

DRAFT

PROJECT MANUAL

ONEIDA COUNTY INDUSTRIAL DEVELOPMENT AGENCY

Sub-Slab Depressurization System Installation

421 Ridge Street Office Building
City of Rome
Oneida County, New York

November 8, 2011

SCE PROJECT NO. 00514.04



Consulting Engineering & Land Surveying, P.C.
430 Court Street
Utica, New York 13502
Telephone No.: (315) 724-0100 Fax No.: (315) 724-3715

BID SET

DOCUMENT 00001

TITLE PAGE

PROJECT MANUAL

FOR

ONEIDA COUNTY INDUSTRIAL DEVELOPMENT AGENCY

SUB-SLAB DEPRESSURIZATION SYSTEM INSTALLATION
421 RIDGE STREET OFFICE BUILDING
CITY OF ROME
ONEIDA COUNTY, NEW YORK

SCE No. 00514.04

DATE

SHUMAKER CONSULTING ENGINEERING
& LAND SURVEYING, P.C.
430 COURT STREET
UTICA, NEW YORK 13502

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SCE No. 00514.04
00001/1

SUB-SLAB DEPRESSURIZATION SYSTEM INSTALLATION
421 RIDGE STREET OFFICE BUILDING
CITY OF ROME
ONEIDA COUNTY, NEW YORK

GENERAL CONSTRUCTION
BIDDING CHECKLIST

This bidding checklist is provided to assist prospective bidders with completion and submittal of their bid so that they will contain all the documents required for the contract being bid. This checklist requires that the prospective bidder file in the contract number and name, initial each item being included in the bid submission on the checklist and for the signature on the bid form to sign this checklist and submit it as part of the bid submission.

Initial blanks next to each item on checklist, after preparing and completely executing the respective items. Initials shall only be by the same person signing the bid form.

Initial Below

- | | | |
|----|---|-------|
| 1. | Bidding Checklist | _____ |
| 2. | Bid Form (Document 00300) | _____ |
| 3. | Certificate of Non-Collusion (Document 00301) | _____ |
| 4. | Corporate Resolution (Document 00302) | _____ |
| 5. | Statement of Contractor's Qualifications (Document 00303) | _____ |
| 6. | Bid Security (Document 00410) | _____ |
| 7. | Statement of Surety's Intent (Document 00306) | _____ |
| 8. | List of Subcontractors | _____ |

Certification Statement:

The above items have been fully completed and executed in full accordance with the provisions specified in the instructions contained in the Performance Specification. It is further acknowledged that failure to properly complete this form or provide any of the above required documents as specified in the Performance Specification is itself sufficient incontrovertible grounds for rejection of the bid, at the full discretion of the County during the evaluation of bids, and that this statement does not change or modify the information in the Performance Specification.

Acknowledged and Agreed to Hereby:

By _____

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DOCUMENT
NO. _____

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* * * * *

LIST OF DRAWINGS

The following Drawings accompany this Performance Specification and are a part thereof. Drawings are the property of the Engineer and shall not be used for any other purpose other than contemplated by the Drawings and Performance Specification.

<u>Drawing No.</u>	<u>Title</u>
1	Floorplan – Sub-slab Extraction Point Locations
2	Profile – Typical Sub-slab Depressurization Single Extraction Point Installation

* * * * *

NOTICE TO CONTRACTORS

Sealed Proposals for:

421 RIDGE STREET OFFICE BUILDING
CITY OF ROME, ONEIDA COUNTY
SUB-SLAB DEPRESSURIZATION SYSTEM INSTALLATION

The Oneida County Industrial Development Agency will receive bids on (INSERT DATE), at 2:00 PM, local time, at which time Bids will be publicly opened and read aloud. Address and mail or deliver sealed Bids to Shawna Papale, Secretary/Executive Director, Oneida County Industrial Development Agency, 584 Phoenix Drive, Rome, New York 13441.

The Bidding Documents, including Plans, Instructions to Bidders, Bid Form, Form of Agreement, General Conditions, Supplementary Conditions, Performance Specifications, and Forms of Performance and other Surety Bonds may be examined at the office of Shumaker Consulting Engineering & Land Surveying, P.C., 430 Court Street, Utica, New York, and copies may be obtained upon a refundable deposit of One Hundred Dollars (\$100.00) made payable to Shumaker Consulting Engineering for each complete set of Bidding Documents. Deposit will be returned to Bidders who return their plans and specifications, in good condition, with their Bid.

Documents can be shipped to the Bidder upon separate non-refundable payment to Shumaker Consulting Engineering of Thirty Dollars (\$30.00) for regular delivery and Fifty Dollars (\$50.00) for overnight delivery, for each set of documents to be shipped.

Bidding Documents will be placed on file at the following locations:

MOHAWK VALLEY BUILDER'S EXCHANGE, INC.
728 COURT STREET
UTICA, NY 13502

SYRACUSE BUILDERS EXCHANGE
6563 RIDINGS ROAD
SYRACUSE, NY 13206

The Owner reserves the right to waive any irregularity and reject any or all Bids.

Any Contractor receiving Bid Documents from sources other than the engineer are responsible to ensure that all required forms, formats, addenda and other official bid documents are included with their bid. Missing or incorrect Bid Documents will be disqualified.

Each Bidder must deposit, with his Bid, security in an amount not less than five percent (5%) of the Base Bid in the form and subject to the conditions provided in the Instructions to Bidders.

Attention of Bidders is particularly called to requirements as to conditions of employment to be observed and attached wage rates schedule to be paid under this Contract.

No Bidder may withdraw his Bid within 60 days after the date set for the opening thereof.

A Mandatory Pre-bid Meeting will be held (INSERT DATE AND TIME), at the project Office Building located at 421 Ridge Street, Rome, New York.

By: Shawna Papale
OCIDA

INSTRUCTIONS TO BIDDERS

ENGINEER:

Shumaker Consulting Engineering
& Land Surveying, P.C.
430 Court Street
Utica, New York 13502

Phone: (315) 724-0100
Fax: (315) 724-3715

OWNER:

Oneida County Industrial
Development Agency
584 Phoenix Drive
Rome, New York 13441

DOCUMENTS:

Bidders may obtain copies of the Drawings and Performance Specifications from Shumaker Consulting Engineering & Land Surveying, P.C. upon a refundable deposit of One Hundred Dollars (\$100.00) for each set of documents. Deposit will be returned to all Bidders who return their plans and specifications, in good condition, with their Bid.

Copies can be shipped to the Bidder upon separate non-refundable payment to Shumaker Consulting Engineering & Land Surveying, P.C. of Thirty Dollars (\$30.00) for regular delivery or Fifty Dollars (\$50.00) for overnight delivery for each set of documents to be shipped.

Any bidder choosing to obtain bids through alternative means does so at his/her own risk for timely receipt of notifications or addenda promulgated through the bid period.

EXAMINATION:

Bidders are responsible for examining the Bid Documents and visiting the site to obtain first-hand knowledge of existing conditions. Contractors will not be given extra payments for conditions which can be determined by examining the Bid Documents and visiting the site.

QUESTIONS:

Submit all questions about the Bid Documents in *WRITING* (Fax 315-724-3715) to the Engineer to the attention of Robert A. Koslosky, P.G., by 12:00 p.m. on (INSERT DATE). Questions received after this time and date cannot be answered. Replies will be issued to all Bidders of Record as Addenda to the Bid Documents and will become a part of the Contract. No Bidder shall rely upon any interpretation or correction by any other method.

PRE-BID CONFERENCE

A Mandatory Pre-bid meeting will be held. Unrestricted, unaccompanied access to the building interior will not be allowed. Contractors must attend the Pre-bid meeting on (INSERT DATE AND TIME) at the project Office Building located at 421 Ridge Street, City of Rome, Oneida County, New York.

EQUIVALENTS:

Where, in these specifications, one (1) certain kind, type, brand or manufacture of material is named, it shall be regarded as the required standard of quality. Where two (2) or more are named, these are presumed to be equal and the Contractor may select one (1) of those items. If the Contractor desires to use any kind, type, brand or manufacture of material other than that named in the specification, he shall indicate in writing prior to Award of Contract, what kind, type, brand or manufacture is included in the Base Bid for the specific specified item and

submit information describing wherein it differs from base specifications in specific detail and other information as required by the Owner. The risk of whether bid equivalents will be accepted shall be borne by the Contractor.

PREVAILING RATE SCHEDULES:

Prevailing wage rates and supplements of the building occupations, as determined by the Department of Labor, Bureau of Public Works, are attached and form a part of the Contract Documents. Contractor shall include in his proposal all anticipated wage rate increases that may occur during the life of the Project.

PREPARATION OF BIDS:

All Bids must be prepared on the form provided by the Engineer and submitted in accordance with the Instructions to Bidders. All blanks shall be filled in, in ink or typewritten, in both words and figures where indicated.

A Bid is invalid if it has not been deposited at the designated location prior to the time and date for receipt of Bids indicated in the Notice to Contractors or prior to any extension thereof issued by Addenda to the Bidders of Record.

MODIFICATIONS AND WITHDRAWAL:

No Bidder shall modify, withdraw or cancel his Bid or any part thereof for 60 days after the time designated for the receipt of Bids in the Notice to Contractors.

ADDENDA:

Prior to the receipt of Bids, Addenda will be mailed or delivered to each Bidder of record and where Bidding Documents have been placed on file.

BID SECURITY:

Each Proposal must be accompanied by a Bid Security payable to the Owner in the amount of five percent (5%) of the Bid Proposal. Bid Bonds shall be a fully executed EJCDC Document 1910-28-D (copy attached) or equivalent Bid Bond. Checks shall be either cashier's or certified. Non-guaranteed checks will not be accepted.

Such security will be returned to all except the two (2) lowest formal Bidders within 10 days after the formal opening of the Proposals. The remaining security will be returned to the two lowest Bidders upon execution of the Contract.

The successful Bidder, upon his failure or refusal to execute and deliver the Contract and Bond required within 10 days after he has received notice of the acceptance of his Proposal, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his Proposal.

NON-COLLUSIVE BIDDING:

Proposals shall be accompanied by a Non-Collusive Bidding Certification, as required by Section 103-D of the General Municipal Law.

CORPORATION RESOLUTION:

Proposals submitted by a firm incorporated under the laws of the State, shall be accompanied by a Corporate Resolution properly authorized and bearing the Seal of the Corporation.

SALES TAX EXEMPTION:

The Owner is exempt from the payment of sales and compensating use taxes of the State of New York and of cities and counties within the State of New York under existing laws. Sales taxes on materials to be incorporated into the Project which are sold to the Owner pursuant to the provisions of the Contract are not to be included in Bids. The exemption does not, however, apply to tools, machinery, equipment or other property leased by or to the Contractor or a Subcontractor, and the Contractor and his Subcontractors shall be responsible for and pay any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property, and for materials not incorporated into the project. An exemption certificate will be supplied to the successful Bidder upon Award of Contract.

SUBMITTAL:

A complete Bid submittal will consist of the following documents:

1. Bidding Checklist.
2. Bid Form (Document 00300).
3. Non-Collusive Bidding Certificate (Document 00301).
4. Corporate Resolution (Document 00302).
5. Statement of Contractor's Qualifications (Document 00303).
6. Bid Security.
7. Statement of Surety's Intent (Document 00306).
8. List of Subcontractors.

Submit Bid in an opaque, sealed envelope. Use original forms supplied by Engineer or photocopies of forms included in this Performance Specification. Identify the envelope with: (1) Project name, (2) Name of Bidder, and (3) Mark Envelope "SEALED BID." Submit Bids in accordance with the Notice to Contractors. Performance Specification and drawings must be returned with the Bids.

DISQUALIFICATION:

The Owner reserves the right to disqualify Bids, before or after opening, upon evidence of collusion with intent to defraud or other illegal practices upon the part of the Bidder.

OPENING:

Bids will be opened as announced in the Notice to Contractors.

REJECTION OF BIDS:

The Bidder acknowledges the right of the Owner to reject any or all Bids and to waive any informality or irregularity in any Bid received. In addition, the Bidder recognizes the right of the Owner to reject a Bid if the Bidder failed to furnish any required Bid security, or to submit the data required by the Bidding Documents, or if the Bid is in any way incomplete or irregular.

AWARD:

The Contract will be awarded on the basis of the lowest bid and most responsible Bidder.

The Bidder acknowledges the Owner's right to consider any combination of Alternatives in determination of the lowest bid. If so considered, the Contract amount will reflect the selection of the alternative(s).

PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND:

The successful Bidder shall deliver to the Owner prior to the execution of the Contract, Bonds covering the faithful performance of the Contract, and the payment of all obligations arising thereunder, in the amount of one hundred percent (100%) of the Contract amount with such sureties secured through the Bidder's usual sources as may be agreeable to the parties. The premiums for such Bonds shall be paid by the Bidder.

The Bidder shall require the Attorney in Fact who executes the required Bonds on behalf of the surety to affix thereto a certified and current copy of his Power of Attorney indicating the monetary limit of such power. Performance Bond and Labor and Material Payment Bond shall be a fully executed EJCDC Documents 1910-28A and 1910-28B (copies attached) or equivalent bonds.

EXECUTION OF CONTRACT:

Bidder shall be prepared, if so requested by the Owner, to present experience, qualifications and financial ability to carry out the terms of the Contract.

Notwithstanding any delay in the preparation and execution of the formal Contract Agreement, Bidder shall be prepared, upon written notice of Bid acceptance, to commence work within 14 days following receipt of Notice of Award by the Owner, or on the date stipulated in such Notice of Award.

The accepted Bidder shall assist and cooperate with the Owner in preparing the formal Contract Agreement and, within 10 days following its presentation, shall execute the Agreement and return it to the Owner.

* * * * *

NYSDEC MANDATORY CONTRACT CLAUSES

The following are mandatory contract provisions to be included in all Municipal/Consultant-Construction-Service contracts for work performed as part of an eligible Environmental Restoration Project (Brownfield). Any changes to these provisions by the municipality should be approved by the New York State Department of Environmental Conservation (NYSDEC) prior to execution of the contract. Failure to comply with these requirements may jeopardize the eligibility of your Brownfield project.

Mandatory Provisions

NON-DISCRIMINATION REQUIREMENTS

1. In accordance with Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, age, disability, or marital status.

To the extent that such work is to be provided pursuant to the contract, the following paragraph is required:

Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, the Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex or national origin: a) discriminate in hiring or promotion of any individual who is qualified and available to perform the work; or b) discriminate against or intimidate any employee hired for the performance of work under this contract.

WAGE AND HOUR PROVISIONS

2. If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither the Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, the Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law.

RECORDKEEPING REQUIREMENT

3. The Contractor shall maintain all books, documents, papers, and other evidence directly pertinent to the performance of work under this Contract in accordance with generally acceptable accounting principles and practices consistently applied, and 40 CFR Part 30 in effect during the term of this Contract. The Municipality, the Department of Environmental Conservation, the State Comptroller, the State Attorney General, the State Department of Labor, and, in the event of federal funding, the USEPA, the Comptroller General of the United States, the United States Department of Labor or any of their authorized representatives shall have access to all such books, records, documents and other evidence for the purpose of inspection, audit and copying for a period of six (6) years following final payment or the termination of this Contract whichever is later, and any extensions thereto. These books, records, documents and other evidence shall be accessible within the State of New York to the agencies identified above for the time period stated above. "Termination of this contract," as used in this clause, shall mean the later of completion of the work of the contract or the end date of the term stated in the contract.

CONFLICT OF INTEREST

4. To the best of the Contractor's knowledge and belief, the Contractor warrants that there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as herein defined, or that the Contractor has disclosed all such relevant information to the Municipality.

An organizational conflict of interest exists when the nature of the work to be performed under this Contract may, without some restriction on future activities, either result in an unfair competitive advantage to the Contractor or impair the Contractor's objectivity in performing the work for the Municipality.

The Contractor agrees that if an actual, apparent, or potential organizational conflict of interest is discovered at any time after award, whether before or during performance, the Contractor will immediately make a full disclosure in writing to the Municipality and the State Department of Environmental Conservation. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the Municipality, to avoid, mitigate, or minimize the actual or potential conflict.

Remedies – The Municipality may terminate this contract in whole or in part, if it deems such termination necessary to avoid an organizational or personal conflict of interest, or an unauthorized disclosure of information. If the Contractor was aware of a potential conflict of interest prior to award, or discovered an actual or potential conflict after award and did not disclose or misrepresent relevant information to the Municipality, the Municipality may terminate the contract, or pursue such other remedies as may be permitted by law or this contract. The terms of other applicable contract provisions regarding termination shall apply to termination by the Municipality pursuant to this clause.

The Contractor further agrees to insert in any subcontract hereunder, provisions which shall conform to the language of this clause.

- a. In addition to the requirements of the above clauses with respect to "Organizational Conflicts of Interest," the following provision with regard to employee personnel performing under this contract shall apply until the earlier of the termination date of the affected employee(s) or the duration of the contract.
- b. The Contractor agrees to notify the Department and the Municipality immediately of any actual, apparent or potential personal conflict of interest with regard to any employee, subcontractor employee, or consultant working on or having access to information regarding this contract, as soon as the Contractor becomes aware of such conflict. A personal conflict of interest is defined as a relationship of an employee, subcontractor employee, or consultant with an entity that may impair or appear to impair the objectivity of the employee, subcontractor employee, or consultant in performing the contract work. The Municipality will notify the Contractor of the appropriate action to be taken.
- c. To the extent that the work under this contract requires access to proprietary or confidential business or financial data of other companies, and as long as such data remains proprietary or confidential, the Contractor shall protect such data from unauthorized use and disclosure and agrees not to use it to compete with such companies.
- d. The Contractor shall certify annually that, to the best of the Contractor's knowledge and belief, all actual, apparent or potential conflicts of interest, both personal and organizational, have been reported to the Department and the Municipality. Such certification must be signed by a senior executive of the Contractor and submitted in accordance with instructions provided by the Municipality. Along with the annual certification, the Contractor shall also submit an update of any changes in the conflict of interest plan submitted with its proposal for this contract. The initial certification shall cover the one-year period from the date of contract award, and all subsequent certifications shall cover successive annual periods thereafter. The certification is to be submitted no later than 45 days after the close of the previous certification period covered.
- e. The Contractor recognizes that employees in performing this contract may have access to data, either provided by the Department or the Municipality or first generated during contract performance, of a sensitive nature which should not be released without Department/Municipality approval. Therefore, the Contractor agrees to obtain confidentiality agreements from all such employees working on requirements under this contract including subcontractors and consultants. Such agreements shall contain provisions which stipulate that each employee agrees that the

employee will not disclose, either in whole or in part, to any entity external to the Department, Department of Health or the New York State Department of Law, any information or data provided by the Department or first generated by the Contractor under this contract, any site-specific cost information, or any enforcement strategy without first obtaining the written permission of the Municipality. If a Contractor, through an employee or otherwise, is subpoenaed to testify or produce documents, which could result in such disclosure, the contractor must provide immediate advance notification to the Municipality/Department so that the Department can authorize such disclosure or have the opportunity to take action to prevent such disclosure. Such agreements shall be effective for the life of the contract and for a period of five (5) years after completion of the contract.

- f. The Contractor agrees to insert in each subcontract or consultant agreement placed hereunder (except for subcontracts or consultant agreements for well drilling, fence erecting, plumbing, utility hookups, security guard services, or electrical services) provisions which shall conform substantially to the language of this clause, including this paragraph (e), unless otherwise authorized by the Municipality.
- g. If this is a contract for work related to action at an inactive hazardous waste site, the following paragraph shall apply:
- h. Due to the scope and nature of this contract, the Contractor shall observe the following restrictions on future hazardous waste site contracting for the duration of the contract.
 - 1) The Contractor will be ineligible to enter into a contract for remedial action projects for which the Contractor has developed the statement of work or the solicitation package.
 - 2) The Contractor, during the life of the work assignment and for a period of five (5) years after the completion of the work assignment, agrees not to enter into a contract with or to represent any party with respect to any work relating to remedial activities or work pertaining to a site where the Contractor previously performed work for the Department and/or Municipality under this contract without the prior written approval of the Department.
 - 3) The Contractor agrees in advance that if any bids/proposals are submitted for any work for a third party that would require written approval of the Municipality/Department prior to entering into a contract because of the restrictions of this clause, then the bids/proposals are submitted at the Contractor's own risk, and no claim shall be made against the Municipality/Department to recover bid/proposal costs as a direct cost whether the request for authorization to enter into the contract is denied or approved.

AFFIRMATIVE ACTION

- 5. (a) The Contractor agrees to be bound by the provisions of New York State Executive Law Article 15-A, Sections 312, 313, and 316 and the regulations promulgated thereunder.

As provided thereunder, the Contractor is required to make good faith efforts to solicit the meaningful participation of minority and women owned business enterprises identified in the Directory of Certified Businesses provided by the New York State Department of Economic Development's Division of Minority and Women's Business Development.

- (b) The Contractor agrees to include the requirements set forth in paragraph (a) above and paragraphs (c), (d), (e), and (f) below in every subcontract in such a manner that the provisions will be binding upon each subcontractor as to work in connection with such contract. For the purpose of this paragraph, a "subcontract" shall mean an agreement providing for a total expenditure in excess of \$25,000 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon in which a portion of Contractor's obligation under a State contract is undertaken or assumed.

- (c) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. For purposes of this article, affirmative action shall mean recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.
- (d) At the request of the contracting agency, the contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability, or marital status and that such union or representative will affirmatively cooperate in the implementation of the contractor's obligations herein.
- (e) The Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.
- (f) The Contractor also agrees to incorporate into any contract with subcontractors, contractual provisions applicable to record keeping, reporting, notice requirements and actions determined to be necessary by the Department to implement the requirements of the Minority/Women Business Enterprise-Equal Employment (M/WBE-EEO) utilization plan, and of Executive Law Article 15-A, regulations promulgated thereunder, and other applicable law and regulations.

Rev. December 16, 1997

BID FORM

GENERAL CONSTRUCTION

The following proposal is hereby made to:

ONEIDA COUNTY INDUSTRIAL DEVELOPMENT AGENCY

STIPULATED AMOUNTS: The Undersigned hereby proposes and agrees to perform all the Work and furnish all things required for:

**SUB-SLAB DEPRESSURIZATION SYSTEM INSTALLATION
421 RIDGE STREET OFFICE BUILDING
CITY OF ROME
ONEIDA COUNTY, NEW YORK**

all in accordance with the drawings, specifications, and other Contract Documents prepared by Shumaker Engineering and Land Surveying, P.C., 430 Court Street, Utica, New York, for the following stipulated amounts.

Summary of Bid:

1.	Base Bid (Total from Schedule "A")	\$ _____ Figures
2.	Allowance-General Construction (Refer to Section 01020)	\$ _____ 5,000 Figures
	TOTAL BID (Sum of Items 1 & 2 above)	\$ _____ Figures

ALLOWANCE – CONTINGENCY: The undersigned has included in the BASE BID the sum of Five Thousand Dollars (\$5,000) in accordance with SECTION 01020, ALLOWANCES.

KNOWLEDGE OF LOCAL CONDITIONS AND CONTRACT DOCUMENTS: The Undersigned has examined the location of the proposed work, reviewed Bidding Documents related to this proposal, and is familiar with local conditions at the place where the Work is to be performed.

PROPOSAL PERIOD: The Undersigned agrees to hold Bid open for a 60 calendar day period following the scheduled time for the opening of Bids.

EXECUTION OF AGREEMENT AND FURNISHING BOND: Within 14 days after being awarded the Contract, the Undersigned agrees to furnish Insurance Certificates and Performance and Payment Bonds in the amount stated in the Instructions to Bidders. The undersigned also agrees to execute the Form of Agreement within 14 days after receipt of Owner's Contract

ADDENDA: The Undersigned hereby acknowledges receipt of the following addenda:

<u>Addendum No.</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

CONTRACT TIME: If awarded the Contract, the Undersigned agrees to complete all construction Work under this Contract in accordance with the following schedule:

1. Substantial Completion: The maximum date for achieving substantial completion shall be (INSERT DATE). Substantial completion shall include the following: Complete installation of all electrical, piping, and mechanical subslab depressurization system components sufficient to startup and operate the six (6) extraction point system.
2. Final Completion: (INSERT DATE). Shall include the following: Completion of all outstanding Work, including Punch List items, interior restoration, final cleanup, and all other requirements to closeout the Contract. Work must be to the satisfaction of the Engineer. Refer to General and Supplemental Conditions.

OWNER'S RIGHTS RESERVED: The Undersigned understands and agrees that the Owner reserves the right to reject any or all proposals or to waive any formality or technicality in any proposal.

