
15-1	15-1	White tabular material, drywall, Men's Restroom. Layer 1 of 2.	NAD	Non-fibrous material 95% Cellulose fibers 5%	JAW
15-1	15-1	Brown fibrous material, drywall, Men's Restroom. Layer 2 of 2.	NAD	Cellulose fibers 88% Non-fibrous material 12%	JAW
16-1	16-1	Gray tabular material, gray 9" x 9" vinyl floor tile, Office. Layer 1 of 2.	Chrysotile 3%	Non-fibrous material 95% Cellulose fibers 2%	JAW
16-1	16-1	Brown rubbery material, gray 9" x 9" vinyl floor tile mastic, Office. Layer 2 of 2.	NAD	Non-fibrous material 96% Cellulose fibers 4%	JAW

BULK SAMPLE ANALYTICAL REPORT

Fibertec IHS Project #33314-1
NVLAP Accreditation #101510-0

Client Name: DLZ MI
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Date Analyzed: 5/2/13, 5/3/13

Client P.O. #: N/A
C.O.C. #: 92332, 92333

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos-Containing Portion	Analyst
17-1	17-1	Gray tabular material, gray 9" x 9" vinyl floor tile, rear entry. Layer 1 of 2.	NAD	Non-fibrous material 97% Cellulose fibers 3%	JAW
17-1	17-1	Brown rubbery material, gray 9" x 9" vinyl floor tile mastic, rear entry. Layer 2 of 2.	NAD	Non-fibrous material 92% Cellulose fibers 8%	JAW

Comments

Bulk samples are analyzed using the USEPA Test Method EPA/600/R-93/116. The constituent percent reported represents an estimate of the area percent of the component. The test report relates only to items tested. This report is not intended to be used as a product endorsement by NVLAP or any agency of the U.S. Government. Fine fibers like those in floor tile may not be discernible by this method. This report shall not be reproduced, except in full, without the written approval of the laboratory. Individual sample layers are homogeneous, unless otherwise noted. Test items were received in acceptable condition. Revision 4.0 dated 12/8/2010.

If no asbestos was/were detected in the sample/samples the acronym NAD (no asbestos detected) will appear in the Asbestos Type column of the report.



Approved Signatory: _____

Date: 5/3/2013

Analytical Laboratory

1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@labseries.us

Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0382
email: asbestos@ihservec.us

Geoprobe

**11766 E. Grand River
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311**

Chain of Custody

92333
PAGE 2 of 2

[illegible]

TERMS & CONDITIONS ON BACK

COC Revision: April, 2006

ASBESTOS BUILDING INSPECTION REPORT

for

Michigan State University
Office of Environmental Health and Safety
East Lansing, Michigan 48824-1101

at

Michigan State University
Stores Building Number 1
Building #161
East Lansing, Michigan 48824

Investigation conducted by

Fibertec Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, Michigan 48842

Project #25229-1

Project Date: April 23-24, 2008

Final Report Date: May 2, 2008

Contents

Introduction

Certification

General Inspection Procedures

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Bulk Sample Results

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Summary of Asbestos Containing Materials

Conclusion

Recommendations

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B. Fibertec IHS NVLAP Certification

C. Bulk Sample Log

D. Bulk Sample Analytical Report

E. Room by Room Asbestos Building Inspection Forms

F. Floor Plan Drawing with Sample Locations

G. Photograph Log

H. Significantly Damaged ACM

ASBESTOS BUILDING INSPECTION REPORT

for
Michigan State University
Stores Building #1
Project #25229-1

INTRODUCTION

Fibertec Industrial Hygiene Services, Inc. (Fibertec IHS) was retained by Michigan State University to perform an inspection for asbestos containing materials at Michigan State University, Stores Building #1, East Lansing, Michigan. The project was discussed with Mr. Zach Hansmann of the Michigan State University Office of Environmental Health and Safety prior to beginning the fieldwork. The inspection was designed to identify asbestos-containing materials within the building. The inspection was conducted pursuant to the inspection requirements of the Occupational Safety and Health Administration (OSHA), General Industry Standard for Asbestos, 29 CFR 1910.1001 and the Environmental Protection Agency (EPA) Asbestos Sampling Bulletin, dated September 30, 1994.

The asbestos building inspection took place on April 23-24, 2008. During the inspection, bulk samples of suspect asbestos-containing material (ACM) were collected. Collected asbestos bulk samples were submitted to the Fibertec IHS Polarized Light Microscopy (PLM) laboratory for analysis using EPA Method EPA/600/R-93/116.

CERTIFICATION

Mr. John Luna, a State of Michigan accredited asbestos building inspector, conducted the building inspection. Mr. Luna also maintains accreditation as an Asbestos Contractor/Supervisor. A copy of his asbestos inspector credential appears in Appendix A.

Trained polarized light microscopists analyzed all bulk asbestos samples in the Fibertec IHS Polarized Light Microscopy (PLM) laboratory. This laboratory maintains current National Voluntary Laboratory Accreditation Program (NVLAP) accreditation (Lab Code 101510-0). A copy of the Fibertec IHS NVLAP accreditation certificate appears in Appendix B.

GENERAL INSPECTION PROCEDURES

In an effort to identify asbestos-containing material (ACM) in all areas of the building, an extensive inspection procedure was followed. A visual inspection of all rooms in the Stores Building #1 was combined with the collection of an appropriate number and distribution of bulk samples. The following areas were not accessible during the inspection: Room 111K, 111R and the roof.

Determination of suspect asbestos-containing material was based on visual examination, bulk sample analysis, material age and professional experience. Specifically, materials similar in color and texture were classified into homogenous areas (*e.g.*, smooth plaster over drywall). An appropriate number and distribution of samples were collected from material in each homogenous area. All samples were analyzed by polarized light microscopy. When the results of analysis of all samples from a homogenous area indicate no asbestos present (less than or equal to one percent) the homogenous area is considered to be a non-asbestos containing material. When the results of analysis indicate asbestos present (in a quantity greater than one percent) in just one sample of those collected from a single homogenous area, the material in the entire homogenous area must be considered asbestos containing.

Destructive testing (*i.e.*, demolition) was not conducted as part of this asbestos building inspection. As such, quantities of ACM believed to exist in inaccessible areas (like pipe joint and hanger insulation in wall cavities) have not been accounted for in this inspection. Additionally, some asbestos-containing material hidden from view may be present and may not have been accounted for as part of this inspection (*e.g.* floor leveling compound beneath floor tile, vermiculite in cinder block walls).

RESULTS OF VISUAL INSPECTION

Based on the inspection, 24 distinct suspect asbestos-containing materials were identified in the inspection of the Stores Building #1, East Lansing, Michigan. Some suspect asbestos-containing materials were sampled a number of times in different locations, smooth plaster over drywall, being an example. All suspect asbestos-containing materials observed at the time of the inspection are listed in the Room by Room Asbestos Building Inspection Forms. Information from lab analysis of collected samples is incorporated into the Room by Room Asbestos Building Inspection Forms to facilitate interpretation of the data.

BULK SAMPLE RESULTS

The information gathered from the inspection is included in Appendices C (Bulk Sample Log), D (Bulk Sample Analytical Report), E (Room by Room Asbestos Building Inspection Forms), F (Floor Plan Drawing with Sample Locations), G (Photograph Log) and H (Significantly Damaged ACM). The lab analysis reports give a description of each sample, location where each sample was collected, and the results of analysis.

SUMMARY OF ASBESTOS-CONTAINING MATERIALS

The following material was found to contain asbestos at the Stores Building #1:

- 9" x 9" gray floor tile with white and black streaks and associated mastic
- 9" x 9" tan floor tile with cream and rust streaks
- 12" x 12" tan floor tile with rust streaks
- Window glazing compound
- Brown ventilation duct caulk compound
- Domestic water supply pipe joint insulation on fiberglass pipe straight insulation
- Glue pods associated with 12" x 12" white ceiling tile with uniform holes

The following materials were assumed to contain asbestos at the Stores Building #1:

- Fire door and frame
- Roofing materials and products
- Window and door frame caulk compound
- Flat transite panels
- Corrugated transite panels

The following materials were found not to contain asbestos at the Stores Building #1:

- Mastic associated with 9" x 9" tan floor tile mastic
- Mastic associated with 12" x 12" tan floor tile mastic
- 2' x 2' white lay-in ceiling tile with pin holes
- 2' x 4' white lay-in ceiling tile with pin holes and fissures
- 12" x 12" white spline ceiling tile with fissures
- 12" x 12" white ceiling tile with pin holes and fissures and associated glue pods
- 4" dark brown cove molding and associated mastic
- 4" black cove molding and associated mastic
- 3" black cove molding
- Fire rated drywall panels
- Smooth plaster over drywall
- Ceiling tectum board
- Ceiling fiberboard
- Gray building caulk compound
- 12" x 12" white ceiling tile with uniform holes (NOTE: glue pods associated with these tile are ACM)

CONCLUSION

Undamaged, non-friable (cannot be crumbled, pulverized or reduced to powder by hand pressure when dry) known or assumed asbestos-containing materials (e.g., fire doors, floor tile mastic) and damaged and undamaged friable (can be crumbled, pulverized or reduced to powder by hand pressure when dry) known or assumed asbestos-containing materials (e.g., pipe joint insulation) were identified at the Stores Building #1. No significantly damaged ACM were observed during the course of this inspection. However, approximately 3 s.f. of 9" x 9" VAT in the Mechanical Room 111JA, appear to be delaminating from the floor.

RECOMMENDATIONS

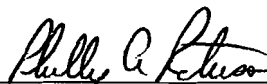
Based on the information collected during this asbestos building inspection, the following recommendations are offered. These recommendations are based on plans to maintain the building in its current configuration and use and may have to be adjusted if change of ownership, emergency, or other factors alter the condition, use or planned use of the building.

Perform the following in this case:

1. Notify the owner, building maintenance staff, and contractors of the presence of ACM within the building. Ensure that contractors who work in the vicinity of or who may encounter asbestos-containing materials during the course of their work have successfully completed appropriate training. Ensure that contractors who work in the vicinity of or who may disturb asbestos-containing materials do so pursuant to the requirements of the Asbestos in Construction Standard, 29 CFR 1926.1101.
2. Provide two-hour asbestos hazard awareness training including specific information regarding the quantity, condition and location of ACM for those individuals in the building who may encounter asbestos during the course of their work. Ensure that contractors performing work in or on the building have equivalent training (at a minimum) and provide appropriate documentation of said training.
3. Label ACM in routine maintenance areas, Mechanical Rooms and Custodial Closets, as required by 29 CFR 1910.1200(7)(vii).
4. Plan for the proper removal of any ACM that might be impacted by renovation or demolition prior to any renovation or demolition.
5. Approximately 3 s.f. of 9" x 9" vinyl asbestos floor tile in the Mechanical Room 111JA that have become delaminated, should be either disposed of properly by trained personnel or re-glued to the concrete floor.



John Luna
Michigan Accredited Asbestos Inspector #A4665



Phillip A. Peterson
Vice President

Appendix A

Asbestos Inspector Credential

State of Michigan
 Department of Environment & Natural Resources
 Michigan Department of Environment & Natural Resources
 Michigan Department of Environment & Natural Resources

Asbestos Inspector

John D. Luna
 c/o Fibertec Industrial Hygiene
 1914 Holloway Drive
 Holt, MI 48842

Accreditation Number: **AS65**
 Expiration Date: **05/07/2008**
 DOB: **05/25/1957**

This individual has successfully met or exceeded the requirements of Michigan Public Act 440 of 1988, as amended, to be accredited as a 10 asbestos inspector.

Accreditation card is not valid if altered. **70215**

John D. Luna

Cardholder's signature

Your accreditation card is valid for a period of one year, as indicated by the expiration date on the card. Your card must be present on any project site where you are conducting asbestos-related work. If a replacement card is needed, the replacement fee will be \$25.00.

All questions regarding your accreditation should be directed to 517.322.5806.

Please visit our website at: www.michigan.gov/asbestos



Information contained in the bar code is limited to ID# and control#

MIOSHA-CSH-269 (12/03)

Authority: Michigan Public Act 440 of 1988, as amended

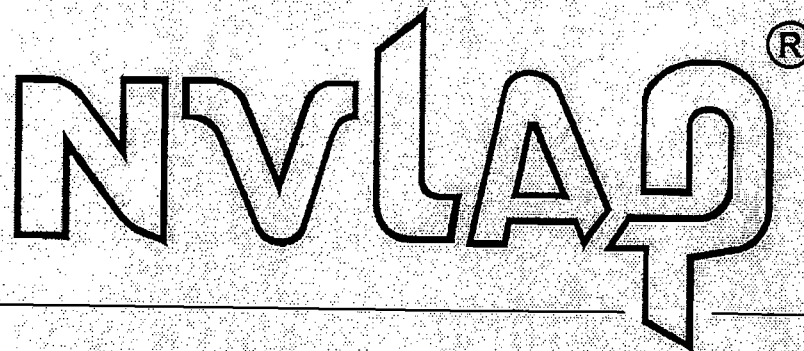
If found please return to:
 MOLEG - CSHD - Asbestos Program
 7150 Harris Drive
 P.O. Box 30671
 Lansing, MI 48909-8171

18000

Appendix B

Fibertec IHS NVLAP Certification

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101510-0

Fibertec Industrial Hygiene Services, Inc.
Holt, MI

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

BULK ASBESTOS FIBER ANALYSIS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated 18 June 2005).*

2008-01-01 through 2008-12-31

Effective dates



Sally S. Bruce
For the National Institute of Standards and Technology

Appendix C
Bulk Sample Log

Bulk Sample Log

Explanation Page

HA – Homogenous Area is a material like in color and texture. (e.g., tan, fluffy, spray-applied structural fireproofing). Homogenous areas are given a unique number (e.g. HA #1) which represents a single suspect asbestos-containing material.