Schedule A – Contract No. 1 Base Bid (Refer to Section 01026 – Measurement and Payment)

PAYMENT ITEM NO.	DESCRIPTION	UNITS	QTY	UNIT PRICE	TOTAL PRICE
1.	Mobilization and Site Preparation.	LS	Job	N/A	<div>_____</div> <div>Figures</div> <div>(_____)</div> <div>Words</div>
2.	Electrical Service Installations (6).	LS	Job	N/A	<div>_____</div> <div>Figures</div> <div>(_____)</div> <div>Words</div>
3.	Piping, Fan, and Mechanical Installations (6).	LS	Job	N/A	<div>_____</div> <div>Figures</div> <div>(_____)</div> <div>Words</div>
4.	Restoration of Interior Office Areas.	LS	Job	N/A	<div>_____</div> <div>Figures</div> <div>(_____)</div> <div>Words</div>
5.	Project Closeout Including System Testing	LS	Job	N/A	<div>_____</div> <div>Figures</div> <div>(_____)</div> <div>Words</div>
				TOTAL _____	<div>Figures</div> <div>(_____)</div> <div>Words</div>

Bid Bond/Certified Check:

Attached is a cashier's check on the

(Name of Bank)

or Bid Bond for the sum of:

_____ Dollars and _____ cents, \$ _____

According to the requirements of the Instructions to Bidders, which check is subject to the conditions and provisions thereof.

The above proposal is hereby respectfully submitted by:

Company

Name (Signature)

Title

Name (Print)

Federal Identification Number or Social Security Number

Telephone Number

Fax Number

E-Mail Address

Business Address

City

State

Zip

Date

CERTIFICATE OF NONCOLLUSION
GENERAL CONSTRUCTION

To **ONEIDA COUNTY INDUSTRIAL DEVELOPMENT AGENCY**, in accordance with sealed bids for

**SUB-SLAB DEPRESSURIZATION SYSTEM INSTALLATION
421 RIDGE STREET OFFICE BUILDING
CITY OF ROME
ONEIDA COUNTY, NEW YORK**

submitted under date of _____, under Section 103-d of the General Municipal Law, as amended, the Bidder certifies that:

- “(a) By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:
- (1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
 - (2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
 - (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.”*

That attached hereto (if a corporate bidder) is a certified copy of resolution authorizing the execution of this certificate by the signator of this bid or proposal in behalf of the corporate bidder.

COMPANY: _____

NAME (SIGNATURE): _____

NAME (PRINT): _____

DATE: _____

- *(b) A bid shall not be considered for award nor shall any award be made where (a)(1)(2) and (3) above have not been complied with; provided however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (a)(1)(2) and (3) above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

* * * * *

CORPORATE RESOLUTION
GENERAL CONSTRUCTION

Resolved that _____ be authorized to sign the bid or proposal of this Corporation and upon acceptance of the bid or proposal, to sign the contract submitted by the Owner on behalf of this Corporation for the following project:

**ONEIDA COUNTY INDUSTRIAL DEVELOPMENT AGENCY
SUB-SLAB DEPRESSURIZATION SYSTEM INSTALLATION
421 RIDGE STREET OFFICE BUILDING
CITY OF ROME
ONEIDA COUNTY, NEW YORK**

and to include in such bid or proposal the certificate as to noncollusion required by Section 103-d of the General Municipal Law as the act of such corporation, and for any inaccuracies or misstatements in such certificate, Bidder shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by _____ Corporation
at a meeting of its Board of Directors on the _____ day of _____, 2011.

(Seal of Corporation)

(NAME) SIGNATURE: Secretary

(NAME) PRINT: Secretary

DOCUMENT 00303

STATEMENT OF CONTRACTOR'S QUALIFICATIONS

This statement must be submitted by the Contractor with his proposal. All questions must be answered and the date given must be clear and comprehensive. This statement must be notarized. Use separate sheets for items marked "**".

1. Name of Bidder _____

2. Permanent Main Office Address _____

3. When organized or began business _____
4. If a corporation, where incorporated _____
5. How many years have you been engaged in the contracting business under your present firm name? _____
- 6.* Contracts on Hand: (Schedule these showing location, client, gross amount of each contract, contractual completion date, and the approximate anticipated date of completion.)
- 7.* List of contracts of a similar nature performed within the past three years with location, client, gross amount and date of completion.
8. Have you ever failed to complete any work awarded to you? _____
- 9.* Have you ever defaulted on a contract? _____
If so, where and why _____

10. Have mechanics liens ever been filed against any of your contracts? If so, when and why _____

- 11.* List your major equipment owned and available within 10 days of award of this contract.
- 12.* Background and experience of the principal members of your personnel, including the officers.
- 13.* Background and experience of project superintendent, foremen, and equipment operators that you intend to use on this project.
- 14.* Line of credit available - furnish written evidence.

15. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? _____
16. Provide the names and attach the resumes of the Project Manager and Project Superintendent that you intend to use for this project.
17. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the Owner in certification of the recitals comprising this Statement of Contractor's Qualifications.

Dated at _____ this _____ day of _____
2011.

Name of Contractor

by _____

Title _____

State of _____)
County of _____) ss:

_____ being duly sworn deposes and

says that he is _____ of the _____
Name of

Organization

Notary

* * * * *

DOCUMENT 00306

STATEMENT OF SURETY'S INTENT

To: **ONEIDA COUNTY INDUSTRIAL DEVELOPMENT AGENCY**

We have reviewed the Bid of _____
(Contractor)

of: _____
(Address)

for: **SUB-SLAB DEPRESSURIZATION SYSTEM INSTALLATION
421 RIDGE STREET OFFICE BUILDING
CITY OF ROME
ONEIDA COUNTY, NEW YORK**

Bids will be received on _____
(Bid Opening Date)

and wish to advise that should this Bid of the Contractor be accepted and the Contract awarded to him, it is our present intention to become surety on the performance bond and labor and material payment bond required by the Contract. The bonds to be issued will be from a surety company rated A+ or better and licensed to do business in New York State. The form and content shall be as required by Oneida County.

Any arrangement for the bonds required by the Contract is a matter between the Contractor and ourselves and we assume no liability to you or third parties if for any reason we do not execute the requisite bonds.

We are duly authorized to do business in the State of New York.

Name of Surety Company _____

Address _____

Telephone Number _____

Name and Title of Surety's Authorized Agent (Please Type)

Surety's Authorized Signature(s)

Date

Attest:

Attach Power of Attorney

(Corporate seal if any. If no seal, write
"No Seal" across this place and sign.)

RELEASE OF LIENS

and

COMPLIANCE WITH LABOR RATES

State of New York)
County of Oneida)

_____, (name) _____, being duly sworn, deposed
and says that I am the _____ (title) _____ of _____
(company) _____, and I make this affidavit in order to induce Oneida County to make
final payment to _____ (company) _____ under the Contract between _____ (company) _____
and Oneida County Industrial Development Agency for General Construction Work
performed for **Oneida County Industrial Development Agency, Sub-Slab Depressurization System Installation,
421 Ridge Street Office Building, City of Rome, Oneida County, New York.**

That all subcontractors have been paid and all materials and men employed by _____ (company) _____,
have been fully paid, and that all labor, tax assessments and levies applicable to the labor performed and the
materials furnished by _____ (company) _____, have been fully paid, and there are no outstanding bills
or claims of any nature whatsoever against _____ (company) _____, arising out of labor performed or
materials furnished under the aforesaid contract with Oneida County Industrial Development Agency.

That the same Company has complied with or exceeded the minimum hourly rates as determined by the Department
of Labor for persons employed on the aforesaid Contract with Oneida County Industrial Development Agency.

That the final payment in the sum of \$ _____ from Oneida County Industrial Development Agency
hereby releases and forever discharges Oneida County Industrial Development Agency from any claim of any nature
whatsoever arising out of the aforesaid Contract.

(S) _____
(Name)
(Title)

Sworn to before me this _____ day
of _____, 2011.

Notary Public

* * * * *

GUARANTEE

(Date)

Oneida County Industrial Development Agency
584 Phoenix Drive
Rome, New York 13441

Re: **SUB-SLAB DEPRESSURIZATION SYSTEM INSTALLATION
421 RIDGE STREET OFFICE BUILDING
CITY OF ROME, ONEIDA COUNTY, NEW YORK**

Gentlemen:

In accordance with your request, we quote our guarantee:

(Company Name) GUARANTEES that the materials and workmanship of the
above-referenced project, are first class in every respect and in accordance with the drawings and specifications.

(Company Name) WILL make good any defects associated with the Work not due
to improper use but including normal wear and tear which may develop within two (2) years from the date of Final
Acceptance. Coverage includes full parts and materials (including shipping), labor, and other necessary expenses.

(S)
(Name)
(Title)

BID BOND**BIDDER** (Name and Address):

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

OWNER (Name and Address):

BID

BID DUE DATE: _____

PROJECT (Brief Description Including Location):

BOND

BOND NUMBER: _____

DATE (Not later than Bid due date): _____

PENAL SUM: _____

(Words)

(Figures)

IN WITNESS WHEREOF, Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

SURETY

 _____ (Seal)
 Bidder's Name and Corporate Seal

 _____ (Seal)
 Surety's Name and Corporate Seal

By: _____

 Signature and Title

By: _____

 Signature and Title
 (Attach Power of Attorney)

Attest: _____

 Signature and Title

Attest: _____

 Signature and Title

- Note: (1) Above addresses are to be used for giving required notice.
 (2) Any singular reference to Bidder, Surety, OWNER or other party shall be considered plural where applicable.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to OWNER upon default of Bidder any difference between the total amount of Bidder's Bid and the total amount of the Bid of the next lowest, responsible and responsive Bidder as determined by OWNER for the Work required by the Contract Documents, provided that:

1.1. If there is no such next lowest, responsible and responsive Bidder, and OWNER does not abandon the Project, then Bidder and Surety shall pay to OWNER the penal sum set forth on the face of this Bond, and

1.2. In no event shall Bidder's and Surety's obligation hereunder exceed the penal sum set forth on the face of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1. OWNER accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents, or

3.2. All Bids are rejected by OWNER, or

3.3. OWNER fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from OWNER, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of and any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by OWNER and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power or Attorney evidencing the authority of the officer, agent or representative who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer or proposal as applicable.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification.

FORM OF AGREEMENT
OWNER AND CONTRACTOR
OF A STIPULATED PRICE

Prepared by

CONTRACT DOCUMENTS COMMITTEE

and

and Published Jointly By

[insert seals]

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN CONSULTING ENGINEERS COUNCIL

AMERICAN SOCIETY OF CIVIL ENGINEERS

This document has been approved and endorsed by

The Associated General [seal] Contractors of America

Construction Specifications Institute

[seal]

This Standard Form of Agreement has been prepared for use with the Standard General Conditions of the Construction Contract (No. 1910-8, 1996 Edition). Their provisions are interrelated, and a change in one may necessitate a change in the other. The suggested language for instructions of bidders contained in the Guide to the Preparation of Instructions to Bidders (No. 1910-12, 1996 Edition) is also carefully interrelated with the language of this Agreement. Comments concerning their usage are contained in the EJCDC User's Guide (No. 1910-50). See also Guide to the Preparation of Supplementary Conditions (No. 1910-17, 1996 Edition).

**EJCDC
STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
ON THE BASIS OF A STIPULATED PRICE**

THIS AGREEMENT is by and between _____ (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 – WORK

1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by

who is hereinafter called ENGINEER and who is to act as OWNER's representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Dates for Substantial Completion and Final Payment*

A. The Work will be substantially completed on or before _____, and completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions on or before _____.

4.02 Liquidated Damages

A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay OWNER \$750 for each day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER \$750 for each day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 5.01.A, 5.01.B, and 5.01.C below:

A. For all Work other than Unit Price Work, a Lump Sum of:

_____ (\$ _____)
(use words) (figure)

All specific cash allowances are included in the above price and have been computed in accordance with paragraph 11.02 of the General Conditions.

B. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in this paragraph 5.01.B:

UNIT PRICE WORK

<u>No.</u>	<u>Item</u>	<u>Unit</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Estimated</u>
------------	-------------	-------------	-------------------------------	-------------------	----------------------------

TOTAL OF ALL UNIT PRICES _____ (dollars)
(use words)

As provided in paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by ENGINEER as provided in paragraph 9.08 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.

C. For all Work, at the prices stated in CONTRACTOR's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment on or about the 1st day of each month during performance of the Work as provided in paragraphs 6.02.A.1 and 6.02.A.2 below. All such payments will be measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements:

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER may determine or OWNER may withhold, in accordance with paragraph 14.02 of the General Conditions:

a. 95% of Work completed (with the balance being retainage). If the Work has been 50% completed as determined by ENGINEER, and if the character and progress of the Work have been satisfactory to OWNER and ENGINEER, OWNER, on recommendation of ENGINEER, may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no retainage on account of Work subsequently completed, in which case the remaining progress payments prior to Substantial Completion will be in an amount equal to 100% of the Work completed less the aggregate of payments previously made; and

b. 50% of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

2. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 100% of the Work completed, less such amounts as ENGINEER shall determine in accordance with paragraph 14.02.B.5 of the General Conditions and less 200% of ENGINEER's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.07.

ARTICLE 7 – INTEREST

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of 0% per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. CONTRACTOR has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto

F. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.

H. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

A. The Contract Documents consist of the following:

1. This Agreement;
2. Performance Bond;
3. Payment Bond;
4. Other Bonds;
5. General Conditions (pages __ to __, inclusive);
6. Supplementary Conditions (pages __ to __, inclusive);
7. Specifications and drawings as listed in the table of contents of the Project Manual;
8. Addenda;

9. Exhibits to this Agreement (enumerated as follows):

- a. **Notice to Award;**
- b. **Notice to Proceed;**
- c. **Contractor's Bid;**
- d. **Statement of Surety's Intent;**
- e. **Insurance Certificates (Attached).**

10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

- a. Written Amendments;
- b. Work Change Directives;
- c. Change Order(s).

B. The documents listed in paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.05 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

10.02 Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR:

By: _____

By: _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest _____

Attest _____

Address for giving notices:

Address for giving notices:

(If OWNER is a corporation, attach evidence of authority to sign. If OWNER is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of OWNER-CONTRACTOR Agreement.)

Fed I.D. No. _____
(Where applicable)

Agent for service of process: _____

(If CONTRACTOR is a corporation or a partnership, attach evidence of authority to sign.)

Designated Representative:

Designated Representative:

Name:

Name:

Title:

Title:

Address:

Address:

Phone:

Phone:

Facsimile:

Facsimile:

Performance Bond

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

CONTRACTOR (Name and Address):

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

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: (Corp. Seal)

Signature: _____

Name and Title:

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: (Corp. Seal)

Signature: _____

Name and Title:

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

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 Contract, which is incorporated herein by reference.

2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 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 the addresses described in paragraph 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 Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the 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 paragraph 3.1; and

3.3. The OWNER has agreed to pay the Balance of the Contract Price to:

3.3.1. The Surety in accordance with the terms of the Contract;

3.3.2 Another contractor selected pursuant to paragraph 4.3 to perform the Contract.

4. When the OWNER has satisfied the conditions of paragraph 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 Contract; or

4.2. Undertake to perform and complete the 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 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 Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR 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;

4.4.1 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

4.4.2 Deny liability in whole or in part and notify the OWNER citing reasons therefor.

5. If the Surety does not proceed as provided in paragraph 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 paragraph 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 Contract, and if the Surety elects to act under paragraph 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 Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a 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 Contract, the Surety is obligated without duplication for:

6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the 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 paragraph 4; and

6.3. Liquidated damages, or if no liquidated damages are specified in the 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 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 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 Contract was 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 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 Contract.

12.2. 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 Contract.

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

(FOR INFORMATION ONLY--Name, Address and Telephone)

AGENT or BROKER: OWNER'S REPRESENTATIVE (Engineer or other party):

Payment Bond

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

CONTRACTOR (Name and Address):

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

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company: (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: (Corp. Seal)

Signature: _____

Name and Title:

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: (Corp. Seal)

Signature: _____

Name and Title:

EJCDC No. 1910-28-B (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

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 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 all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 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 addresses described in paragraph 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 had 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 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 paragraph 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 paragraph 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 Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any 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 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 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 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 paragraph 4.1 or paragraph 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 addresses 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 Contract 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 of 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 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. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes pthereto.

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

(FOR INFORMATION ONLY--Name, Address and Telephone)

AGENCY or BROKER: OWNER'S REPRESENTATIVE (Engineer or other party):

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By

[INSERT LOGOS]

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This document has been approved and endorsed by

The Associated General [seal] Contractors of America

Construction Specifications Institute

[seal]

These General Conditions have been prepared for use with the Owner-Contractor Agreements (No. 1910-8-A-1 or 1910-8-A-2) (1996 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC User's Guide (No. 1910-50). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. 1910-17) (1996 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. *Application for Payment*--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. *Bonds*--Performance and payment bonds and other instruments of security.

9. *Change Order*--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the

Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. *Contract Price*--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment.

15. *CONTRACTOR*--The individual or entity with whom OWNER has entered into the Agreement.

16. *Cost of the Work*--See paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *ENGINEER*--The individual or entity named as such in the Agreement.

20. *ENGINEER's Consultant*--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. *Field Order*--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. *Notice of Award*--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.

29. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. *OWNER*--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCBs*--Polychlorinated biphenyls.

33. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the Contract Documents.

35. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. *Resident Project Representative*--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. *Site*--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. *Specifications*--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. *Subcontractor*--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

45. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum

products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. *Unit Price Work*--Work to be paid for on the basis of unit prices.

48. *Work*--The entire completed construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. *Work Change Directive*--A written statement to CONTRACTOR issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. *Written Amendment*--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

1.02 Terminology

A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such

term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. Day

1. The word "day" shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

C. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. Furnish, Install, Perform, Provide

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 Starting the Work

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 Before Starting Construction

A. *CONTRACTOR's Review of Contract Documents:* Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby;

however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. *Preliminary Schedules:* Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and
3. a preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. *Evidence of Insurance:* Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

2.06 *Preconstruction Conference*

A. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor.

2. CONTRACTOR's schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 *Reference Standards*

A. *Standards, Specifications, Codes, Laws, and Regulations*

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER's Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to

OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: (i) a Field Order; (ii) ENGINEER's approval of a Shop Drawing or Sample; or (iii) ENGINEER's written interpretation or clarification.

3.05 *Reuse of Documents*

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, including electronic media editions; and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific

written verification or adaption by ENGINEER. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER's furnishing the Site, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except

Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection

therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *ENGINEER's Review:* After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or

c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including OWNER, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price of Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

4.05 *Reference Points*

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points

or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such

condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefor as provided in paragraph 10.05.

F. If after receipt of such written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph

4.06.E shall obligate OWNER to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.

5.04 *CONTRACTOR's Liability Insurance*

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work in accordance with paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 *OWNER's Liability Insurance*

A. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.04, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of

them, each of whom is deemed to have an insurable interest and shall be listed as an additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER;

5. allow for partial utilization of the Work by OWNER;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR, and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will

not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.

D. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraph 5.06, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the Site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

5.07 *Waiver of Rights*

A. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary

Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

B. OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of, or resulting from fire or other peril whether or not insured by OWNER; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.05, after Substantial Completion pursuant to paragraph 14.04, or after final payment pursuant to paragraph 14.07.

C. Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against CONTRACTOR, Subcontractors, ENGINEER, or ENGINEER's Consultants and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by paragraph 5.06 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.08.B. OWNER shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on

account thereof, and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

B. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but

the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 *Labor; Working Hours*

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER's written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using

the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. *"Or-Equal" Items:* If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;

b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items*

a. If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be

accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in

ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. *Engineer's Evaluation:* ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. *Special Guarantee:* OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

E. *ENGINEER's Cost Reimbursement:* ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute.

F. *CONTRACTOR's Expense:* CONTRACTOR shall provide all data in support of any proposed substitute or "or-equal" at CONTRACTOR's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in

advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate

agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.07 *Patent Fees and Royalties*

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 Permits

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.09 Laws and Regulations

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in paragraph 10.05.

6.10 Taxes

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all

property not designated for alteration by the Contract Documents.

D. *Loading Structures:* CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

6.13 *Safety and Protection*

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or

loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. *Submittal Procedures*

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to means, methods, techniques, sequences, and procedures of

construction and safety precautions and programs incident thereto; and

d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. *ENGINEER's Review*

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation

from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. *Resubmittal Procedures*

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 *Continuing the Work*

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 *CONTRACTOR's General Warranty and Guarantee*

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or
2. normal wear and tear under normal usage.

B. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will

constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

1. observations by ENGINEER;
2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;
4. use or occupancy of the Work or any part thereof by OWNER;
5. any acceptance by OWNER or any failure to do so;
6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;
7. any inspection, test, or approval by others; or
8. any correction of defective Work by OWNER.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage:

1. is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom; and
2. is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for

whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such individual or entity.

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

ARTICLE 7 - OTHER WORK

7.01 *Related Work at Site*

A. OWNER may perform other work related to the Project at the Site by OWNER's employees, or let other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to CONTRACTOR prior to starting any such other work; and

2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 *Replacement of ENGINEER*

A. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer to whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.03 *Furnish Data*

A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.04 *Pay Promptly When Due*

A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 *Insurance*

A. OWNER's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. OWNER's responsibility in respect to certain inspections, tests, and approvals is set forth in paragraph 13.03.B.

8.09 *Limitations on OWNER's Responsibilities*

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. OWNER's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *OWNER'S Representative*

A. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth

in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 *Visits to Site*

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER's visits and observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER's visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Clarifications and Interpretations*

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefor as provided in paragraph 10.05.

9.05 *Authorized Variations in Work*

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefor as provided in paragraph 10.05.

9.06 *Rejecting Defective Work*

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 *Shop Drawings, Change Orders and Payments*

A. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER's authority as to Change Orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

9.08 *Determinations for Unit Price Work*

A. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decision thereon will be final and binding (except as modified by ENGINEER to reflect changed factual conditions or more accurate data) upon OWNER and CONTRACTOR, subject to the provisions of paragraph 10.05.

9.09 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing, in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 *Limitations on ENGINEER's Authority and Responsibilities*

A. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking,

exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

1. changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER's correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be

given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 *Claims and Disputes*

A. *Notice:* Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. Notice of the amount or extent of the Claim, dispute, or other matter with supporting data shall be delivered to the ENGINEER and the other party to the Contract within 60 days after the start of such event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of such Claim, dispute, or other matter). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. *ENGINEER's Decision:* ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's written decision on such Claim, dispute, or other matter will be final and binding upon OWNER and CONTRACTOR unless:

1. an appeal from ENGINEER's decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. if no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have with

respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the Claim in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. No Claim for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be

included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

i. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the

Work or caused by the event giving rise to the Claim.

j. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site.

3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. *CONTRACTOR's Fee:* When all the Work is performed on the basis of cost-plus, CONTRACTOR's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined

on the basis of Cost of the Work, CONTRACTOR's fee shall be determined as set forth in paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

11.02 *Cash Allowances*

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subject to the provisions of paragraph 9.08.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

C. OWNER or CONTRACTOR may make a Claim for an adjustment in the Contract Price in accordance with paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. *CONTRACTOR's Fee:* The CONTRACTOR's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR's fee shall be 15 percent;
 - b. for costs incurred under paragraph 11.01.A.3, the CONTRACTOR's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with para-

graphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the Contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 *Delays Beyond CONTRACTOR's Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 *Delays Within CONTRACTOR's Control*

A. The Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 *Delays Beyond OWNER's and CONTRACTOR's Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 *Delay Damages*

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. delays caused by or within the control of CONTRACTOR; or
2. delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone for whom OWNER is responsible.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. OWNER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections,

tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;
2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and
3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGI-

NEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

13.05 *OWNER May Stop the Work*

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR's use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and OWNER shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 *OWNER May Correct Defective Work*

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and ENGINEER and ENGINEER's Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefor as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The schedule of values established as provided in paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments*

1. At least 20 days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER's interest therein, all of which must be satisfactory to OWNER.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. ENGINEER will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

2. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER's

review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

3. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

4. Neither ENGINEER's review of CONTRACTOR's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment, including final payment, will impose responsibility on ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR's failure to comply with Laws and Regulations applicable to CONTRACTOR's performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or

equipment has passed to OWNER free and clear of any Liens.

5. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Written Amendment or Change Orders;

c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

C. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of paragraph 14.02.D) become due, and when due will be paid by OWNER to CONTRACTOR.

D. *Reduction in Payment*

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

a. claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

c. there are other items entitling OWNER to a set-off against the amount recommended; or

d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 *CONTRACTOR's Warranty of Title*

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If,

after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of

the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment*

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. Review of Application and Acceptance

1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 OWNER May Suspend Work

A. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefor as provided in paragraph 10.05.