Total Footage – The quantity of asbestos-containing material estimated to be present in the structure(s). Quantities are reported in square feet (s.f.), linear feet (l.f.), or count (ct.) – the actual number counted.

Material Type – Materials were classified as one of three types: 1) Surfacing Material (SM) represents material spray or trowel applied to a surface (e.g., plaster or structural fireproofing), 2) Thermal System Insulation (TSI) keeps heat in a system or prevents condensation (e.g., hot water tank or pipe insulation), or 3) Miscellaneous Material (MM) represents material not in the previous two categories. Examples include drywall, floor tile, ceiling tile and mastic.

Material Condition – Material condition is classified into one of three categories: 1) Undamaged material (U) has no damage, 2) Damaged material (D) has >0-10% damage or less than 25% damage locally, or 3) Significantly damaged material (SD) has more than 10% damage overall or >25% damage locally.

F/NF – Friable (F) material can be crumbled or pulverized by hand pressure when dry. Non-friable (NF) material cannot be crumbled or pulverized by hand pressure when dry.

N/A – Not analyzed

BULK SAMPLE LOG

Fibertec IHS Project #25229-1

DATE: 4/23/2008

BUILDING: MSU, Stores Building No. 1

INSPECTOR: John Luna

HA #	TOTAL FOOTAGE	MATERIAL TYPE	MATERIAL CONDITION	F/NF	MATERIAL ACM (Y/N)	ASBESTOS DETECTED* (Y/N)	SAMPLE #	SAMPLE LOCATION
1	4,136 s.f.	MM	U	NF	Y	Y	1	Beneath sink in Room 112C (Women's Restroom).
						N/A	2	Room 111 JA, south center beneath toilet.
HA DESCRIPTION: 9" x 9" gray floor tile with white and black streaks and associated mastic.					NOTES: Mastic is also asbestos containing			
2	150 s.f.	MM	U	F	Y	Y	3	Room 111J, 5' west of center of east wall.
						N/A	4	Room 111JA, at entrance.
HA DESCRIPTION: 9" x 9" tan floor tile with cream and rust streaks and associated mastic.					NOTES: Mastic is non asbestos containing			
3	538 s.f.	MM	U	NF	Y	Y	5	Room 111C, west side of northeast entrance.
						N/A	6	Room 111C, west side of south entrance.
HA DESCRIPTION: 12" x 12" tan floor tile with rust streaks and associated mastic.					NOTES: Mastic is non asbestos containing			
4	5,041 s.f.	MM	U	F	N	N	7	Room 112, southeast corner near Reception Area.
						N	8	Room 112B, above entrance.
HA DESCRIPTION: 2' x 2' white lay-in ceiling tile with pin holes and fissures.					NOTES:			
5	4,585 s.f.	MM	U	F	N	N	9	Room 111T, 16' south of north wall and 6' west of east wall.
						N	10	Room 111S, northwest corner.
HA DESCRIPTION: 2' x 4' white lay-in ceiling tile with pin holes and fissures.					NOTES:			
6	733 s.f.	MM	U	F	N	N	11	Room 112C, Women's Restroom, southwest corner.
						N	12	Room 111DA, above entrance.
HA DESCRIPTION: 12" x 12" white spline ceiling tile with fissures.					NOTES:			

N/A = Not Analyzed.

BULK SAMPLE LOG

Fibertec IHS Project #25229-1

DATE: 4/23/2008 BUILDING: MSU, Stores Building No. 1 INSPECTOR: John Luna

HA #	TOTAL FOOTAGE	MATERIAL TYPE	MATERIAL CONDITION	F/NF	MATERIAL ACM (Y/N)	ASBESTOS DETECTED* (Y/N)	SAMPLE #	SAMPLE LOCATION
7	120 s.f.	MM	U	F	N	N	13	Room 110D, center, north side.
						N	14	Room 110D, southwest corner.
HA DESCRIPTION:					NOTES:			
12" x 12" white ceiling tile with pin holes and fissures and associated glue pods.								
8	1,300 l.f.	MM	U	NF	Assumed	Assumed	Unsampled	
HA DESCRIPTION:					NOTES:			
White window and door frame caulk compound.								
9	6,266 l.f.	MM	U/SD	F	Y	Y	15	Room 112, 2nd window, north of east main entrance.
						N/A	16	Room 112A, lower west corner of north window.
HA DESCRIPTION:					NOTES:			
Gray window glazing compound.								
10	180 l.f.	MM	U	NF	Y	Y	17	Room 112, above suspended ceiling, southeast corner near Reception Area.
						N/A	18	Room 111N, northeast corner of fan blower unit.
HA DESCRIPTION:					NOTES:			
Brown ventilation duct caulk compound.								
11	120 s.f.	MM	U	NF	Assumed	Assumed	Unsampled	
HA DESCRIPTION:					NOTES:			
Flat transite exterior panels.								
12	550 s.f.	MM	U	NF	Assumed	Assumed	Unsampled	
HA DESCRIPTION:					NOTES:			
Corrugated transite exterior panels.								

N/A = Not Analyzed.

BULK SAMPLE LOG

Fibertec IHS Project #25229-1

DATE: 4/23/2008

BUILDING: MSU, Stores Building No. 1

INSPECTOR: John Luna

HA #	TOTAL FOOTAGE	MATERIAL TYPE	MATERIAL CONDITION	F/NF	MATERIAL ACM (Y/N)	ASBESTOS DETECTED* (Y/N)	SAMPLE #	SAMPLE LOCATION
13	423 l.f.	MM	U	NF	N	N	19	Hallway, east wall between entrance to Room 112 and 111E.
						N	20	Room 111J, entrance, southwest corner.
HA DESCRIPTION: 4" dark brown cove molding and associated mastic.					NOTES:			
14	936 l.f.	MM	U	NF	N	N	21	Room 112C, beneath sink.
						N	22	Room 111DA, south side of entrance.
HA DESCRIPTION: 4" black cove molding and associated mastic.					NOTES:			
15	12 ct.	MM	U	NF	Assumed	Assumed	Unsampled	
HA DESCRIPTION: Fire door and frame.					NOTES:			
16	45,000 s.f.	MM	U	NF	Assumed	Assumed	Unsampled	
HA DESCRIPTION: Roofing materials and products.					NOTES:			
17	30 s.f.	MM	U	NF	N	N	23	Room 111JA, upper south end, northwest corner.
						N	24	Room 111JA, center, northwest corner.
HA DESCRIPTION: Fire rated drywall wall panels.					NOTES:	N	25	Room 111JA, upper north end, northwest corner.
18	10,621 s.f.	MM	U	NF	N	N	26	Room 112B, above entrance.
						N	27	Room 111H, 4' west of north entrance, above suspended ceiling.
HA DESCRIPTION: Smooth plaster over drywall.					NOTES:	N	28	Halfway outside of Room 111E, behind water fountain.

N/A = Not Analyzed.

BULK SAMPLE LOG

Fibertec IHS Project #25229-1

DATE: 4/23/2008 BUILDING: MSU, Stores Building No. 1 INSPECTOR: John Luna

HA #	TOTAL FOOTAGE	MATERIAL TYPE	MATERIAL CONDITION	F/NF	MATERIAL ACM (Y/N)	ASBESTOS DETECTED* (Y/N)	SAMPLE #	SAMPLE LOCATION
19	450 s.f.	MM	U	NF	N	N	29	Room 111B, northeast corner.
						N	30	Room 111B, southeast corner.
HA DESCRIPTION:					NOTES:			
Ceiling tectum board.								
20	22,364 s.f.	MM	U	F	N	N	31	Area above Room 111C, center, east side.
						N	32	Area above Room 111C, southeast corner near roof drain.
HA DESCRIPTION:					NOTES:			
Ceiling fiberboard.								
21	20 ct.	MM	U	NF	Y	Y	37	Northwest corner of attic area above Room 111C.
						N/A	38	Southeast of entrance to attic area above Room 111C.
HA DESCRIPTION:					NOTES:	N/A	39	Southwest corner of attic area above Room 111C.
Domestic water supply pipe joint insulation on fiberglass pipe straight insulation.								
22	200 l.f.	MM	U	NF	N	N	40	Southeast corner of building, south side, 30' west of southeast corner.
HA DESCRIPTION:					NOTES:	N	41	Center of east side of building, east of loading dock #3.
Gray building caulk compound.								
23	551 l.f.	MM	U	NF	N	N	33	Room 111T, south side of east entrance.
						N	34	Room 111S, southwest corner, south wall.
HA DESCRIPTION:					NOTES:			
3" black cove molding.								
24	67 s.f.	MM	U	F	Y*	Y*	35	Room 112C, northwest corner of Women's Restroom, Lobby Area.
HA DESCRIPTION:					NOTES:	N/A	36	Room 112C, northeast corner of Women's Restroom, Lobby Area.
12" x 12" white ceiling tile with uniform holes and associated glue pods.								

N/A = Not Analyzed.

Appendix D

Bulk Sample Analytical Report

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25229-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: 4/23/08
DATE SUBMITTED: 4/23/08
DATE ANALYZED: 4/28, 29 & 30/2008

PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.
CLIENT P.O.#: N/A
C.O.C. NO.: 79764

Bulk samples are analyzed utilizing the USEPA Test Method EPA/600/R-93/116. The constituent percent reported represents an estimate of the area percent of the component. The test report relates only to items tested. This report is not intended to be used as a product endorsement by NVLAP or any agency of the U.S. Government. Fine fibers like those in floor tile may not be discernible by this method. This report shall not be reproduced, except in full, without written approval of the laboratory. Form Revision 2.0 dated 3/1/08
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FIBERTEC SAMPLE NO.	CLIENT LD. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
1	1	GRAY TABULAR FIBROUS MATERIAL, 9" X 9" GRAY FLOOR TILE WITH WHITE AND BLACK STREAKS, BENEATH SINK IN ROOM 112C (WOMEN'S RESTROOM), LAYER 1 OF 2.	Y	CHRYSTILE	8%	AJK	92% NON FIBROUS MATTER
1	1	BLACK ASPHALTIC MATERIAL, 9" X 9" GRAY FLOOR TILE MASTIC, BENEATH SINK IN ROOM 112C (WOMEN'S RESTROOM), LAYER 2 OF 2.	Y	CHRYSTILE	6%	AJK	94% NON FIBROUS MATTER
3	3	TAN TABULAR MATERIAL, 9" X 9" TAN FLOOR TILE WITH CREAM AND RUST STREAKS, ROOM 111J, 5' WEST OF CENTER OF EAST WALL, LAYER 1 OF 2.	Y	CHRYSTILE	3%	DLL	97% NON FIBROUS MATTER
3	3	BLACK ASPHALTIC MATERIAL, 9" X 9" TAN FLOOR TILE MASTIC, ROOM 111J, 5' WEST OF CENTER OF EAST WALL, LAYER 2 OF 2.	N			DLL	98% NON FIBROUS MATTER 2% CELLULOSE

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25229-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: 4/23/08
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PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.
CLIENT P.O.#: N/A
C.O.C. NO.: 79764

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FIBERTEC SAMPLE NO.	CLIENT LD. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
1	5	WHITE TABULAR MATERIAL, 12" X 12" TAN FLOOR TILE WITH RUST STREAKS, ROOM 111C, WEST SIDE OF NORTHEAST ENTRANCE, LAYER 1 OF 2.	Y	CHRYSTOTILE	2%	AJK	98% NON FIBROUS MATTER
5	5	BLACK ASPHALTIC MATERIAL, 12" X 12" TAN FLOOR TILE MASTIC, ROOM 111C, WEST SIDE OF NORTHEAST ENTRANCE, LAYER 2 OF 2.	N			AJK	>99% NON FIBROUS MATTER <1% CELLULOSE
7	7	TAN FIBROUS MATERIAL, 2' X 2' WHITE LAY-IN CEILING TILE WITH PIN HOLES AND FISSURES, ROOM 112, SOUTHEAST CORNER NEAR RECEPTION AREA.	N			AJK	45% NON FIBROUS MATTER 35% CELLULOSE 20% FIBROUS GLASS
8	8	TAN FIBROUS MATERIAL, 2' X 2' WHITE LAY-IN CEILING TILE WITH PIN HOLES AND FISSURES, ROOM 112B, ABOVE ENTRANCE.	N			AJK	35% NON FIBROUS MATTER 35% CELLULOSE 30% FIBROUS GLASS

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

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PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.
CLIENT P.O.#: N/A
C.O.C. NO.: 79764

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	9	TAN FIBROUS MATERIAL, 2' X 4' WHITE LAY-IN CEILING TILE WITH PIN HOLES AND FISSURES, ROOM 111T, 16' SOUTH OF NORTH WALL AND 6' WEST OF EAST WALL.	N			AJK	50% CELLULOSE 45% NON FIBROUS MATTER 5% FIBROUS GLASS
10	10	TAN FIBROUS MATERIAL, 2' X 4' WHITE LAY-IN CEILING TILE WITH PIN HOLES AND FISSURES, ROOM 111S, NORTHWEST CORNER.	N			AJK	60% CELLULOSE 39% NON FIBROUS MATTER 1% FIBROUS GLASS
11	11	LIGHT TAN FIBROUS MATERIAL, 12" X 12" WHITE SPLINE CEILING TILE WITH FISSURES, ROOM 112C, WOMEN'S RESTROOM, SOUTHWEST CORNER, LAYER 1 OF 3.	N			AJK	80% FIBROUS GLASS 10% MINERAL WOOL 10% NON FIBROUS MATTER
11	11	BROWN FIBROUS MATERIAL, 12" X 12" WHITE SPLINE CEILING TILE WITH FISSURES, ROOM 112C, WOMEN'S RESTROOM, SOUTHWEST CORNER, LAYER 2 OF 3.	N			AJK	100% CELLULOSE