15.02 OWNER May Terminate for Cause

A. The occurrence of any one or more of the following events will justify termination for cause:

1. CONTRACTOR's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.07 as adjusted from time to time pursuant to paragraph 6.04);
2. CONTRACTOR's disregard of Laws or Regulations of any public body having jurisdiction;
3. CONTRACTOR's disregard of the authority of ENGINEER; or
4. CONTRACTOR's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in paragraph 15.02.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site, and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be

entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order. When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.03 OWNER May Terminate For Convenience

A. Upon seven days written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Contract. In such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. for reasonable expenses directly attributable to termination.

B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *CONTRACTOR May Stop Work or Terminate*

A. If, through no act or fault of CONTRACTOR, the Work is suspended for more than 90 consecutive days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within 30 days after it is submitted, or OWNER fails for 30 days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Contract and recover from OWNER payment on the same terms as provided in paragraph 15.03. In lieu of terminating the Contract and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within 30 days after it is submitted, or OWNER has failed for 30 days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may, seven days after written notice to OWNER and ENGINEER, stop the Work until payment is made of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.04 are not intended to preclude CONTRACTOR from making a Claim under paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping the Work as permitted by this paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

SUPPLEMENTAL CONDITIONS TO EJCDC GENERAL CONDITIONS1. SUPPLEMENTS

The following supplements modify, change, delete from or add to the "STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT," EJCDC No. 1910-8, 1996 Edition. Where Articles of the General Conditions are modified or Paragraphs, Subparagraphs or Clauses thereof are modified or deleted by these supplements, the unaltered provisions of those Articles, Paragraphs, Subparagraphs or Clauses shall remain in effect.

ARTICLE 1. DEFINITIONS

Add the following Definitions:

- | | | |
|------|-----------|--|
| 1.51 | PROVIDE: | Furnish and install. |
| 1.52 | APPROVED: | Approved by Engineer or authority enforcing standards. |

ARTICLE 2. PRELIMINARY MATTERS

Delete paragraph 2.05.B.2.

- 2.06 Delete the word "twenty" in the first line of Paragraph 2.06 and insert the word "seven."

Add the following new paragraph:

- 2.08 HIERARCHY

In the event of conflict between the documents set forth below, they shall be in priority according to the order they are listed.

- Engineer's written clarifications and interpretations.
- Change orders.
- Administrative Agreements.
- Field Orders.
- Proposed Change Orders signed by the Engineer.
- Approved Shop Drawings.
- Addenda.
- Agreement.
- Measurement and Payment.
- Bid Forms and Attachments exclusive of Bond and Insurance Certificates.
- Drawings, Plans.
- Supplemental Specifications.
- Supplemental Conditions
- Specifications.
- General Conditions.
- Supplemental Bidding Information and Requirements.
- Bidding Information and Requirements.
- Terms and Definitions.
- Advertisement.
- Bonds and Insurance Certificates.

ARTICLE 3. CONTRACT DOCUMENTS: INTENT, AMENDING, AND REUSE

REUSE OF DOCUMENTS

Add the following subparagraphs:

- 3.05.1 It is a violation of the law for any person unless he is acting under the direction of a licensed professional Architect/Engineer to alter drawings in any way. Alterations must have the seal affixed along with a description of the alteration, the signature, and date.

Add the following paragraphs:

- 3.06 Division 1, General Requirements, governs the execution of all sections of the specifications.
- 3.07 The language of the Contract Documents is directed to the Contractor unless stated otherwise.
- 3.08 If Work is described or indicated in a manner to make it impossible to carry out the requirements of the Contract Documents, or should discrepancies appear among the Contract Documents, request interpretation before proceeding with Work. If Contractor fails to make such a request, no excuse will be entertained for failure to carry out Work of Contract Documents. Should a conflict occur in or between Contract Documents, Contractor is deemed to have estimated on the more expensive way of doing the Work.
- 3.09 The following is a Schedule of Submittals and established time frames for such submittals.

SCHEDULE OF SUBMITTALS

<u>SPECIFICATION</u>	<u>SECTION</u>	<u>DESCRIPTION</u>	<u>SUBMITTAL DUE</u>
	00300	Bid Form	with Bid
	00301	Noncollusive Bidding Certification	with Bid
	00302	Acknowledgement Corporate Resolution	With Bid
	00410	Required Bid Security	With Bid
	00500	Agreement	10 days after Receipt from Owner
	00610	Construction Performance Bond	10 Days after Notice of Award
	00620	Construction Labor & Material Payment Bond	10 Days after Notice of Award
	00800	Certificate of Availability of Insurance	With Bid
	00800	Certificate of Insurance	10 days after Notice of Award
	00800	List of Subcontractors	With Bid
01310		Preliminary Schedule	10 days after Notice of Award

ARTICLE 5. BONDS AND INSURANCE

PERFORMANCE, PAYMENT, AND OTHER BONDS:

Add the following new subparagraphs:

- 5.01.D The cost of all bonds shall be included in the Contract Sum.
- 5.01.E The Contractor shall deliver the required bonds to the Owner not later than three (3) 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.
- 5.01.F The Contractor shall purchase and maintain, in a company or companies licensed to do business in New York State, the required bonds. Bonds shall be issued by a Surety Company rated "A+" or better. As approved by the Owner.
- 5.01.G The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.
- 5.01.H In addition to the Performance and Payment Bonds, Contractor shall provide a Bond for a minimum one (1) year maintenance coverage beyond the date of project completion.

LICENSED SURETIES AND INSURERS; CERTIFICATES OF INSURANCE

Delete subparagraphs 5.02 and 5.03 and substitute the following:

- 5.02 In accordance with the insurance coverages outlined in this specification, the Contractor and each subcontractor shall procure and maintain at his own expense and without expense to the Owner, insurance of at least the kinds and amounts herein-after specified. Where a subcontractor does not provide the insurance coverage specified herein, or does not supply insurance of the kind and/or amounts specified herein, the Contractor shall provide these insurance coverages for that subcontractor.

Each policy of insurance required by the Contract shall be issued by an insurance company, rated "A+" or better, approved by the Owner, and authorized by the State of New York to issue such policy in this state, and shall be in form and content satisfactory to the Owner.

Each policy shall provide:

1. That the policy shall not be changed or canceled until the expiration of 30 days after written notice (registered mail) to the Owner and Contractor, and
2. That it shall be automatically renewed upon expiration unless the Owner is given 30 days (registered mail) written notice to the contrary.

- 5.03 The Contractor shall deliver to the Owner, with copies to each additional insured identified elsewhere in these Supplemental Conditions, Certificates of Insurance (and other evidence of insurance requested by the Owner or any other additional insured) which Contractor is required to purchase and maintain.

Add the following new subparagraphs:

5.03.A PROOF OF INSURANCE

Proof of Insurance shall be provided prior to Contract Award and within 10 days after Bid Opening.

No work shall commence under the Contract until the Contractor has delivered to the Owner proof of insurance of all policies of insurance required by the Contract and to be procured by the Contractor in the amounts specified herein.

Proof of insurance shall be certified on the certificates of insurance supplied by this Contract, in triplicate, and executed by the authorized representative of the insurance company.

The Contractor shall also furnish the Owner one duplicate of the original policy covering each kind of insurance issued.

5.03.B ADDITIONAL INSURED

All required insurances shall name **Oneida County Industrial Development Agency (Owner), PAR Government Corporation (Tenant), Engineer (Shumaker Consulting Engineering & Land Surveying, P.C.), their employees (including contractual), and subcontractors** as insured. The insurance policies shall not contain any Third Party Beneficiary Exclusions.

5.03.C DEDUCTIBLES

Where an insurance policy carries deductibles, the Contractor shall pay all costs not covered because of deductibles.

CONTRACTOR'S LIABILITY INSURANCE

Add the following new subparagraphs:

5.04.B.8 Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:

1. Premises – Operations (including x-c-u).
2. Independent Contractors' Protective.
3. Products and Completed Operations.
4. Personal Injury Liability with Employment Exclusion Deleted.
5. Contractual – Including specified provisions for the Contractor's obligations under Article 6 – “Contractor’s Responsibilities”.
6. Owned, Non-Owned, and Hired Motor Vehicles.
7. Broad Form Property Damage Including Completed Operations.

5.04.B.9 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 predate 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 with Paragraph 14.07.

5.04.B.10 The insurance required by Paragraph 5.4 shall be written for not less than the limits, or greater if required by law, shown on the sample ACORD Certificate of Insurance and sample Insurance Binder included in Document 00810.

- 5.04.B.11 Acceptable certificate of insurance are the ACORD Form 25-S supplemented with ACORD Form 75S and AIA Document G715. No other forms will be accepted.

OWNER'S LIABILITY INSURANCE

Delete Paragraph 5.05 and substitute the following:

- 5.05 The Contractor shall purchase and maintain insurance covering the Owner's Public Liability and Property Damage for claims which may arise from operations under the Contract, and in the amount of \$1,000,000 or an amount equaling the Contract Sum, whichever is greater.

Add the following new subparagraph:

- 5.05.A The insurance shall be written to name **Oneida County Industrial Development Agency (Owner), Owl Wire (Tenant), Engineers (Shumaker Consulting Engineering & Land Surveying, P.C., and Robson Woese, Inc.), their employees (including contractual), and subcontractors as insured.**

PROPERTY INSURANCE

Add the following new Clause:

The form of policy for this coverage shall be All Risk for Completed Value. Policy shall be in the names of the Owner, Contractor, Subcontractors and Sub-Subcontractors as their interests may appear with limits equal to the Contract Sum for the Work.

Delete Subparagraph 5.06.A.4 and substitute the following:

- 5.06.A.4 The Contractor shall provide insurance coverage for portions of the Work stored off the site after written approval of the Owner at the value established in the approval, and also for portions of the Work in transit. The paragraph shall over rule contradictory requirements in the plans and specifications.

ARTICLE 6. CONTRACTOR'S RESPONSIBILITIES

SUPERVISION AND SUPERINTENDENCE:

Add the following new Subparagraph:

- 6.01.B.1 Superintendent: A qualified superintendent experienced in the type(s) of work to be performed under this Contract and who is acceptable to the Owner, shall be maintained on the work site and give efficient supervision to the work until its completion. It shall be the responsibility of this Contractor's superintendent to coordinate the work of his crews and all the Subcontractors. The superintendent shall be present on the site at all times required to perform adequate supervision and coordination. If, in the opinion of the Owner, the Superintendent functions in a manner detrimental to the project, the Owner has the right to have the Superintendent removed from the job. The Contractor must adhere to this right, and immediately furnish a new qualified and experienced Superintendent.

LABOR, MATERIALS, AND EQUIPMENT:

Add the following new Paragraph:

- 6.02.C Character of Workmen: The Contractor shall at all times be responsible for the conduct and discipline of his employees and/or any Subcontractor or persons employed by Subcontractors. All workmen must have sufficient knowledge, skill, and experience to perform properly the work assigned to them. Any Superintendent, foreman, or workman employed by the Contractor or Subcontractor who in the opinion of the Owner, does not perform his work in a skillful manner or appears to be incompetent or to act in a disorderly or intemperate manner shall, at the written request of the Owner be, discharged immediately and shall not be employed again in any portion of the work without the approval of the Owner.

6.05 Substitutes and "Or-Equals"

Paragraph 6.05.A.1.

Add:

- e) Certifies that the Contractor has personally investigated the proposed substitute product and determined that is equal or superior in all respects to that specified.
- f) Certifies that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified.
- g) Certifies that the cost data presented is complete and includes all related costs under the contract but excludes costs under separate contracts, and excludes redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent.
- h) Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS:

Add the following new Clause:

- 6.06.A.1 Bidders are required to identify all principal subcontractors with their Bid.

6.06 Concerning Subcontractors, Suppliers, and Others

Add:

- H. Not later than 5 calendar days after notification of contract award (notice to proceed or equivalent), the Contractor shall furnish in writing to the Owner the names of persons or entities proposed as manufacturers or installers for portions of the work.
- I. The Owner will promptly reply in writing to the Contractor stating whether the Owner, after due investigation, has reasonable objection to any such proposal. If adequate data on a proposed manufacturer or installer is not available, the Owner may state that action will be deferred until the Contractor provides further data. Failure of the Owner or Architect to reply promptly shall constitute notice of no reasonable objections. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents, and all products furnished by the listed manufacturer must conform to such requirements.

TAXES:

Add the following subparagraph:

6.10.A.1 EXEMPTION FROM SALES AND USE TAXES

The Owner is exempt from the payment of Sales and Compensating Use Taxes of the State of New York and of cities and counties within the State of New York under existing laws. Sales taxes on all materials to be incorporated into the Project, which are sold to Owner pursuant to the provisions of this Contract, shall not be included in the Bids. This exemption does not, however, apply to tools, machinery, equipment or other property leased by or to the Contractor or a Subcontractor, and the Contractor and his Subcontractor shall be responsible for and pay any and all applicable taxes, including Sales and Compensating Use Taxes on such leased tools, machinery, equipment or other property and materials not incorporated into the project.

6.20.B. The Contractor shall secure and pay for all permits and governmental fees, licenses, and inspections necessary for proper execution and completion of the Contract which are legally required when bids are received on negotiations concluded.

The Contractor and his Subcontractor shall be responsible for and pay any and all applicable taxes, including Sales and Compensating use Taxes on such leased tools, machinery, equipment or other property and materials not incorporated into the Project.

The purchase by the Contractor or Subcontractors of materials to be incorporated into the Project (either directly or through other Subcontractors) which identifies the project, location and exempt owner will form the basis for exemption of tangible personal property purchased for incorporation into the Project.

INDEMNIFICATION

Add the following subparagraph:

6.20.A.3 In any and all claims against the Owner or the Engineer or their agents or employees or subcontractors by third parties, the indemnification obligation under this Paragraph 6.20 shall apply and shall not be limited by limitation or amount of or type of damages, compensation or benefits payable by or for the Contractor or Subcontractors.

Add the following paragraph:

6.20.B. Contractor waives all rights against the Owner and Engineer and their agents, officers, directors, partners, and employees for recovery of damages to the extent where damages are covered by commercial general liability, commercial umbrella liability, business auto liability, or workers compensation and employers liability."

ARTICLE 8. OWNER'S RESPONSIBILITIES

Add the following Subparagraph:

8.01.A.1 Wherever the term "**Owner**" occurs, it shall mean **Oneida County Industrial Development Agency**.

ARTICLE 9. ENGINEER'S STATUS DURING CONSTRUCTION

OWNER'S REPRESENTATIVE

Add the following Subparagraph:

- 9.01.B Wherever the term "Shumaker Consulting Engineering & Land Surveying, P.C.", "SCE", "Engineer", "Consultant", or "Architect/Engineer" occurs, it shall mean the firm: Shumaker Consulting Engineering & Land Surveying, P.C., 430 Court Street, Utica, New York 13502.

PROJECT REPRESENTATIVE

Add the following subparagraph:

- 9.03.B The Engineer will provide weekly site visits during the active construction period.

Based on information observed during these site visits, ENGINEER will endeavor for the benefit of OWNER to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or otherwise continuous on-site inspections to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work. ENGINEER's visits and on-site observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.13, and particularly, but without limitation, during or as a result of ENGINEER's on-site visits or observations of CONTRACTOR's Work. ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

No matter how extensive or intensive the Engineer's observations, he will not be responsible for the Contractor's failure to carry out the work in substantial compliance with the Contract Documents. The Engineer's duties, services, and work shall in no way supersede or dilute the Contractor's obligation to perform the Work in conformance with all contract requirements. The Engineer is empowered by the Owner to act on its behalf with respect to the proper execution of the work and to give instruction when necessary to require such corrective measures as may be necessary in the Engineer's professional opinion to insure the proper execution of the Contract or to protect the Owner's interest.

The Engineer is empowered to determine the amount, quality, acceptability, and fitness of all parts of the Work, to interpret the Contract Documents, to waive provisions of the Specifications to meet unforeseen conditions or circumstances revealed or arising during the course of the Work, and to decide all other questions in connection with the Work, but this authority shall not give rise to any duty or responsibility of the Engineer to the Contractor, the subcontractor, or any of their agents or employees to do so.

- 9.13 Limitations on ENGINEER's Authority and Responsibilities

Add the following new subparagraph:

- 9.13.6 "Notwithstanding any reference to any Laws and Regulations, ENGINEER will not assume any duty to provide supervision of construction methods or processes."

ARTICLE 10. AUTHORIZED CHANGES IN THE WORK

Paragraph 10.01, A

Add:

1. The allowance for the combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:
 - a. For the Contractor, for Work performed by the Contractor's own forces, 15 percent of the cost.
 - b. For the Contractor, for Work performed by the Contractor's Subcontractor, 5 percent of the amount due the Subcontractor.
 - c. 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. In no case will a change involving over \$500.00 be approved without itemization.

ARTICLE 12. CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

Delete Paragraph 12.01.B in its entirety and insert the following new Paragraph:

- 12.01.B The cost or credit to the Owner resulting from a change in the Work shall be determined in the following ways:
- 12.01.B.1 By mutual acceptance of an itemized lump sum which shows the material and labor cost, plus a combined 15% for overhead and profit for Work performed by his own forces. Labor cost shall include travel, insurance, social security, and other fringe benefits. For Work performed by his subcontractors, Contractor will be allowed 5% profit over subcontractor's costs with no other markups allowed. Credit to Owner shall be exact cost savings occasioned by changes in Work. In no case will a change order involving over \$500 be approved without itemization.

Add the following subparagraph:

12.06.A.3 LIQUIDATED DAMAGES

It is the intent of the Owner to assess liquidated damages in the amount indicated in Bid Document 00300, in accordance with Article 4 of the Agreement and Document 00700, Standard General Conditions of the Construction Contract. Liquidated damages shall be paid by the Contractor to the Owner and is based on the amount of the direct costs, expenses, and additional Engineering/inspection costs the Owner is anticipated to incur. Notwithstanding liquidated damages, direct and consequential damages shall also be recoverable by the Owner.

ARTICLE 14. PAYMENT TO CONTRACTOR AND COMPLETION

APPLICATION FOR PROGRESS PAYMENTS

- 14.02.A.1 In the first sentence, change "20 days" to "30 days".

Add the following subparagraph:

- 14.02.A.4 Progress Payments; Retainage. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment as recommended by Engineer, on or about the first day of each month during construction as provided in Subparagraphs 14.02.A.4.a and 14.02.A.4.b below. All such payments will be measured by

the schedule of values established in Paragraph 2.07 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

Application for Progress Payments must include the Contractor's certified payrolls in order for payment to be processed.

- 14.02.A.4.a Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as Engineer shall determine, or Owner may withhold, in accordance with Paragraph 14.02.B.5 of the General Conditions.

95 Percent of Work completed (with the balance being retainage).

50 Percent (with the balance being retainage) of materials and equipment not incorporated in the Work (but Delivered, suitably stored, and accompanied by documentation satisfactory to Owner as provided in Paragraph 14.2 of the General Conditions).

- 14.02.A.4.b Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the work completed, less such amounts as Engineer shall determine, or Owner may withhold, in accordance with paragraph 14.02.B.5 of the General Conditions and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as discussed in paragraph 6.02 of the Agreement.

14.02.C. Payment Becomes Due

In the first sentence, change the payment time period from "10 days" to "45 days".

FINAL PAYMENT AND ACCEPTANCE

Add the following to the end of Paragraph 14.07.C.1:

"Until the CONTRACTOR certifies the Final Application for Payment and the ENGINEER recommends payment, five percent (5%) [established in accordance with paragraph 14.02] of the dollar value of all work done as shown by the application shall be retained by the OWNER. Within thirty (30) days after receipt of the application, as recommended by the ENGINEER and certified by the CONTRACTOR, the OWNER will make payment to the CONTRACTOR for the total dollar value of work done as shown by the application; less a retained amount which shall equal two times the dollar value of any work remaining to be completed, as determined by the ENGINEER; less retained amounts necessary to satisfy any claims, liens or judgments against the CONTRACT which have not been suitably discharged; less amounts previously paid the CONTRACTOR; and less any other sums which may be lawfully deducted, the net retained amount being termed the 'Final Settlement'."

The establishing of the 'Final Settlement' in paragraph 14.13 of these Supplementary Conditions and its subsequent release to CONTRACTOR, as specified below, shall act to supersede the last two sentences of standard paragraph 14.08.A.

Add the following new clause:

14.07.D "Release of Final Settlement:

1. The amounts retained to assure final completion of the work will be released to CONTRACTOR in the following manner:

- a. Periodic payments will be made by OWNER in amounts which equal the dollar value of the various segments of such work as they become complete to OWNER's satisfaction, except that no payment will be made for an amount which is less than one thousand dollars unless said amount is associated with the final segment of such work. Refer to Paragraph 14.02.
- b. Payment for the balance of the retained amount will be made by OWNER when the final segment of such work is completed to OWNER's satisfaction.

Payments will be made by OWNER within 30 days after the date he receives a certification from ENGINEER that particular segments of the work are satisfactorily completed.

2. The amounts retained to satisfy any claims, liens or judgments against CONTRACTOR will be released to CONTRACTOR if evidence satisfactory to OWNER is promptly furnished that such claims, liens or judgments were suitably discharged. Any claims liens, or judgments referred to in these Contract Documents shall pertain to the project and must be filed in accordance with the terms of the applicable contract and/or applicable laws."

ARTICLE 15. SUSPENSION OF WORK AND TERMINATION

15.03 – Owner may terminate for convenience.

15.03.A.

Add:

5. The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.
 - a) 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.
 - (4) In case of such termination for the Owner's Convenience, the Contractor shall be entitled to receive payment from the Owner on the same basis provided in Subparagraph 14.07.

ARTICLE 17. MISCELLANEOUS

Add:

17.06 Labor Law and General Municipal Law

- A. Specific reference is made to the following sections of the Labor Law and General Municipal Law which apply to the Work under this Contract.

1. Labor Law

- a) Section 220, subd. 2, re: 8 hour day, 40 hour week.
- b) Section 220, subd. 3 and 220-d, re: Minimum Wage Rates and Supplements, which are included in these specifications.
- c) Section 220-e, re: Anti-discrimination, including all sub-parts.
- d) Section 222-a, re: Prevention of dust hazards.

2. General Municipal Law

- a) Section 103-c, re: Removal or disqualification.
- b) Section 103-d, re: Non-collusion.
- c) Section 108, re: Workers' Compensation Insurance.
- d) Section 109, re: Non-assignment of Public Contracts.

17.07 Equal Opportunity

A. The Contractor shall maintain policies of employment as follows:

- 1. The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin. The Contractor shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. 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. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.
- 2. The Contractor and all Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, or national origin.

17.08 Additional Conditions

- A. The Contractor agrees to make no claim for damages for delays occasioned by any act or omission of the County of Oneida.
- B. If Federal or New York State funds are a part of this contract, the following shall be applied. The obligations of the parties hereunder are conditioned upon the continued availability of Federal and/or New York State funds for the purposes set forth in this agreement. Should funds become unavailable or should appropriate Federal or New York State officials fail to approve sufficient funds for completion of the services or programs set forth in this agreement, the County shall have the option to immediately terminate this Agreement upon providing written notice to the Contractor. In such an event, the County shall be under no further obligation to the Contractor other than payment for costs actually incurred prior to termination and in no event will the County be responsible for any actual or consequential damages as a result of termination.
- C. Contractors and Subcontractors performing work on this project shall comply with the applicable provision of the "Labor Law" as amended, of the State of New York.
- D. Construction and Demolition debris shall be disposed of in accordance with State and Local regulations.

17.09 Failure to Complete Work on Time

- A. Contractor shall be assessed liquidated damages for failure to complete for each calendar day following the date specified for completion of the work that work remains uncompleted, liquidated damages will be deducted from any money due the Contractor; provided however that due account shall be taken of any adjustment of contract time for completion of the work as provided for elsewhere in the specifications.
- B. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the County of its rights under the contract.
- C. The Contractor shall be liable for liquidated damages if the Contractor abandons the performance of the contract of the Contractor's employment is terminated pursuant to the provisions of this contract.
- D. Liquidated damages shall include inspection, engineering, and any other cost to the County after the contract date specified for the completion of the work provided for in the contract.
- E. In the event that liquidated damages exceed any money due the Contractor, the Contractor shall pay the difference to the County.

17.10 Solid Waste Management

- A. Any Contractor doing business from a location within Oneida and Herkimer counties shall be required, pursuant to Oneida County Board of Legislators Resolution No. 249 of May 29, 1999, to deliver exclusively to the facilities of the Oneida-Herkimer Solid Waste Authority, all wastes and recyclables generated within the Authority's service area by performance of this contract by Contractor and any subcontractors.