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

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PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.
CLIENT P.O.#: N/A
C.O.C. NO.: 79764

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FIBERTEC SAMPLE NO.	CLIENT ID. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
1	11	WHITE GRANULAR MATERIAL, 12" X 12" WHITE SPLINE CEILING TILE WITH FISSURES, ROOM 112C, WOMEN'S RESTROOM SOUTHWEST CORNER, LAYER 3 OF 3.	N			AJK	98% NON FIBROUS MATTER 2% CELLULOSE
12	12	LIGHT TAN FIBROUS MATERIAL, 12" X 12" WHITE SPLINE CEILING TILE WITH FISSURES, ROOM 111DA, ABOVE ENTRANCE, LAYER 1 OF 3.	N			AJK	78% FIBROUS GLASS 12% MINERAL WOOL 10% NON FIBROUS MATTER
12	12	BROWN FIBROUS MATERIAL, 12" X 12" WHITE SPLINE CEILING TILE WITH FISSURES, ROOM 111DA, ABOVE ENTRANCE, LAYER 2 OF 3.	N			AJK	100% CELLULOSE
12	12	WHITE GRANULAR FIBROUS MATERIAL, 12" X 12" WHITE SPLINE CEILING TILE WITH FISSURES, ROOM 111DA, ABOVE ENTRANCE, LAYER 3 OF 3.	N			AJK	98% NON FIBROUS MATTER 2% CELLULOSE

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

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FIBERTEC SAMPLE NO.	CLIENT LD. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
3	13	TAN FIBROUS MATERIAL, 12" X 12" WHITE CEILING TILE WITH PIN HOLES AND FISSURES, ROOM 110D, CENTER, NORTH SIDE, LAYER 1 OF 2.	N			DLL	80% FIBROUS GLASS 15% CELLULOSE 5% NON FIBROUS MATTER
13	13	ORANGE ASPHALTIC MATERIAL, 12" X 12" WHITE CEILING TILE GLUE PODS, ROOM 110D, CENTER, NORTH SIDE, LAYER 2 OF 2.	N			DLL	100% NON FIBROUS MATTER
14	14	TAN FIBROUS MATERIAL, 12" X 12" WHITE CEILING TILE WITH PIN HOLES AND FISSURES, ROOM 110D, SOUTHWEST CORNER.	N			DLL	80% CELLULOSE 15% FIBROUS GLASS 5% NON FIBROUS MATTER
15	15	TAN GRANULAR MATERIAL, GRAY WINDOW GLAZING COMPOUND, ROOM 112, 2ND WINDOW, NORTH OF EAST MAIN ENTRANCE.	Y	CHRYSTILE	3%	AJK	97% NON FIBROUS MATTER

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

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CLIENT P.O.#: N/A
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	17	BROWN RUBBERY MATERIAL, BROWN VENTILATION DUCT CAULK COMPOUND, ROOM 112, ABOVE SUSPENDED CEILING, SOUTHEAST CORNER NEAR RECEPTION AREA.	Y	CHRYSTOTILE	2%	AJK	98% NON FIBROUS MATTER
19	19	BROWN TABULAR MATERIAL, 4" DARK BROWN COVE MOLDING, HALLWAY, EAST WALL BETWEEN ENTRANCE TO ROOM 112 AND 111E, LAYER 1 OF 2.	N			DLL	100% NON FIBROUS MATTER
19	19	WHITE ASPHALTIC MATERIAL, 4" DARK BROWN COVE MOLDING MASTIC, HALLWAY, EAST WALL BETWEEN ENTRANCE TO ROOM 112 AND 111E, LAYER 2 OF 2.	N			DLL	98% NON FIBROUS MATTER 2% CELLULOSE
20	20	BROWN TABULAR MATERIAL, 4" DARK BROWN COVE MOLDING, ROOM 111J, ENTRANCE, SOUTHWEST CORNER, LAYER 1 OF 2.	N			DLL	98% NON FIBROUS MATTER 2% CELLULOSE

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25229-1
NVLAP ACCREDITATION #101510-0

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PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.
CLIENT P.O.#: N/A
C.O.C. NO.: 79764

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20	20	WHITE ASPHALTIC MATERIAL, 4" DARK BROWN COVE MOLDING MASTIC, ROOM 111J, ENTRANCE, SOUTHWEST CORNER, LAYER 2 OF 2.	N			DLL	97% NON FIBROUS MATTER 3% CELLULOSE
21	21	BLACK TABULAR MATERIAL, 4" BLACK COVE MOLDING, ROOM 112C, BENEATH SINK, LAYER 1 OF 2.	N			AJK	100% NON FIBROUS MATTER
21	21	BROWN ASPHALTIC MATERIAL, 4" BLACK COVE MOLDING MASTIC, ROOM 112C, BENEATH SINK, LAYER 2 OF 2.	N			AJK	>99% NON FIBROUS MATTER <1% CELLULOSE
22	22	BLACK TABULAR MATERIAL, 4" BLACK COVE MOLDING, ROOM 111DA, SOUTH SIDE OF ENTRANCE, LAYER 1 OF 2.	N			AJK	100% NON FIBROUS MATTER
22	22	BROWN BRITTLE MATERIAL, 4" BLACK COVE MOLDING MASTIC, ROOM 111DA, SOUTH SIDE OF ENTRANCE, LAYER 2 OF 2.	N			AJK	100% NON FIBROUS MATTER

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
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1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.

CLIENT P.O.#: N/A
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FIBERTEC SAMPLE NO.	CLIENT LD. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
3	23	BROWN FIBROUS MATERIAL, FIRE RATED DRYWALL WALL PANELS, ROOM 111JA, UPPER SOUTH END, NORTHWEST CORNER, LAYER 1 OF 2.	N			AJK	100% CELLULOSE
23	23	WHITE GRANULAR FIBROUS MATERIAL, FIRE RATED DRYWALL WALL PANELS, ROOM 111JA, UPPER SOUTH END, NORTHWEST CORNER, LAYER 2 OF 2.	N			AJK	98% NON FIBROUS MATTER 2% CELLULOSE
24	24	BROWN FIBROUS MATERIAL, FIRE RATED DRYWALL WALL PANELS, ROOM 111JA, CENTER, NORTHWEST CORNER, LAYER 1 OF 2.	N			AJK	100% CELLULOSE
24	24	WHITE GRANULAR FIBROUS MATERIAL, FIRE RATED DRYWALL WALL PANELS, ROOM 111JA, CENTER, NORTHWEST CORNER, LAYER 2 OF 2.	N			AJK	97% NON FIBROUS MATTER 3% CELLULOSE

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25229-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: 4/23/08
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PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.

CLIENT P.O.#: N/A
C.O.C. NO.: 79764

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FIBERTEC SAMPLE NO.	CLIENT LD. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
5	25	BROWN FIBROUS MATERIAL, FIRE RATED DRYWALL WALL PANELS, ROOM 111JA, UPPER NORTH END, NORTHWEST CORNER, LAYER 1 OF 2.	N			AJK	100% CELLULOSE
25	25	WHITE GRANULAR MATERIAL, FIRE RATED DRYWALL WALL PANELS, ROOM 111JA, UPPER NORTH END, NORTHWEST CORNER, LAYER 2 OF 2.	N			AJK	98% NON FIBROUS MATTER 2% CELLULOSE
26	26	OFF-WHITE GRANULAR MATERIAL, SMOOTH PLASTER OVER DRYWALL, ROOM 112B, ABOVE ENTRANCE, LAYER 1 OF 3.	N			DLL	93% NON FIBROUS MATTER 7% CELLULOSE
26	26	BROWN FIBROUS MATERIAL, SMOOTH PLASTER OVER DRYWALL, ROOM 112B, ABOVE ENTRANCE, LAYER 2 OF 3.	N			DLL	85% CELLULOSE 15% NON FIBROUS MATTER

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25229-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: 4/23/08
DATE SUBMITTED: 4/23/08
DATE ANALYZED: 4/28, 29 & 30/2008

PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.
CLIENT P.O.#: N/A
C.O.C. NO.: 79764

Bulk samples are analyzed utilizing the USEPA Test Method EPA/600/R-93/116. The constituent percent reported represents an estimate of the area percent of the component. The test report relates only to items tested. This report is not intended to be used as a product endorsement by NVLAP or any agency of the U.S. Government. Fine fibers like those in floor tile may not be discernible by this method. This report shall not be reproduced, except in full, without written approval of the laboratory. Form Revision 2.0 dated 3/1/08
*No asbestos present indicates less than or equal to 1% asbestos present. Test items were received in an acceptable condition.

FIBERTEC SAMPLE NO.	CLIENT LD. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
6	26	WHITE GRANULAR MATERIAL, SMOOTH PLASTER OVER DRYWALL, ROOM 112B, ABOVE ENTRANCE, LAYER 3 OF 3.	N			DLL	96% NON FIBROUS MATTER 2% CELLULOSE 2% FIBROUS GLASS
27	27	OFF-WHITE GRANULAR MATERIAL, SMOOTH PLASTER OVER DRYWALL, ROOM 111H, 4' WEST OF NORTH ENTRANCE, ABOVE SUSPENDED CEILING, LAYER 1 OF 3.	N			DLL	98% NON FIBROUS MATTER 2% CELLULOSE
27	27	BROWN FIBROUS MATERIAL, SMOOTH PLASTER OVER DRYWALL, ROOM 111H, 4' WEST OF NORTH ENTRANCE, ABOVE SUSPENDED CEILING, LAYER 2 OF 3.	N			DLL	90% CELLULOSE 10% NON FIBROUS MATTER
27	27	WHITE GRANULAR MATERIAL, SMOOTH PLASTER OVER DRYWALL, ROOM 111H, 4' WEST OF NORTH ENTRANCE, ABOVE SUSPENDED CEILING, LAYER 3 OF 3.	N			DLL	96% NON FIBROUS MATTER 2% CELLULOSE 2% FIBROUS GLASS

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25229-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: 4/23/08
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PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.
CLIENT P.O.#: N/A
C.O.C. NO.: 79764

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FIBERTEC SAMPLE NO.	CLIENT I.D. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
	28	OFF-WHITE GRANULAR MATERIAL, SMOOTH PLASTER OVER DRYWALL, HALLWAY OUTSIDE OF ROOM 111E, BEHIND WATER FOUNTAIN, LAYER 1 OF 3.	N			DLL	96% NON FIBROUS MATTER 4% CELLULOSE
28	28	BROWN FIBROUS MATERIAL, SMOOTH PLASTER OVER DRYWALL, HALLWAY OUTSIDE OF ROOM 111E, BEHIND WATER FOUNTAIN, LAYER 2 OF 3.	N			DLL	90% CELLULOSE 10% NON FIBROUS MATTER
28	28	WHITE POWDERY MATERIAL, SMOOTH PLASTER OVER DRYWALL, HALLWAY OUTSIDE OF ROOM 111E, BEHIND WATER FOUNTAIN, LAYER 3 OF 3.	N			DLL	95% NON FIBROUS MATTER 3% CELLULOSE 2% FIBROUS GLASS
29	29	YELLOW FIBROUS GRANULAR MATERIAL, CEILING TECTUM BOARD, ROOM 111B, NORTHEAST CORNER.	N			AJK	55% CELLULOSE 45% NON FIBROUS MATTER

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

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FIBERTEC PROJECT NO.: 25229-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: 4/23/08
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PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.

CLIENT P.O.#: N/A
C.O.C. NO.: 79764

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FIBERTEC SAMPLE NO.	CLIENT I.D. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
	30	YELLOW FIBROUS GRANULAR MATERIAL, CEILING TECTUM BOARD, ROOM 111B, SOUTHEAST CORNER.	N			AJK	55% NON FIBROUS MATTER 45% CELLULOSE
31	31	BROWN FIBROUS MATERIAL, CEILING FIBERBOARD, AREA ABOVE ROOM 111C, CENTER, EAST SIDE.	N			AJK	95% CELLULOSE 5% NON FIBROUS MATTER
32	32	BROWN FIBROUS MATERIAL, CEILING FIBERBOARD, AREA ABOVE ROOM 111C, SOUTHEAST CORNER NEAR ROOF DRAIN.	N			AJK	97% CELLULOSE 3% NON FIBROUS MATTER
33	33	BLACK TABULAR MATERIAL, 3" BLACK COVE MOLDING, ROOM 111T, SOUTH SIDE OF EAST ENTRANCE.	N			AJK	100% NON FIBROUS MATTER
34	34	BLACK TABULAR MATERIAL, 3" BLACK COVE MOLDING, ROOM 111S, SOUTHWEST CORNER, SOUTH WALL.	N			AJK	100% NON FIBROUS MATTER

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
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PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.
CLIENT P.O.#: N/A
C.O.C. NO.: 79764

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FIBERTEC SAMPLE NO.	CLIENT LD. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
	35	WHITE FIBROUS MATERIAL, 12" X 12" WHITE CEILING TILE WITH UNIFORM HOLES, ROOM 112, NORTHWEST CORNER OF WOMEN'S RESTROOM, LOBBY AREA, LAYER 1 OF 2.	N			AJK	80% FIBROUS GLASS 15% MINERAL WOOL 5% NON FIBROUS MATTER
35	35	BROWN BRITTLE MATERIAL, 12" X 12" WHITE CEILING TILE GLUE PODS, ROOM 112, NORTHWEST CORNER OF WOMEN'S RESTROOM, LOBBY AREA, LAYER 2 OF 2.	Y	CHRYSTILE	2%	AJK	98% NON FIBROUS MATTER
37	37	GRAY FIBROUS MATERIAL, DOMESTIC WATER SUPPLY PIPE JOINT INSULATION ON FIBERGLASS PIPE STRAIGHT INSULATION, NORTHWEST CORNER OF ATTIC AREA ABOVE ROOM 111C.	Y	CHRYSTILE	20%	AJK	50% MINERAL WOOL 25% NON FIBROUS MATTER 5% CELLULOSE
40	40	GRAY ASPHALTIC MATERIAL, GRAY BUILDING CAULK COMPOUND, SOUTHEAST CORNER OF BUILDING, SOUTH SIDE, 30' WEST OF SOUTHEAST CORNER.	N			DLL	97% NON FIBROUS MATTER 3% CELLULOSE

COMMENTS:

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25229-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: 4/23/08
DATE SUBMITTED: 4/23/08
DATE ANALYZED: 4/28, 29 & 30/2008

PROJECT: MICHIGAN STATE UNIVERSITY, STORES PRINTING AND SALVAGE BUILDING,
1330 SOUTH HARRISON, EAST LANSING, 41 COLLECTED BULK SAMPLES, 56 SAMPLE LAYERS ANALYZED.