17.11 Administration

- A. Wherever the term "Architect" or "Engineer" occurs, it shall mean Oneida County Department of Water Quality and Water Pollution Control, or their designated representative.

17.12 Arbitration

- A. Delete all references to arbitration throughout this and related contract documents.

ARTICLE 18. LABOR

LABOR AND GENERAL MUNICIPAL LAWS

- 18.01 Specific reference is made to the following sections of the Labor and General Municipal Laws of the State of New York which apply to the Work under this Contract.
 - 18.01.1 Labor Law
 - (a) Section 220, subd. 2, re: 8 hour day, 40 hour week.
 - (b) Section 220-e, re: Anti-discrimination, including all subparts.
 - (c) Section 222, re: Preference of New York State citizens.
 - (d) Section 222-a, re: Elimination of dust hazards.

18.01.2 General Municipal Law

- (a) Section 103-a, re: Grounds for cancellation of contract.
- (b) Section 103-b, re: Disqualification to contract.
- (c) Section 103-c, re: Removal of disqualification.
- (d) Section 103-d, re: Non-collusion.
- (e) Section 108, re: Workers' Compensation Insurance.
- (f) Section 109, re: Non-assignment of Public Contracts.

WAGE RATES

- 18.02 In compliance with Section 220 of the Labor Law of the State of New York, the Prevailing Wage Rate Schedules, as provided in Document 00830, including supplements for welfare, pension, vacation, and other benefits, shall apply to the Contract. If the amount of supplements provided by the employer is less than the total supplements shown on the wage schedule, the difference shall be paid in cash to employees. The supplements listed in Document 00830 do not necessarily include all types of prevailing supplements in the locality, and a future determination of the Secretary of Labor may require the Contractor to provide additional supplements. The Contractor shall provide statutory benefits for disability benefits, workmen's compensation, unemployment insurance, and social security.
- 18.03 The Prevailing Wage Standards will be strictly adhered to and the Contractor shall show proof that minimum applicable wages have been paid to all persons employed by him, or employed by his agents or Subcontractors.
- 18.04 The fact that there is no minimum wage rate hereinafter stated for some classifications found to be necessary on the project will in no way affect the obligation of the Contractor or his compensation therefor.
- 18.05 The Contractor and each Subcontractor, if any, shall post in a prominent and accessible place on the site of the Work a legible statement of all wage rates and supplements as specified to be paid or provided for the various classes of mechanics, workmen, or laborers employed on the Work.
- 18.06 Labor classifications not appearing on the accompanying schedule of wages can be used only with the consent of the department of jurisdiction and then the rate to be paid will be given by the department of jurisdiction after being advised by the New York State Department of Labor.

* * * * *

DOCUMENT 00830

PREVAILING RATE SCHEDULE

STATE OF NEW YORK

DEPARTMENT OF LABOR

*To be
inserted in
final document*

SECTION 01013

SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including Instructions for Bidders apply to this work. Contractor's attention is specifically called to the attached USEPA document *USEPA Radon Mitigation Standards* (EPA Document 402-R-93-078 rev. April 1994) specifically Section 14 Systems Installation, Section 15 Materials, Section 16 Monitors and Labeling, and Section 17 Post-Mitigation Testing which provide specifications for the work. Although the project system is intended to remove solvent-related vapors from beneath the building, the standards for Radon sub-slab depressurization systems apply.
- B. This project is part of environmental investigation and cleanup operations of the Former Rome Cable Corporation site funded under a grant from the NYSDEC Environmental Restoration Program. Its purpose is to remove chlorinated ethene (tetrachloroethene, trichloroethene, dichloroethene, and vinyl chloride) vapors from beneath the building foundation. As such, the health and safety requirements of 29 CFR 1910.120 for hazardous waste site activities apply. Contractor is responsible for applicable health and safety regulation compliance for Contractor's personnel and subcontractors. Copies of site investigation reports are available from the Engineer.
- C. Due to contractual security requirements, access to the building interior will be limited to hours of operation of the building tenant (Monday through Friday 7:30 AM to 4:30 PM).

1.2 WORK COVERED BY CONTRACT

- A. The work under this project is for the installation of a Sub-Slab Depressurization System at the office building located at 421 Ridge Street, Rome, New York, including the following:
 - 1. The sub-slab depressurization system will be installed to comply with Sections 14, 15, 16, and 17 of the *USEPA Radon Mitigation Standards* (EPA Document 402-R-93-078 rev. April 1994). A copy is attached.
 - 2. The sub-slab depressurization system will consist of ventilation piping installed at six (6) sub-slab depressurization points (Figure 1). The ventilation piping will be run through the building interior along the six individual pathways shown on Figure 1, through the building exterior wall (or roof) to six (6) individual radon fans installed outside the structure. Fan exhaust air will be run through ventilation pipe to above the building roofline with clearances from the roofline, windows and building components in accordance with *USEPA Radon Mitigation Standards* (Section 14.2). A typical installation is depicted in Figure 2.
 - 3. Six (6) sub-slab depressurization points (6-inch diameter) have been pre-drilled through the basement floor at the locations shown on Figure 1. Sub-slab material (soil) has been removed to 18-inches below the slab at the locations of SSD-1, SSD-3, and SSD-6. Contractor will remove sub-slab material (soil) to a depth of 18-inches below the bottom of the slab at the locations of SSD-4 and SSD-5. Contractor will make a 6-inch diameter horizontal hole through the concrete block wall and remove soil behind wall (assume 5 gallons soil volume) to install ventilation piping at SSD-2.

4. Contractor will provide exterior electrical service for the radon fans. Continuous duty service in accordance with National Fire Protection Association (NFPA) National Electric Code, Standard No. 70 for commercial work, and in accordance with State and Local Codes, and Manufacturer's Installation Instructions are required. System breakers will be labeled "Sub-slab Depressurization System".
5. Contractor will provide, install, and startup test (assume 1 day startup testing) all equipment, materials, and supplies required to produce an operational sub-slab depressurization system as defined within the project Specifications and Drawings issued for Bid and prepared for the Project by Shumaker Consulting Engineering & Land Surveyors, P.C. (SCE), 430 Court Street, Utica, NY 13502.
6. System piping will consist of 4-inch Schedule 40 PVC pipe and fittings. Elements of the exterior discharge pipe exposed to sunlight will be painted. Interior piping runs will be sloped back toward the SSD points at a minimum of 3/8-inch per foot of run such that condensation within the pipe flows to the SSD point. All building interior ventilation pipe runs will be covered in pipe insulation to prevent condensation formation on the outside of the ventilation pipe. The vent discharge will be fitted with a screen and cover to prevent entrance of precipitation and foreign objects into the pipe. Ventilation and discharge pipe installation, hangers, fittings, and sealing of penetrations will be in accordance with the *USEPA Radon Mitigation Standards*. Roof penetrations will be sealed with pipe flashing and sealant to prevent water leakage.
7. Contractor will provide and install in accordance with manufacturer's instructions six (6) radon fan units (Radon Away™ RP145 or equivalent). The radon fan motors will be continuous duty, thermally protected, 120 VAC, 60 Hz. The radon fan will be rated for outdoor use and capable of moving 80 to 120 CFM of air at static pressures of 0.5 to 1.5 inches of water. Typical power consumption will be in the 40 to 90 Watt range. The fans will be plumbed in-line using removable/flexible connections (Fernco™ or equivalent) with a condensate bypass configuration (Figure 2).
8. Contractor will install plastic housings over the exterior radon fans. The housings and exterior discharge pipe will be painted to match the building exterior color (brick) and provide UV protection to these permanent installations.
9. U-Tube manometers will be installed at visible interior locations so that fan operation may be checked. The manometers will be mounted on the exterior of the drywall enclosures (see "j").
10. Exposed interior ventilation pipe runs through office areas (including restrooms and file closets) will be enclosed in drywall. Drywall enclosures will be finished and painted to match existing walls. Where a trip hazard is present, drywall enclosure will be raised to table height (30-inches) and tied into existing walls to form a shelf. Carpet and molding sections removed for system installation will be restored.
11. A vapor impermeable sump cover will be installed over the sump in the boiler room. Sealant will be applied between the floor and sump cover. Perforations through the cover for electrical and water lines will also be sealed.

PART 2 – MEASUREMENT AND PAYMENT

2.1 NON-DIRECT PAYMENT

- A. The Contractor is advised that while required or called for by the Contract Documents, no direct payment will be made for:

1. Project administration.
2. Bonds and insurance.
3. Demobilization.
4. Maintenance and protection of traffic.
5. Site Security.
6. Areas outside the Work limits damaged by the Contractor's operation.

The cost of this Work, as well as all other Work not specifically identified as Payment Items, shall be included on the unit prices bid for the various items in the Contract.

- B. It is the Contractor's responsibility to determine actual quantities of materials needed prior to submitting the Bid. Accordingly, variations in quantities of materials will have no impact on the contract price and schedule.

PART 3 – PROJECT RECORDS

3.1 PROJECT RECORD DOCUMENTS – GENERAL

- A. It shall be the Contractor's responsibility to maintain current project record documents as defined herein.

3.2 MAINTENANCE OF DOCUMENTS

- A. Contractor shall maintain, at job site, one copy of:

1. Contract Drawings
2. Project Manual
3. Addenda
4. Approved Submittals
5. Supplemental Instructions
6. Change Orders
7. Other Modifications to Contract
8. Correspondence File

- B. Make documents available at all times for inspection by Owner and Engineer.

3.3 RECORDING

- A. Keep record documents current.

PART 4 – SUBMITTALS

4.1 SUBMITTALS

- A. Submit, to the Project Engineer, submittals required by the Project Manual. Submit each required submittal to Shumaker Consulting Engineering and Land Surveying, P.C., 430 Court Street, Utica, NY 13502, Attn: Robert Koslosky.

- B. **Submittals required with BID.** The following submittals shall be submitted with the bid.

1. Refer to Bid Document 00002 Bidding Checklist.

C. **Submittals required prior to Commencement of Work.** The following items shall be submitted by selected Contractor for review prior to commencement of work under this Contract.

1. Contract. Signed contract shall be submitted to the Owner.
2. Insurance. Written documentation that contractor is in compliance with all insurances required. This documentation shall be subject to Owner approval. Refer to General Requirements for insurance requirements.
3. Bonds. Written documentation that Contractor has obtained all required performance, payment, material, and labor bonds required. Bonds must be valid and in effect for this Contract. This documentation shall be subject to Owner approval. Refer to General Requirements for bonding requirements.
4. Written documentation that all Contractor employees and subcontractors scheduled to be on-site are in compliance with the health and safety requirements of 29 CFR 1910.120.