CLIENT P.O.#: N/A
C.O.C. NO.: 79764

Bulk samples are analyzed utilizing the USEPA Test Method EPA/600/R-93/116. The constituent percent reported represents an estimate of the area percent of the component. The test report relates only to items tested. This report is not intended to be used as a product endorsement by NVLAP or any agency of the U.S. Government. Fine fibers like those in floor tile may not be discernible by this method. This report shall not be reproduced, except in full, without written approval of the laboratory. Form Revision 2.0 dated 3/1/08
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FIBERTEC SAMPLE NO.	CLIENT LD. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS- CONTAINING PORTION
1	41	GRAY ASPHALTIC MATERIAL, GRAY BUILDING CAULK COMPOUND, CENTER OF EAST SIDE OF BUILDING, EAST OF LOADING DOCK #3, LAYER 1 OF 2.	N			DLL	96% NON FIBROUS MATTER 4% CELLULOSE
41	41	WHITE ASPHALTIC MATERIAL, GRAY BUILDING CAULK COMPOUND, CENTER OF EAST SIDE OF BUILDING, EAST OF LOADING DOCK #3, LAYER 2 OF 2.	N			DLL	>99% NON FIBROUS MATTER <1% CELLULOSE

COMMENTS:

DATE: 05/02/08


APPROVED SIGNATORY

Appendix E

Room by Room Asbestos Building Inspection Forms

Room by Room Asbestos Building Inspection Form

Explanation Page

Location – Each room or area within the structure is identified by a unique room number or area designation.

Floor – Describes the level on which the room or area was located.

Material Description – Each identified material is described including the major color, size and pattern observed in the material. The condition of each material is also described. Material with no damage is considered undamaged. Material with more than zero but less than 10 percent damage by area overall or less than 25 percent damage locally is considered damaged. Material with more than 10 percent damage overall or more than 25 percent damage by area locally is considered significantly damaged. Material whose condition could not be determined is reported as unknown.

Quantity – The estimated quantity of material in each space or room number is reported in units of linear feet (l.f.), square feet (s.f.) or count (ct.). In the case of pipe joint insulation, the actual number of observed joints (the count) is reported.

Homogenous Area (HA) Number – The number given the specific homogenous area which represents a given material.

Asbestos-Containing – Those materials found to contain more than one percent asbestos are considered asbestos-containing and are marked Y for yes. Those materials found to contain equal to or less than one percent asbestos are considered non-asbestos containing and are marked N for no.

Material Condition – Material condition is classified into one of three categories: 1) Undamaged material (U) has no damage, 2) Damaged material (D) has >0-10% damage or less than 25% damage locally, or 3) Significantly damaged material (SD) has more than 10% damage overall or >25% damage locally.

**Michigan State University
Stores Building Number 1
Fibertec IHS Project #25229-1
Room by Room Asbestos Building Inspection Form**

Location	Floor	Material Description	Quantity	Units	HA #	ACM	Condition
Attic Area above Room 111CA	1st	Domestic water supply pipe joint insulation on fiberglass pipe straight insulation	20 ct.		21	Yes	Undamaged
Room 109	1st	Gray window glazing compound	825 l.f.		9	Yes	Undamaged
Room 110	1st	Gray window glazing compound	940 l.f.		9	Yes	Undamaged
Room 110	1st	4" dark brown cove molding and associated mastic	100 l.f.		13	No	Undamaged
Room 110	1st	Fire door and frame	2 ct.		15	Assumed	Undamaged
Room 110	1st	Smooth plaster over drywall	2500 s.f.		18	No	Undamaged
Room 110	1st	Ceiling fiberboard	4479 s.f.		20	No	Undamaged
Room 110 C & D	1st	2' x 4' white lay-in ceiling tile with pin holes and fissures	300 s.f.		5	No	Undamaged
Room 110 C & D	1st	Gray window glazing compound	180 l.f.		9	Yes	Undamaged
Room 110 C & D	1st	4" black cove molding and associated mastic	45 l.f.		14	No	Undamaged
Room 110 C & D	1st	3" black cove molding and associated mastic	90 l.f.		23	No	Undamaged
Room 110A	1st	2' x 4' white lay-in ceiling tile with pin holes and fissures	1913 s.f.		5	No	Undamaged
Room 110A	1st	3" black cove molding and associated mastic	195 l.f.		23	No	Undamaged
Room 110B	1st	2' x 4' white lay-in ceiling tile with pin holes and fissures	106 s.f.		5	No	Undamaged
Room 110B	1st	4" black cove molding and associated mastic	11 l.f.		14	No	Undamaged
Room 110B	1st	3" black cove molding and associated mastic	73 l.f.		23	No	Undamaged
Room 111	1st	Gray window glazing compound	2145 l.f.		9	Yes	Undamaged
Room 111	1st	Smooth plaster over drywall	10 s.f.		18	No	Sig Damaged
Room 111	1st	Smooth plaster over drywall	2500 s.f.		18	No	Undamaged
Room 111	1st	Ceiling fiberboard	13056 s.f.		20	No	Undamaged
Room 111A (Chemical Storage)	1st	Fire door and frame	1 ct.		15	Assumed	Undamaged
Room 111B	1st	Gray window glazing compound	745 l.f.		9	Yes	Undamaged
Room 111B	1st	Ceiling tectum board	1606 s.f.		19	No	Undamaged
Room 111C	1st	12" x 12" tan floor tile with rust streaks and associated mastic	538 s.f.		3	Yes	Undamaged
Room 111C	1st	12" x 12" white ceiling tile with fissures and associated glue pods	538 s.f.		6	No	Undamaged
Room 111C	1st	4" black cove molding and associated mastic	94 l.f.		14	No	Undamaged
Room 111D	1st	12" x 12" white ceiling tile with pin holes and fissures and associated glue pods	120 s.f.		7	No	Undamaged

Michigan State University
Stores Building Number 1

Building #161
Fibertec IHS Project #25229-1

Room by Room Asbestos Building Inspection Form

Location	Floor	Material Description	Quantity	Units	HVA #	ACM	Condition
Room 111DA	1st	9" x 9" gray floor tile with white and black streaks and associated mastic	5	s.f.	1	Yes	Sig Damaged
Room 111DA	1st	9" x 9" gray floor tile with white and black streaks and associated mastic	90	s.f.	1	Yes	Undamaged
Room 111DA	1st	12" x 12" white spline ceiling tile with fissures	95	s.f.	6	No	Undamaged
Room 111DA	1st	4" black cove molding and associated mastic	40	l.f.	14	No	Undamaged
Room 111E	1st	Fire door and frame	1	ct.	15	Assumed	Undamaged
Room 111E	1st	Smooth plaster over drywall	150	s.f.	18	No	Undamaged
Room 111F	1st	2' x 2' white lay-in ceiling tile with pin holes and fissures	64	s.f.	4	No	Undamaged
Room 111F	1st	4" dark brown cove molding and associated mastic	40	l.f.	13	No	Undamaged
Room 111F	1st	Fire door and frame	1	ct.	15	Assumed	Undamaged
Room 111F	1st	Smooth plaster over drywall	110	s.f.	18	No	Undamaged
Room 111F and G	1st	2' x 4' white lay-in ceiling tile with pin holes and fissures	225	s.f.	5	No	Undamaged
Room 111G	1st	2' x 2' white lay-in ceiling tile with pin holes and fissures	814	s.f.	4	No	Undamaged
Room 111G	1st	4" dark brown cove molding and associated mastic	120	l.f.	13	No	Undamaged
Room 111G	1st	Smooth plaster over drywall	940	s.f.	18	No	Undamaged
Room 111GA	1st	2' x 2' white lay-in ceiling tile with pin holes and fissures	304	s.f.	4	No	Undamaged
Room 111GA	1st	4" dark brown cove molding and associated mastic	65	l.f.	13	No	Undamaged
Room 111GA	1st	Smooth plaster over drywall	586	s.f.	18	No	Undamaged
Room 111H	1st	2' x 2' white lay-in ceiling tile with pin holes and fissures	395	s.f.	4	No	Undamaged
Room 111H	1st	4" black cove molding and associated mastic	85	l.f.	14	No	Undamaged
Room 111H	1st	Smooth plaster over drywall	430	s.f.	18	No	Undamaged
Room 111J	1st	9" x 9" tan floor tile with cream and rust streaks and associated mastic	139	s.f.	2	Yes	Undamaged
Room 111J	1st	9" x 9" tan floor tile with cream and rust streaks and associated mastic	1	s.f.	2	Yes	Sig Damaged
Room 111J	1st	4" dark brown cove molding and associated mastic	10	l.f.	13	No	Undamaged
Room 111J	1st	Fire door and frame	1	ct.	15	Assumed	Undamaged
Room 111J	1st	Smooth plaster over drywall	500	s.f.	18	No	Undamaged
Room 111J	1st	Ceiling fiberboard	250	s.f.	20	No	Undamaged
Room 111JA	1st	9" x 9" tan floor tile with cream and rust streaks and associated mastic	10	s.f.	2	Yes	Sig Damaged
Room 111JA	1st	Fire door and frame	1	ct.	15	Assumed	Undamaged
Room 111JA	1st	Fire rated drywall wall panels	30	s.f.	17	No	Undamaged

2/25/09 Ymild assessment of floor tile & mastic TP #C1028

**Michigan State University
Stores Building Number 1
Building #161
Fibertec IHS Project #25229-1
Room by Room Asbestos Building Inspection Form**

Room	Location	Floor	Material Description	Quantity	Units	HA #	ACM	Condition
Room 111K		1st	No access provided					
Room 111L		1st	4" dark brown cove molding and associated mastic	40 l.f.		13	No	Undamaged
Room 111L		1st	Fire door and frame	1 ct.		15	Assumed	Undamaged
Room 111L		1st	Smooth plaster over drywall	1200 s.f.		18	No	Undamaged
Room 111L		1st	Ceiling fiberboard	160 s.f.		20	No	Undamaged
Room 111N		1st	Brown ventilation duct caulk compound	15 l.f.		10	Yes /	Undamaged
Room 111N		1st	Ceiling fiberboard	160 s.f.		20	No	Undamaged
Room 111R		1st	No access provided					
Room 111S		1st	2' x 4' white lay-in ceiling tile with pin holes and fissures	759 s.f.		5	No	Undamaged
Room 111S		1st	4" black cove molding and associated mastic	25 l.f.		14	No	Undamaged
Room 111S		1st	3" black cove molding and associated mastic	85 l.f.		23	No	Undamaged
Room 111T		1st	2' x 4' white lay-in ceiling tile with pin holes and fissures	1388 s.f.		5	No	Undamaged
Room 111T		1st	4" dark brown cove molding and associated mastic	48 l.f.		13	No	Undamaged
Room 111T		1st	Fire door and frame	2 ct.		15	Assumed	Undamaged
Room 111T		1st	Smooth plaster over drywall	400 s.f.		18	No	Undamaged
Room 111T		1st	3" black cove molding and associated mastic	108 l.f.		23	No	Undamaged
Room 111U		1st	No suspect ACM observed					
Room 112		1st	9" x 9" gray floor tile with white and black streaks and associated mastic	2208 s.f.		1	Yes /	Undamaged
Room 112		1st	2' x 2' white lay-in ceiling tile with pin holes and fissures	2208 s.f.		4	No	Undamaged
Room 112		1st	Gray window glazing compound	115 l.f.		9	Yes /	Undamaged
Room 112		1st	Brown ventilation duct caulk compound	100 l.f.		10	Yes /	Undamaged
Room 112		1st	4" black cove molding and associated mastic	270 l.f.		14	No	Undamaged
Room 112		1st	Smooth plaster over drywall	760 s.f.		18	No	Undamaged
Room 112		1st	Ceiling fiberboard	2208 s.f.		20	No	Undamaged
Room 112A		1st	9" x 9" gray floor tile with white and black streaks and associated mastic	340 s.f.		1	Yes /	Undamaged
Room 112A		1st	2' x 2' white lay-in ceiling tile with pin holes and fissures	340 s.f.		4	No	Undamaged
Room 112A		1st	Gray window glazing compound	90 l.f.		9	Yes /	Undamaged
Room 112A		1st	4" black cove molding and associated mastic	76 l.f.		14	No	Undamaged
Room 112A		1st	Smooth plaster over drywall	175 s.f.		18	No	Undamaged
Room 112A		1st	Ceiling fiberboard	340 s.f.		20	No	Undamaged

**Michigan State University
Stores Building Number 1
Building #161
Fibertec IHS Project #25229-1
Room by Room Asbestos Building Inspection Form**

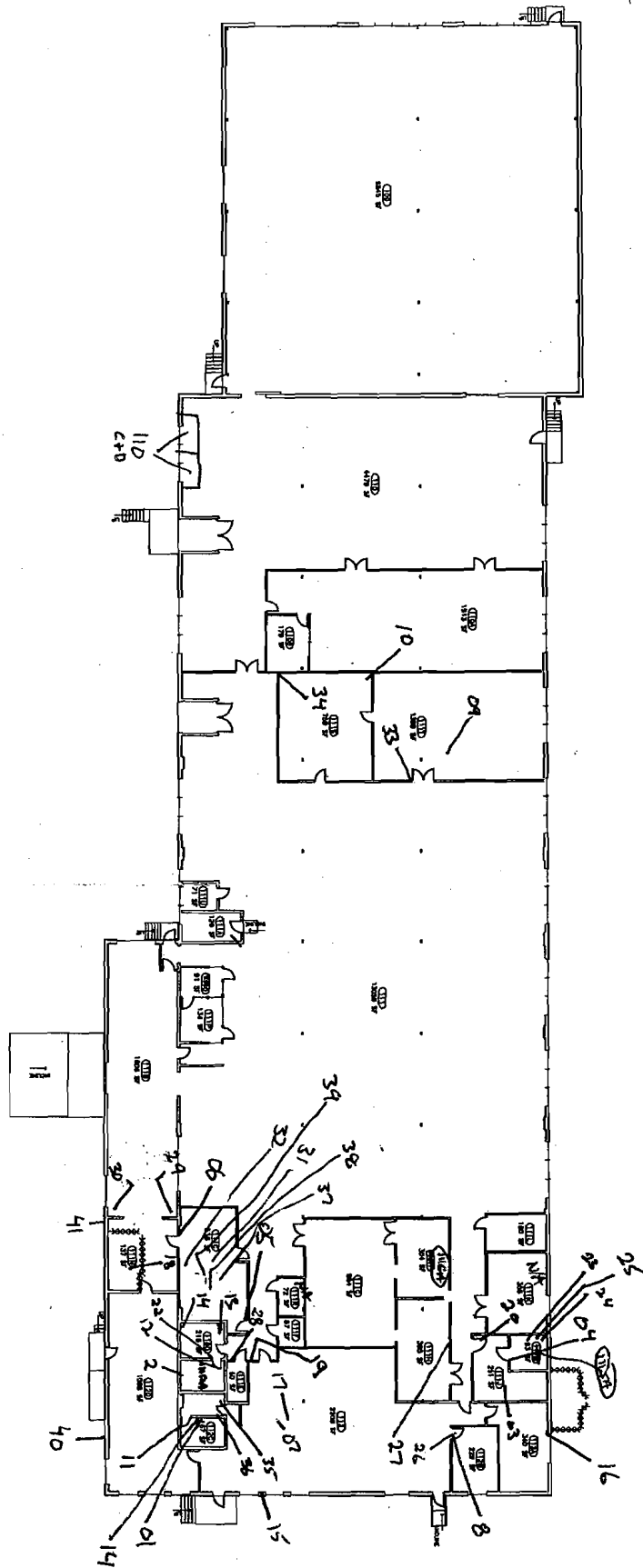
Location	Floor	Material Description	Quantity	Units	HA #	ACM	Condition
Room 112B	1st	9" x 9" gray floor tile with white and black streaks and associated mastic	222	s.f.	1	Yes	Undamaged
Room 112B	1st	2' x 2' white lay-in ceiling tile with pin holes and fissures	222	s.f.	4	No	Undamaged
Room 112B	1st	Gray window glazing compound	60	l.f.	9	Yes	Undamaged
Room 112B	1st	Brown ventilation duct caulk compound	25	l.f.	10	Yes	Undamaged
Room 112B	1st	4" black cove molding and associated mastic	60	l.f.	14	No	Undamaged
Room 112B	1st	Smooth plaster over drywall	280	s.f.	18	No	Undamaged
Room 112B	1st	Ceiling fiberboard	222	s.f.	20	No	Undamaged
Room 112C	1st	9" x 9" gray floor tile with white and black streaks and associated mastic	167	s.f.	1	Yes	Undamaged
Room 112C	1st	12" x 12" white spline ceiling tile with fissures	100	s.f.	6	No	Undamaged
Room 112C	1st	4" black cove molding and associated mastic	30	l.f.	14	No	Undamaged
Room 112C	1st	12" x 12" white ceiling tile with uniform holes and associated glue pods	67	s.f.	24	Yes	Undamaged
Room 112D	1st	9" x 9" gray floor tile with white and black streaks and associated mastic	1089	s.f.	1	Yes	Undamaged
Room 112D	1st	2' x 2' white lay-in ceiling tile with pin holes and fissures	1089	s.f.	4	No	Undamaged
Room 112D	1st	Gray window glazing compound	26	l.f.	9	Yes	Undamaged
Room 112D	1st	Brown ventilation duct caulk compound	40	l.f.	10	Yes	Undamaged
Room 112D	1st	4" black cove molding and associated mastic	200	l.f.	14	No	Undamaged
Room 112D	1st	Fire door and frame	1	ct.	15	Assumed	Undamaged
Room 112D	1st	Smooth plaster over drywall	80	s.f.	18	No	Undamaged
Room 112D	1st	Ceiling fiberboard	1089	s.f.	20	No	Undamaged
Exterior	Exterior	White window and door frame caulk compound	1300	l.f.	8	Assumed	Undamaged
Exterior	Exterior	Gray window glazing compound	1140	l.f.	9	Yes	Undamaged
Exterior	Exterior	Flat transite exterior panels	120	s.f.	11	Assumed	Undamaged
Exterior	Exterior	Corrugated transite exterior panels	550	s.f.	12	Assumed	Undamaged
Exterior	Exterior	Roofing materials and products	45000	s.f.	16	Assumed	Undamaged
Exterior	Exterior	Ceiling tectum board	450	s.f.	19	No	Undamaged
Exterior	Exterior	Ceiling fiberboard	400	s.f.	20	No	Undamaged
Exterior	Exterior	Gray building caulk compound	200	l.f.	22	No	Undamaged

2/3/09 rm 112C abatement of floor tile & mastic (167 sf) ITPH 1070

Appendix F

Floor Plan Drawing with Sample Locations

FIRST FLOOR PLAN



N/A = NO ACCESS
- Roof
- III R
- III K

DESIGNER	YSW
DATE	06-03-99
SCALE	1" = 30'
SHEET NO.	2 of 3
PROJECT NO.	2111

MICHIGAN STATE UNIVERSITY
PHYSICAL PLANT DIVISION
 ENGINEERING AND ARCHITECTURAL SERVICES
 TITLE: **STORES BUILDING NO. 1**
FIRST FLOOR PLAN

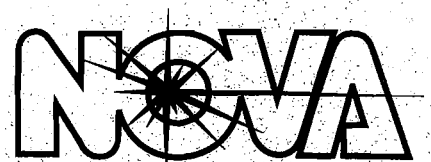
BUILDING NUMBER	161



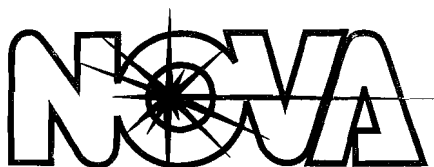
MICHIGAN STATE UNIVERSITY

**ASBESTOS INSPECTION REPORT
FOR
SURPLUS BUILDING**

OCTOBER 2006



NOVA ENVIRONMENTAL, INC.
5340 Plymouth Rd., Suite 210
Ann Arbor, MI 48105
(734) 930-0995



ENVIRONMENTAL, INC.

5340 PLYMOUTH RD. SUITE 210

ANN ARBOR, MICHIGAN 48105

734-930-0995

October 17, 2006

Mr. Andrew D. Smith
Environmental Technician
Office of Environmental & Occupational Safety
Michigan State University
150 Giltner Hall
East Lansing, MI 48824-1101

Dear Mr. Smith:

The following is the asbestos-containing material (ACM) Survey Report for Michigan State University's Surplus Building, Building #190.

This ACM Survey Report, prepared by Nova Environmental, Inc., is separated into the following sections:

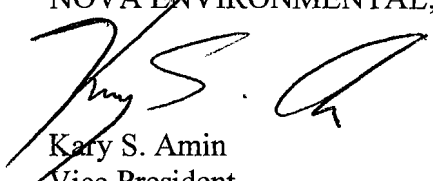
Section I	Background/Survey Information
Section II	Inspection Results
Section III	Laboratory Results
Section IV	Facility Information/Diagrams
Section V	Qualifications/Certifications & General Disclaimer Statement
Section VI	Photo Documentation

If you have any questions or concerns regarding the information presented within this report, please feel free to contact me at (734) 390-0995.

Thank you for choosing Nova Environmental, Inc.

Sincerely,

NOVA ENVIRONMENTAL, INC.



Kary S. Amin
Vice President

KSA/ij



Michigan State University
Surplus Building
Building #190

Section I
Background/Inspection Information

Background:

On Wednesday, October 11, 2006, representatives of Nova Environmental, Inc. conducted an Asbestos-Containing Materials (ACM) Building Survey within the Surplus Building. The intent of this Survey was to determine potential asbestos content within interior accessible building materials/components.

During the on-site inspection phase, Nova collected a total of 15 bulk samples. Each of these samples was analyzed under Polarizing Light Microscopy (PLM) by EMSL Analytical, Inc., an accredited laboratory, utilizing EPA 600/R-93/116 Method. All laboratory result sheets are located in Section III of this report.

It should be noted that the following factors were realized during the inspection phase:

- Nova Environmental, Inc. only collected bulk samples of accessible suspect ACM building components. Nova conducted no destructive sampling, therefore, no inaccessible materials are included as part of this report.
- In accordance with the Request for Quotation (RFQ) 73316, no roofing materials were bulk sampled or included as part of this report.
- In accordance with instruction provided during the bidding process, no exterior materials, concrete, cinderblock, brick, mortar, ceramic or non-building components were bulk sampled or included as part of this report. Further inspection of these materials and inaccessible areas may be necessary prior to any renovation or demolition in order to comply with the EPA NESHAP and OSHA Asbestos Construction Industry Standards.
- All quantities listing within this report are approximates only.

A General Disclaimer Statement regarding this ACM Survey is located in Section V of this report.

Inspection Information:

All bulk samples were collected by Michigan Accredited Asbestos Inspectors in accordance with 40 CFR Part 763 of the EPA's AHERA regulation. This sampling strategy is required according to 29 CFR Part 1910.1001 and 1926.1101 of the OSHA Asbestos General Industry and Construction Standards for public and commercial buildings.

There are several terms/phrases that are identified in the various EPA and OSHA asbestos regulations, which are used within this ACM Survey report. They are as follows:

- ***Asbestos-Containing Material (ACM):***
Refers to a material, which contains more than 1% asbestos. If a given material contains over 1% asbestos, it is considered asbestos by all federal and state government agencies. If the material contains less than or equal to 1 % asbestos, it is legally non-asbestos.
- ***Friable:***
Refers to the ability of the material to crumble or pulverize under hand pressure when dry.
- ***Functional Space (FS):***
Means a room, group of rooms or separate independent area, such as hallways, restrooms, etc.
- ***Functional Space Number:***
A number, assigned to each functional space by either the building owner or Nova.
- ***Homogeneous Area (HA):***
Refers to a material that is uniform in color and texture.
- ***Homogeneous Area Number:***
A number, assigned to each homogeneous area by the Nova Inspector(s).
- ***Miscellaneous Material:***
Any material, which is not classified as thermal system insulation or surfacing material.
- ***Surfacing Material:***
Means material that is sprayed trowelled-on or otherwise applied to surfaces, (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).
- ***Thermal System Insulation (TSI):***
Means ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.
- ***Units:***
Units of measurement in either square feet, linear feet or totals, such as a total count of a given material or component.



**Michigan State University
Surplus Building
Building #190**

**Section II
Inspection Results**

This section is delineated into three separate sub-sections. Included in each sub-section are FS# or functional space numbers, FS Description, Material Description, amount of material present, whether the material is positive, negative or assumed asbestos and its present status. Please note that within the sub-sections all materials tested **positive** or **assumed** to be asbestos are in bold, while all materials tested negative for asbestos are in regular type.

A listing and description of each sub-section follows:

➤ ***Homogeneous Area Listing***

This listing provides a complete material listing with total building quantities as well as whether the material contains asbestos, is assumed or is negative for asbestos-containing material.

➤ ***List by Functional Space Number***

This listing provides all inspection information organized by functional space.

➤ ***List by Positive, Assumed, Negative Homogeneous Areas***

This listing provides all homogeneous areas, or material description, that are positive for asbestos or assumed to be asbestos first, organized by functional space. The homogeneous areas that were tested negative for asbestos and corresponding functional spaces follow.

➤ ***List by Homogeneous Areas***

This listing provides all inspection information organized by homogeneous area, or material description.

The laboratory results are located in Section III of this Report.

**Michigan State University
Surplus Building #190
Homogeneous Area Listing**

ACM Description	HA#	Total Quantities	Units	Asbestos
Drywall Ceiling	1	144	Sq. Ft.	Negative
Window Frame Caulk	2	61	Ln. Ft.	Negative
Window Glazing	3	105	Ln. Ft.	Negative
Wall Joint Caulk	4	60	Ln. Ft.	Negative
4" Black Covebase	5	45	Ln. Ft.	Negative
Mastic 4" Black Covebase	6	45	Ln. Ft.	Negative
Tagged Metal Door	7	1	Total	Assumed
Tagged Metal Frame	7.1	1	Total	Assumed
Tagged Metal Door Frame Caulk	8	20	Ln. Ft.	Negative
Floor Joint Caulk	9	570	Ln. Ft.	Negative
Drywall Wall	10	51000	Sq. Ft.	Negative
Non Tagged Door Frame Caulk	11	40	Ln. Ft.	Negative
Door Window Glazing	12	10	Ln. Ft.	Negative
9" x 9" Floor Tile Brown	13	2	Sq. Ft.	Positive
Mastic of 9" x 9" Floor Tile Brown	14	2	Sq. Ft.	Positive
4" Brown Covebase	15	48	Ln. Ft.	Negative
Mastic of 4" Brown Covebase	16	48	Ln. Ft.	Negative
Black Foam Insulation	17	15	Ln. Ft.	Negative
Fiberglass Deck	18	13776	Sq. Ft.	Negative

Surplus Building #190

List by Functional Space

FS#	FS Description	Floor	ACM Description	HA#	Quantity	Units	Asbestos	Material Condition
101	Main Storage 101	1	Window Frame Caulk	2	10 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Window Glazing	3	10 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Wall Joint Caulk	4	20 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Floor Joint Caulk	9	450 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Drywall Wall	10	50000 Sq. Ft.		Negative	Non ACM
101	Main Storage 101	1	Non Tagged Door Frame Caulk	11	40 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Door Window Glazing	12	10 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Fiberglass Deck	18	13776 Sq. Ft.		Negative	Non ACM
102	Manager's Office 102	1	9" x 9" Floor Tile Brown	13	2 Sq. Ft.		Positive	Intact
102	Manager's Office 102	1	Mastic of 9" x 9" Floor Tile Brown	14	2 Sq. Ft.		Positive	Intact
102	Manager's Office 102	1	Tagged Metal Door	7	1 Total		Assumed	Intact
102	Manager's Office 102	1	Drywall Ceiling	1	144 Sq. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Window Frame Caulk	2	15 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Window Glazing	3	20 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Wall Joint Caulk	4	10 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	4" Black Covebase	5	45 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Mastic 4" Black Covebase	6	45 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Tagged Metal Door Frame Caulk	8	20 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	4" Brown Covebase	15	48 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Mastic of 4" Brown Covebase	16	48 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Tagged Metal Frame	7.1	1 Total		Assumed	Intact
103	Main Office 103	1	Window Frame Caulk	2	36 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Window Glazing	3	75 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Wall Joint Caulk	4	20 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Floor Joint Caulk	9	110 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Drywall Wall	10	1000 Sq. Ft.		Negative	Non ACM
103	Main Office 103	1	Black Foam Insulation	17	15 Ln. Ft.		Negative	Non ACM
103A	Assistant's Office 103A	1	Wall Joint Caulk	4	10 Ln. Ft.		Negative	Non ACM
103A	Assistant's Office 103A	1	Floor Joint Caulk	9	10 Ln. Ft.		Negative	Non ACM

Surplus Building #190

List by Positive, Assumed, Negative Homogeneous Areas

FS#	FS Description	Floor	ACM Description	HA#	Quantity	Units	Asbestos	Material Condition
102	Manager's Office 102	1	9" x 9" Floor Tile Brown	13	2 Sq. Ft.		Positive	Intact
102	Manager's Office 102	1	Mastic of 9" x 9" Floor Tile Brown	14	2 Sq. Ft.		Positive	Intact
102	Manager's Office 102	1	Tagged Metal Door	7	1 Total		Assumed	Intact
103	Main Office 103	1	Tagged Metal Frame	7.1	1 Total		Assumed	Intact
101	Main Storage 101	1	Window Frame Caulk	2	10 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Window Glazing	3	10 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Wall Joint Caulk	4	20 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Floor Joint Caulk	9	450 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Drywall Wall	10	50000 Sq. Ft.		Negative	Non ACM
101	Main Storage 101	1	Non Tagged Door Frame Caulk	11	40 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Door Window Glazing	12	10 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Fiberglass Deck	18	13776 Sq. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Drywall Ceiling	1	144 Sq. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Window Frame Caulk	2	15 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Window Glazing	3	20 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Wall Joint Caulk	4	10 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	4" Black Covebase	5	45 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Mastic 4" Black Covebase	6	45 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Tagged Metal Door Frame Caulk	8	20 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	4" Brown Covebase	15	48 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Mastic of 4" Brown Covebase	16	48 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Window Frame Caulk	2	36 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Window Glazing	3	75 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Wall Joint Caulk	4	20 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Floor Joint Caulk	9	110 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Drywall Wall	10	1000 Sq. Ft.		Negative	Non ACM
103	Main Office 103	1	Black Foam Insulation	17	15 Ln. Ft.		Negative	Non ACM
103A	Assistant's Office 103A	1	Wall Joint Caulk	4	10 Ln. Ft.		Negative	Non ACM
103A	Assistant's Office 103A	1	Floor Joint Caulk	9	10 Ln. Ft.		Negative	Non ACM

Michigan State University
Surplus Building #190
List by Homogeneous Area

Asbestos Inspection

FS#	FS Description	Floor	ACM Description	HA#	Quantity	Units	Asbestos	Material Condition
102	Manager's Office 102	1	Drywall Ceiling	1	144 Sq. Ft.		Negative	Non ACM
101	Main Storage 101	1	Window Frame Caulk	2	10 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Window Frame Caulk	2	15 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Window Frame Caulk	2	36 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Window Glazing	3	10 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Window Glazing	3	20 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Window Glazing	3	75 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Wall Joint Caulk	4	20 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Wall Joint Caulk	4	10 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Wall Joint Caulk	4	20 Ln. Ft.		Negative	Non ACM
103A	Assistant's Office 103A	1	Wall Joint Caulk	4	10 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	4" Black Covebase	5	45 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Mastic 4" Black Covebase	6	45 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Tagged Metal Door	7	1 Total		Assumed	Intact
103	Main Office 103	1	Tagged Metal Frame	7.1	1 Total		Assumed	Intact
102	Manager's Office 102	1	Tagged Metal Door Frame Caulk	8	20 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Floor Joint Caulk	9	450 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Floor Joint Caulk	9	110 Ln. Ft.		Negative	Non ACM
103A	Assistant's Office 103A	1	Floor Joint Caulk	9	10 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Drywall Wall	10	50000 Sq. Ft.		Negative	Non ACM
103	Main Office 103	1	Drywall Wall	10	1000 Sq. Ft.		Negative	Non ACM
101	Main Storage 101	1	Non Tagged Door Frame Caulk	11	40 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Door Window Glazing	12	10 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	9" x 9" Floor Tile Brown	13	2 Sq. Ft.		Positive	Intact
102	Manager's Office 102	1	Mastic of 9" x 9" Floor Tile Brown	14	2 Sq. Ft.		Positive	Intact
102	Manager's Office 102	1	4" Brown Covebase	15	48 Ln. Ft.		Negative	Non ACM
102	Manager's Office 102	1	Mastic of 4" Brown Covebase	16	48 Ln. Ft.		Negative	Non ACM
103	Main Office 103	1	Black Foam Insulation	17	15 Ln. Ft.		Negative	Non ACM
101	Main Storage 101	1	Fiberglass Deck	18	13776 Sq. Ft.		Negative	Non ACM



Michigan State University
Surplus Building
Building #190

Section III
Laboratory Results

This section provides the bulk sample collection information and laboratory results for all samples analyzed.

The Bulk Sample Results forms identify sample ID, Material Description, Material Class, Location of Sample, Sample Condition, Asbestos Detected, % Type of Asbestos and Non-Asbestos Material. Subsequent to these forms are the EMSL Analytical, Inc. Laboratory Results forms.



BULK SAMPLE RESULTS

CLIENT: Michigan State University

BUILDING: Surplus Building

PROJECT #: CI0539/SB101

TYPE OF ANALYSIS: PLM

<u>SAMPLE I.D.</u>	<u>MATERIAL DESCRIPTION</u>	<u>CLASS</u>	<u>LOCATION OF SAMPLE</u>	<u>SAMPLE CONDITION</u>	<u>ASBESTOS DETECTED</u>	<u>%/TYPE</u>	<u>NON-ASBESTOS MATERIAL</u>
CI0539/SB101-001	Drywall Ceiling	Misc.	Southwest Corner of Manager's Office at Ceiling	Friable	None Detected	---	10% Cellulose 90% Other Nonfibrous
CI0539/SB101-002	Window Frame Caulk	Misc.	Center of East Wall in Office Area	Non-Friable	None Detected	---	100% Other Nonfibrous
CI0539/SB101-003	Window Glazing	Misc.	Center of East Wall in Office Area	Non-Friable	None Detected	---	100% Other Nonfibrous
CI0539/SB101-004	Wall Joint Caulk	Misc.	Northwest Corner of Main Office Area	Non-Friable	None Detected	---	<1% Cellulose 100% Other Nonfibrous
CI0539/SB101-005A	4" Black Covebase	Misc.	Southwest Corner of Manager's Office	Non-Friable	None Detected	---	100% Other Nonfibrous
CI0539/SB101-005B	4" Black Covebase Mastic	Misc.	Southwest Corner of Manager's Office	Non-Friable	None Detected	---	1% Cellulose 99% Other Nonfibrous
CI0539/SB101-006	Tagged Metal Door Frame Caulk	Misc.	East Doorway of Manager's Office	Non-Friable	None Detected	---	100% Other Nonfibrous
CI0539/SB101-007	Floor Joint Caulk	Misc.	Center of Office Area	Non-Friable	None Detected	---	80% Cellulose 20% Other Nonfibrous
CI0539/SB101-008	Drywall Wall	Misc.	Southwest Corner of Manager's Office	Friable	None Detected	---	5% Cellulose 95% Other Nonfibrous
CI0539/SB101-009	Non-Tagged Door Frame Caulk	Misc.	Southwest Entrance to Main Storage Area	Non-Friable	None Detected	---	100% Other Nonfibrous
CI0539/SB101-010	Door Window Glazing	Misc.	Main Entrance Southeast	Non-Friable	None Detected	---	2% Cellulose 98% Other Nonfibrous
CI0539/SB101-011A	9" x 9" Brown Floor Tile	Misc.	Southwest Corner of Manager's Office	Non-Friable	Yes	2% Chrysotile	98% Other Nonfibrous
CI0539/SB101-011B	9" x 9" Brown Floor Tile Mastic	Misc.	Southwest Corner of Manager's Office	Non-Friable	Yes	3% Chrysotile	97% Other Nonfibrous
CI0539/SB101-012A	4" Brown Covebase	Misc.	Southwest Corner of Manager's Office	Non-Friable	None Detected	---	100% Other Nonfibrous
CI0539/SB101-012B	4" Brown Covebase Mastic	Misc.	Southwest Corner of Manager's Office	Non-Friable	None Detected	---	100% Other Nonfibrous

**EMSL Analytical, Inc.**

212 South Wagner Road, Ann Arbor, MI 48103

Phone: (734) 668-6810 Fax: (734) 668-8532 Email: annarborlab@emsl.com

Attn: **Joel Lamb**
Nova Environmental, Inc
5340 Plymouth Rd
Suite 210
Ann Arbor, MI 48105

Customer ID: NOVA53
 Customer PO:
 Received: 10/11/06 7:45 PM
 EMSL Order: 080603814

Fax: (734) 930-2969 Phone: (734) 930-0995
 Project: **CI0539/SB101, Michigan State University, Surplus**
Building #190, Throughout

EMSL Proj:
 Analysis Date: 10/12/2006
 Report Date: 10/12/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
CI0539/SB101-001 080603814-0001		White Non-Fibrous Heterogeneous	10% Cellulose	90% Non-fibrous (other)	None Detected
CI0539/SB101-002 080603814-0002		White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
539/SB101-003 080603814-0003		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
CI0539/SB101-004 080603814-0004		White Non-Fibrous Heterogeneous	<1% Cellulose	100% Non-fibrous (other)	None Detected
CI0539/SB101-005A 080603814-0005		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
CI0539/SB101-005B 080603814-0006		Yellow Non-Fibrous Heterogeneous	1% Cellulose	99% Non-fibrous (other)	None Detected
CI0539/SB101-006 080603814-0007		White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)

Justin Bolton (15)

Paul Senne,
 Laboratory Manager
 or other approved signatory

magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Analysis performed by EMSL Ann Arbor (NVLAP #101048-4)

**EMSL Analytical, Inc.**

212 South Wagner Road, Ann Arbor, MI 48103

Phone: (734) 668-6810 Fax: (734) 668-8532 Email: annarborlab@emsl.com

Attn: **Joel Lamb**
Nova Environmental, Inc
5340 Plymouth Rd
Suite 210
Ann Arbor, MI 48105

Customer ID: NOVA53
 Customer PO:
 Received: 10/11/06 7:45 PM
 EMSL Order: 080603814

Fax: (734) 930-2969 Phone: (734) 930-0995
 Project: **CI0539/SB101, Michigan State University, Surplus**
Building #190, Throughout

EMSL Proj:
 Analysis Date: 10/12/2006
 Report Date: 10/12/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
CI0539/SB101-007 080603814-0008		Brown Fibrous Heterogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
CI0539/SB101-008 080603814-0009		White Non-Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (other)	None Detected
539/SB101-009 080603814-0010		White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
CI0539/SB101-010 080603814-0011		Black Non-Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	None Detected
CI0539/SB101-011A 080603814-0012		Pink Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile
CI0539/SB101-011B 080603814-0013		Black Non-Fibrous Heterogeneous		97% Non-fibrous (other)	3% Chrysotile
CI0539/SB101-012A 080603814-0014		Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)

Justin Bolton (15)

Paul Senne,
 Laboratory Manager
 or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Analysis performed by EMSL Ann Arbor (NVLAP #101048-4)



EMSL Analytical, Inc.

212 South Wagner Road, Ann Arbor, MI 48103

Phone: (734) 668-6810 Fax: (734) 668-8532 Email: annarborlab@emsl.com

Attn: **Joel Lamb**
Nova Environmental, Inc
5340 Plymouth Rd
Suite 210
Ann Arbor, MI 48105

Customer ID: NOVA53
Customer PO:
Received: 10/11/06 7:45 PM
EMSL Order: 080603814

Fax: (734) 930-2969 Phone: (734) 930-0995
Project: **CI0539/SB101, Michigan State University, Surplus**
Building #190, Throughout

EMSL Proj:
Analysis Date: 10/12/2006
Report Date: 10/12/2006

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
CI0539/SB101-012B		Brown		100% Non-fibrous (other)	None Detected
080603814-0015		Non-Fibrous			
		Heterogeneous			

Analyst(s)

Justin Bolton (15)

Paul Senne,
Laboratory Manager
or other approved signatory

magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Analysis performed by EMSL Ann Arbor (NVLAP #101048-4)

BULK SAMPLE ANALYTICAL REPORT

Fibertec IHS Project #32373-1
NVLAP Accreditation #101510-0

Client Name: Michigan State University
Project Name: BPS - Storage (Surplus)
Summary: 1 Submitted Bulk Sample, 1 Sample Layer Analyzed.

Date Sampled: 11/1/2012 Client P.O. #: N/A
Date Submitted: 11/1/2012 C.O.C. #: 115187
Date Analyzed: 11/5/2012

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos Containing Portion	Analyst
1	1	Gray tabular material, light gray table top.	Chrysotile 8%	Non-fibrous material 92%	CBD

BULK SAMPLE ANALYTICAL REPORT

Fibertec IHS Project #32223-1
NVLAP Accreditation #101510-0

Client Name: Michigan State University
Project Name: Surplus
Summary: 1 Submitted Bulk Sample, 1 Sample Layer Analyzed.

Date Sampled: 9/27/2012
Date Submitted: 9/27/2012
Date Analyzed: 9/27/2012

Client P.O. #: N/A
C.O.C. #: 115178

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos Containing Portion	Analyst
1	1	White fibrous material, oven with brown insulation.	Chrysotile 15%	Non-fibrous material 85%	JAW

BULK SAMPLE ANALYTICAL REPORT

Fibertec IHS Project #31130
NVLAP Accreditation #101510-0

Client Name: Michigan State University
Project Name: Various, Int. Center, Chittenden
Summary: 5 Submitted Bulk Samples, 5 Sample Layers Analyzed.

Date Sampled: 3/13/2012
Date Submitted: 3/13/2012
Date Analyzed: 3/14/2012

Client P.O. #: N/A
C.O.C. #: 111638

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos Containing Portion	Analyst
1	1	White fibrous material, packing, Surplus.	Chrysotile 50%	Cellulose fibers 45% Non-fibrous material 5%	CBD
2	2	Gray granular material, spray-on, Int. Center.	NAD	Non-fibrous material 75% Cellulose fibers 25%	CBD
3	3	Black fibrous material, chalkboard, Chittenden.	NAD	Non-fibrous material 95% Fibrous glass 5%	CBD
4	4	Black tabular material, red battleship linol..	NAD	Non-fibrous material 85% Cellulose fibers 15%	CBD
6	6	White granular material, white packing, Giltner.	Chrysotile 7%	Non-fibrous material 93%	CBD

BULK SAMPLE ANALYTICAL REPORT

Fibertec IHS Project #30237-1
NVLAP Accreditation #101510-0

Client Name: Michigan State University
Project Name: MSU Surplus
Summary: 2 Submitted Bulk Samples, 2 Sample Layers Analyzed.

Date Sampled: 8/22/2011
Date Submitted: 8/22/2011
Date Analyzed: 8/23/2011

Client P.O. #: N/A
C.O.C. #: 105972

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos Containing Portion	Analyst
1	1	Brown tabular material, brown surplus tile.	NAD	Non-fibrous material 92% Cellulose fibers 8%	CBD
2	2	Green tabular material, green surplus tile.	NAD	Non-fibrous material 92% Cellulose fibers 8%	CBD

BULK SAMPLE ANALYTICAL REPORT

Fibertec IHS Project #30098-1
NVLAP Accreditation #101510-0

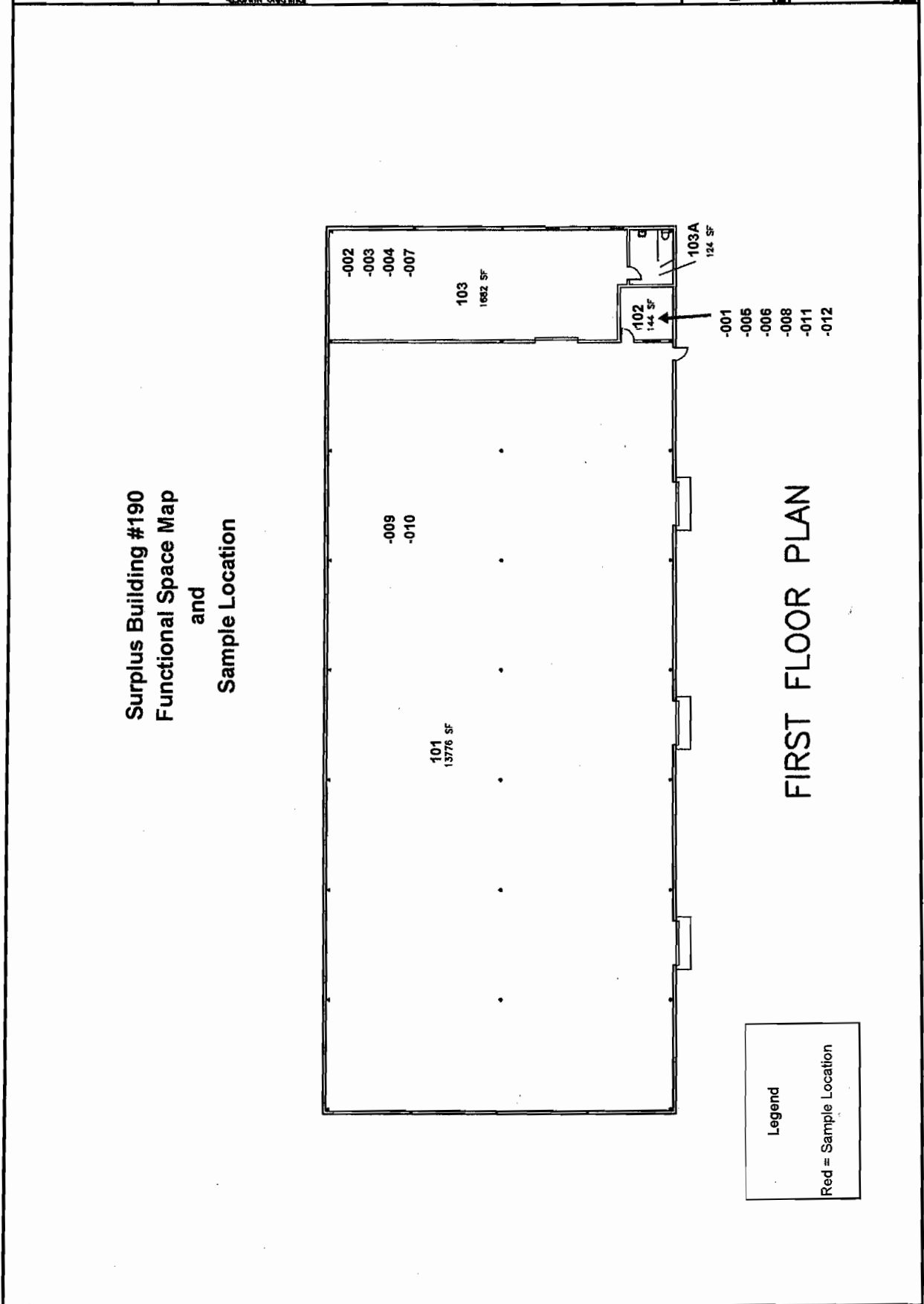
Client Name: Michigan State University
Project Name: MSU Clinical Center
Summary: 1 Submitted Bulk Sample, 1 Sample Layer Analyzed.

Date Sampled: 7/26/2011
Date Submitted: 7/26/2011
Date Analyzed: 7/26/2011

Client P.O. #: N/A
C.O.C. #: 106523

Fibertec Sample No.	Client I.D. No.	Description / Location	Asbestos Type	Non-Asbestos Containing Portion	Analyst
1	1	Black granular material, Room A219A	NAD	Non-fibrous material 100%	CBD

*file w/ Surplus
Sampler*

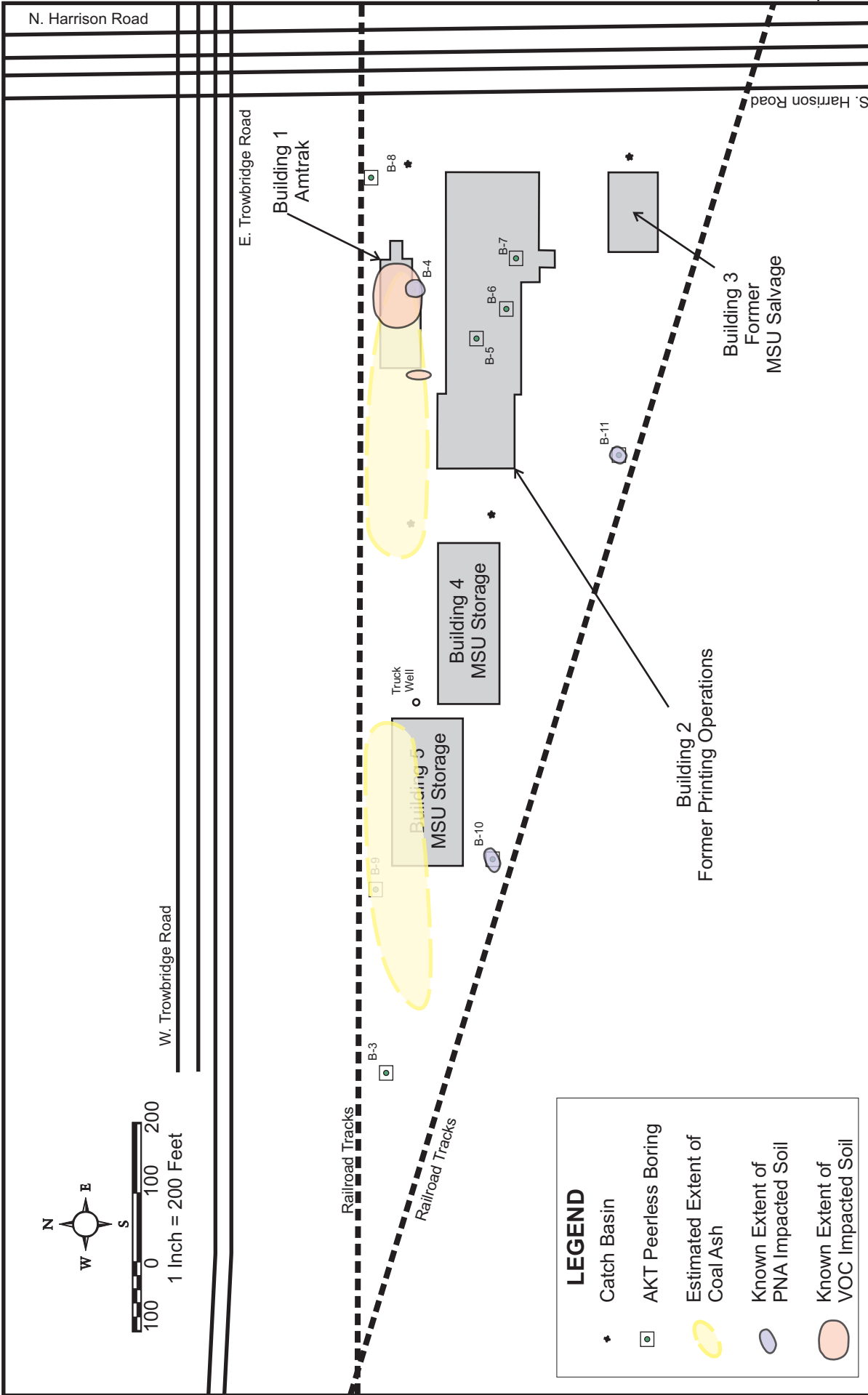


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MICHIGAN STATE UNIVERSITY
 PHYSICAL PLANT DIVISION
 ENGINEERING AND ARCHITECTURAL SERVICES
 SALVAGE BUILDING
 FIRST FLOOR PLAN

JCM	07-21-92	1" = 20'	1 of 2	0493
DATE	07-21-92	SCALE	SHEET	NO.
BY	JCM	DATE	07-21-92	0493

03-29-01 BLDG\p0190\p0190.1.DWG

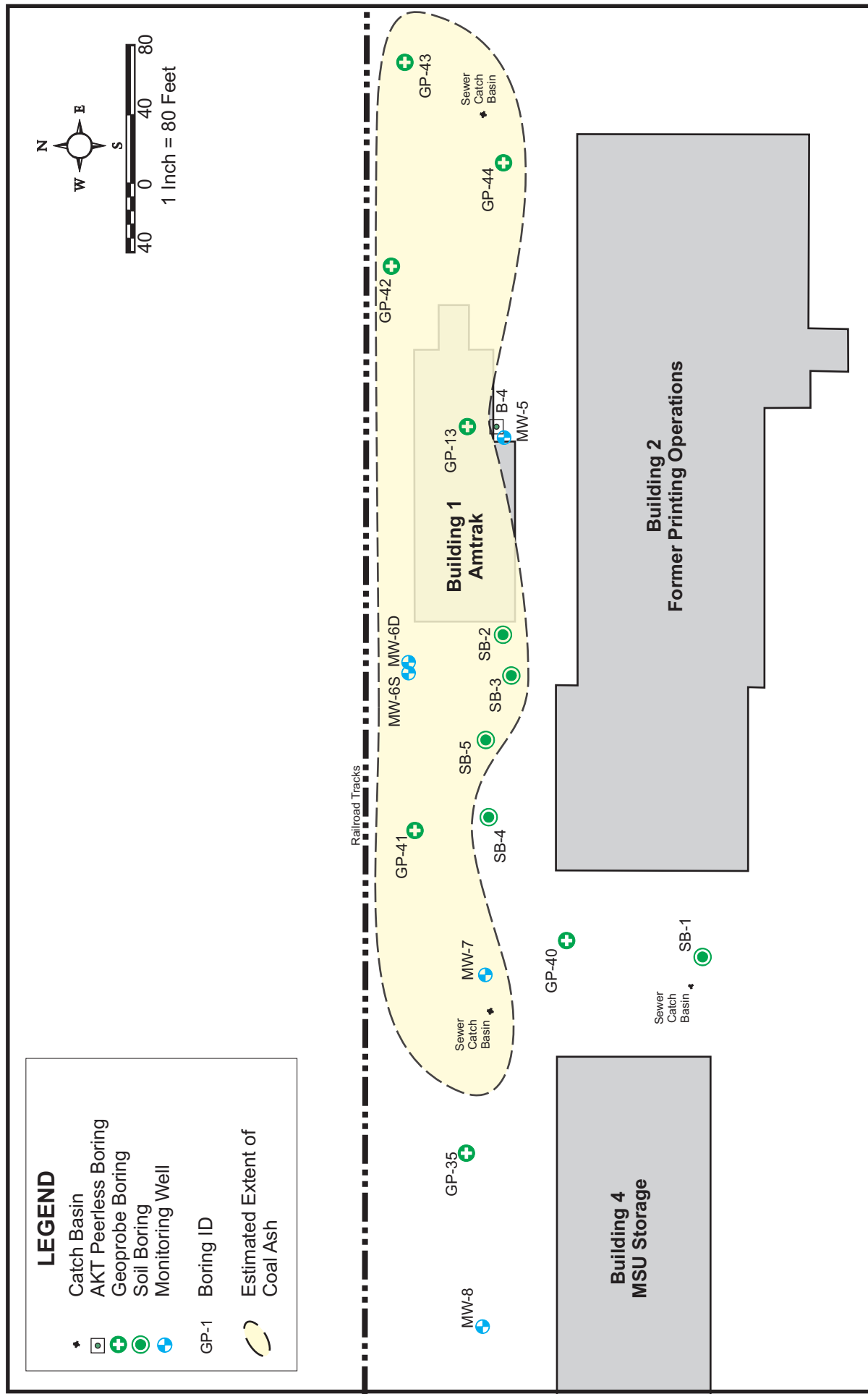


**SOIL AND GROUND-WATER
INVESTIGATION**

Amtrak Triangle
Michigan State University
East Lansing, Michigan

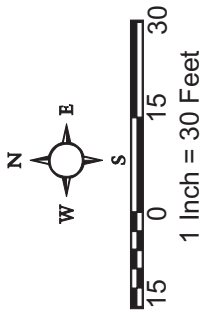


FIGURE 1
Known Extent
of
Impacted Soil



**SOIL AND GROUND-WATER
INVESTIGATION**
Amtrak Triangle
Michigan State University
East Lansing, Michigan

FIGURE
Coal Ash
Delineation
Soil Borings



Building 5
MSU Storage

GP-9
(1-2 ft)
Summed PNAs - 59,050 ug/kg
Benzo(a)pyrene - **4700** ug/kg
Fluoranthene - **12,000** ug/kg
Phenanthrene - **6400** ug/kg

(2.5-3.5 ft)
Summed PNAs - ND

GP-31
(1.5 - 2.5 ft)
Summed PNAs - ND

GP-30
(1.5 - 2.5 ft)
Summed PNAs - ND

GP-7
(1 - 2 ft)
Summed PNAs - ND

GP-29
(1.5 - 2.5 ft)
Summed PNAs - ND

GP-8
(1 - 2 ft)
Summed PNAs - ND

GP-10
(1 - 2 ft)
Summed PNAs - ND

B-10*/GP-6
(0 - 0.5 ft)
Summed PNAs - ???
Benzo(a)pyrene - **4900** ug/kg
Fluoranthene - **11,300** ug/kg

(1-2 ft)
Summed PNAs - 154,500 ug/kg
Benzo(a)pyrene - **12000** ug/kg
Dibenzo(ah)anthracene - **2000** ug/kg
Fluoranthene - **31,000** ug/kg
Phenanthrene - **18000** ug/kg

Railroad Tracks

LEGEND

- ★ Catch Basin
- ☐ AKT Peerless Boring
- ⊕ Geoprobe Boring
- ⊕ Soil Boring
- ⊕ Monitoring Well
- GP-1 (0-1 ft)
- Sample ID and Depth
- 450 Bold Concentration Exceeds DW or GSI GRCC
- 450 Red Concentration Exceeds DC GRCC
- ⬭ Impacted Area

* Soil samples collected 8-27-12 except for sample marked with an asterisk - collected in 2010.

SOIL AND GROUND-WATER INVESTIGATION

Amtrak Triangle
Michigan State University
East Lansing, Michigan

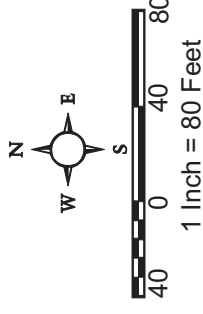
STRATA ENVIRONMENTAL SERVICES, INC.

FIGURE

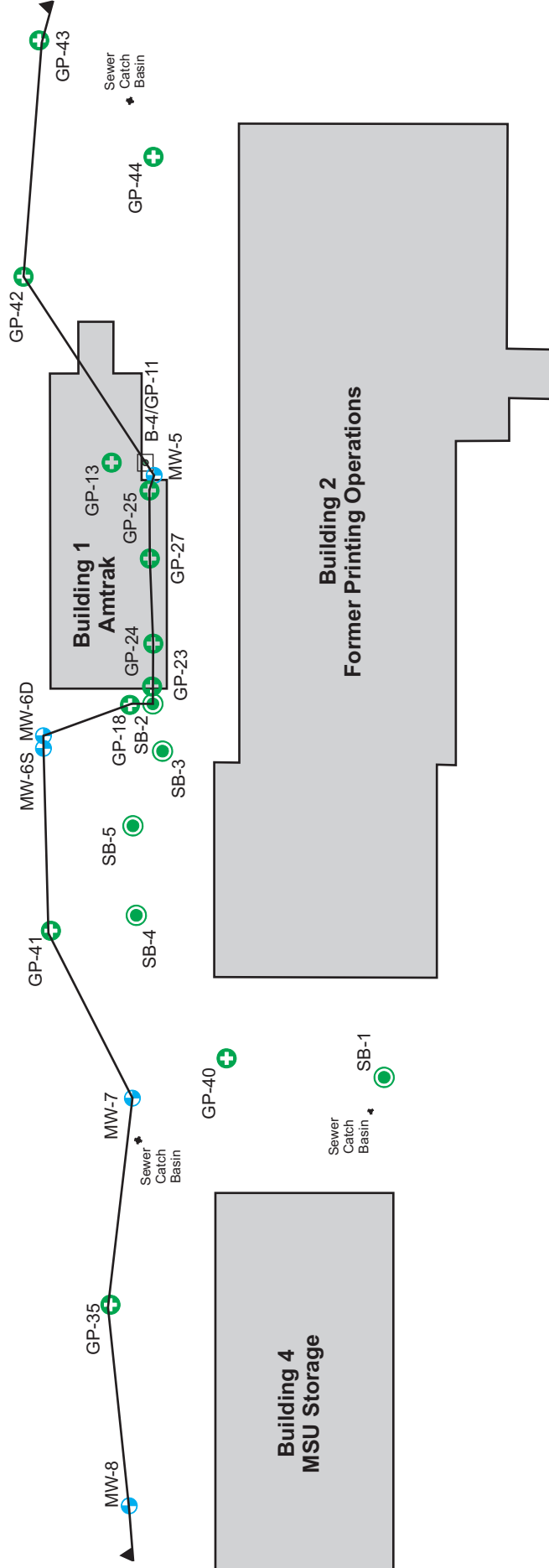
Impacted Soil in Area
of
AKT Soil Boring B-10

LEGEND

- ◆ Catch Basin
- AKT Peerless Boring
- ⊕ Geoprobe Boring
- Soil Boring
- ⊕ Monitoring Well
- ↗ Cross Section Line



Railroad Tracks



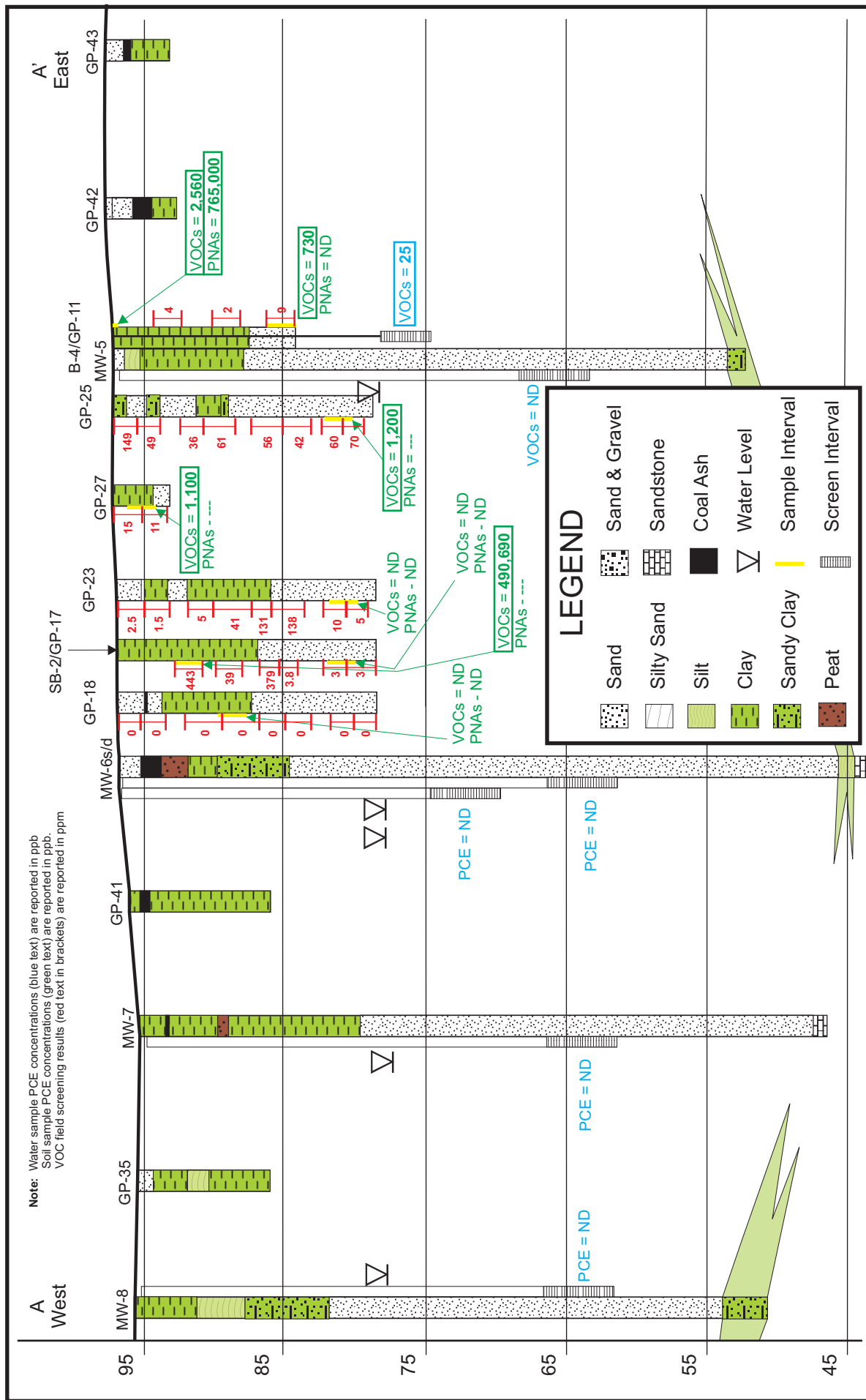
SOIL AND GROUND-WATER INVESTIGATION

Amtrak Triangle
Michigan State University
East Lansing, Michigan

FIGURE

Location of
Cross Sections





SOIL AND GROUND-WATER INVESTIGATION
Amtrak Triangle
 Michigan State University
 East Lansing, Michigan

FIGURE
 Geologic Cross-Section
 A - A'

STRATA
 ENVIRONMENTAL
 SERVICES, INC.