D. **Submittals Required During the Work** include:

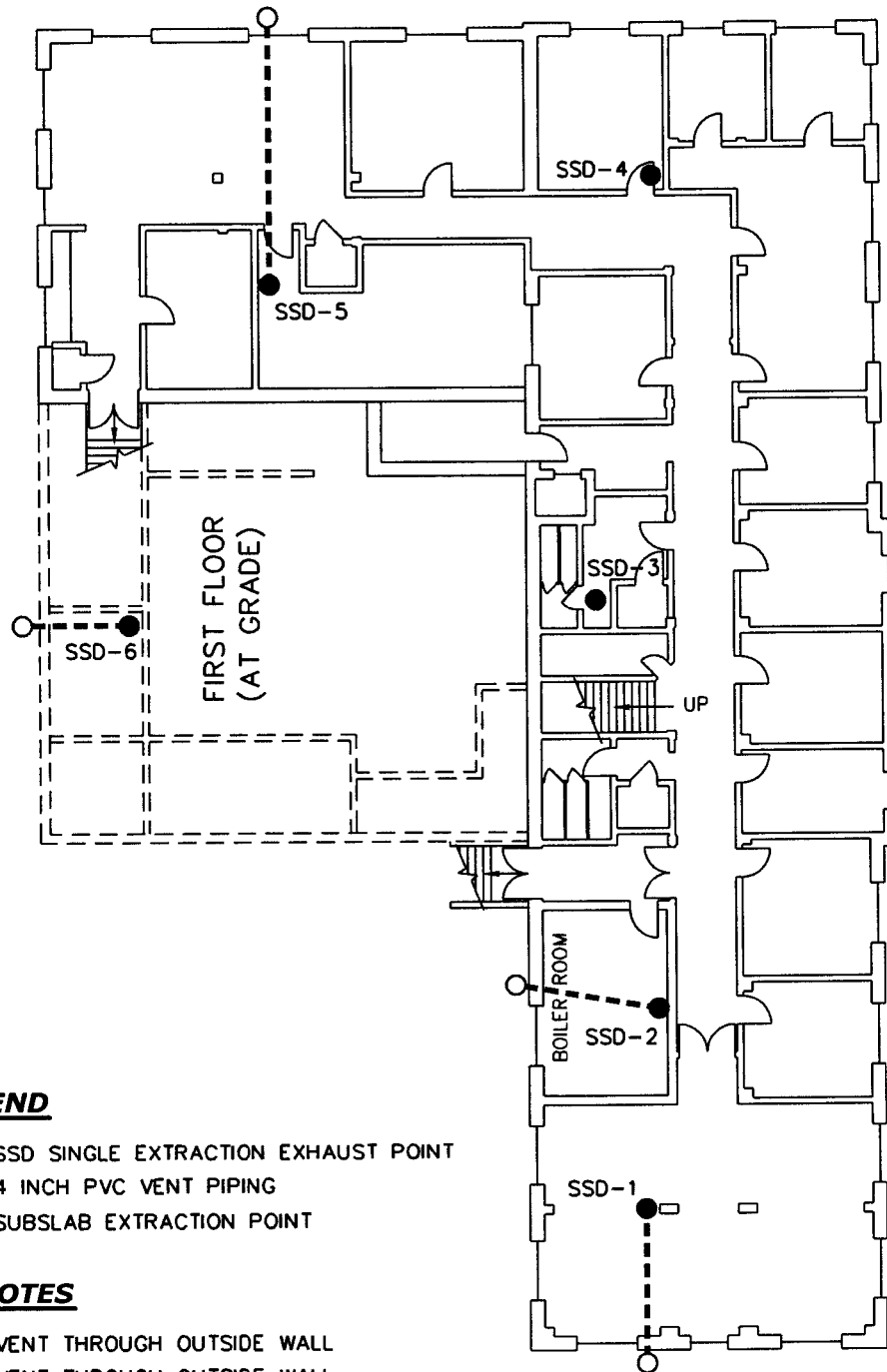
1. Any changes in personnel, project materials, methods, or schedule shall be submitted in writing to Owner.

E. **Submittals Required Following the Work** include:

1. Final payment request with guarantee of work and support documentation.
2. All additional certificates, warranties, guarantees or documents called for throughout the project manual.

* * * * *

SOUTH JAY STREET



LEGEND

- SSD SINGLE EXTRACTION EXHAUST POINT
- 4 INCH PVC VENT PIPING
- SUBSLAB EXTRACTION POINT
- SSD-6

KEY NOTES

- SSD-1 VENT THROUGH OUTSIDE WALL
- SSD-2 VENT THROUGH OUTSIDE WALL
- SSD-3 VENT UP THROUGH SECOND FLOOR, THIRD FLOOR AND THRU ROOF, FOLLOWING AIR DUCT.
- SSD-4 VENT UP THROUGH SECOND FLOOR, THIRD FLOOR AND THRU ROOF, FOLLOWING AC CONDUIT.
- SSD-5 VENT THROUGH OUTSIDE WALL
- SSD-6 VENT THROUGH OUTSIDE WALL ABOVE WINDOW

NORTH



SCALE = 1:20

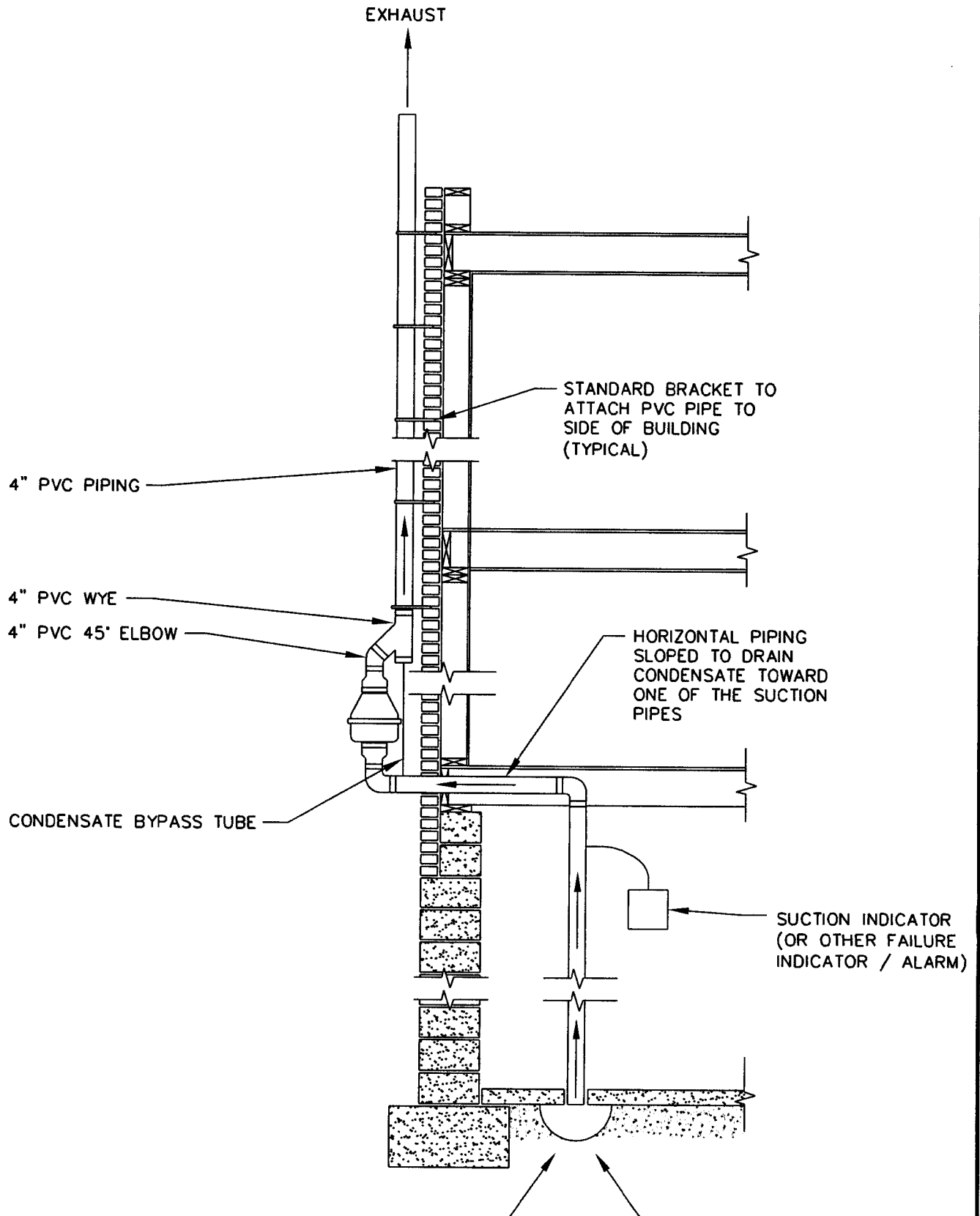
SHUMAKER
Consulting Engineering & Land Surveying, P.C.
181 Genesee St., Utica, New York Office
Telephone (315) 724-0100/ Fax (315) 724-3715

**FORMER ROME CABLE
CORPORATION
421 RIDGE STREET SITE
SUBSLAB DEPRESSURIZATION
SYSTEM**

**GROUND FLOOR PLAN
SUBSLAB
EXTRACTION POINT
LOCATIONS**

DRAWN BY: SRR
CHECKED BY: RAK
PROJ. MGR: RAK
DATE: 11/4/11
PROJ. NO: 0514.04

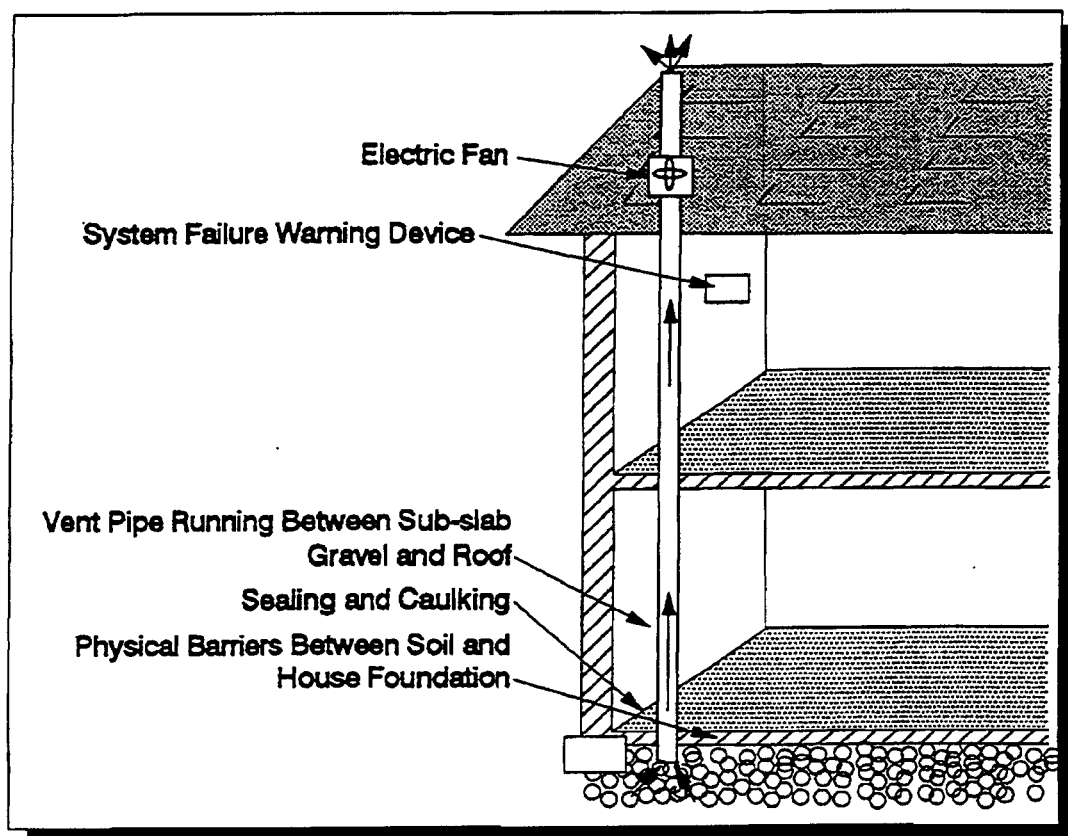
DWG. NO.
1



TYPICAL SSD SINGLE EXTRACTION POINT INSTALLATION
 SCALE = N.T.S.



RADON MITIGATION STANDARDS



EPA 402-R-93-078
October 1993
Revised April 1994

RADON MITIGATION STANDARDS

Prepared for:

U.S. Environmental Protection Agency
Office of Radiation and Indoor Air (6604J)
401 M Street, S.W.
Washington, D.C. 20460

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RADON MITIGATION STANDARDS

1.0 BACKGROUND

The 1988 Indoor Radon Abatement Act (IRAA) required the Environmental Protection Agency (EPA) to develop a voluntary program to evaluate and provide information on contractors who offer radon control services to homeowners. The Radon Contractor Proficiency (RCP) Program was established to fulfill this portion of the IRAA. In December 1991, EPA published "Interim Radon Mitigation Standards" as initial guidelines for evaluating the performance of radon mitigation contractors under the RCP Program. Over the past six years, the effectiveness of the basic radon mitigation techniques set forth in the "Interim Standards" has been validated in field applications throughout the United States. This experience now serves as the basis for the more detailed and final Radon Mitigation Standards (RMS) set forth in this document.

2.0 PURPOSE

The purpose of the RMS is to provide radon mitigation contractors with uniform standards that will ensure quality and effectiveness in the design, installation, and evaluation of radon mitigation systems in detached and attached residential buildings three stories or less in height. The RMS is intended to serve as a model set of requirements which can be adopted or modified by state and local jurisdictions to fulfill objectives of their specific radon contractor certification or licensure programs.

3.0 PARTICIPANTS

Minimum requirements are established in the RMS for individuals nationwide who perform radon remediation work and wish to participate in the RCP Program. To participate in EPA's RCP Program, the mitigation contractor shall have completed all RCP training and examination requirements, be listed in the current RCP Listing Report, and shall agree to follow the provisions of the RMS.

4.0 SCOPE

The requirements addressed in the RMS include the following categories of contractor activity: General Practices, Building Investigation, Worker Health and Safety, Systems Design, Systems Installation, Materials, Monitors and Labeling, Post-Mitigation Testing, and Contracts and Documentation.

5.0 ASSUMPTION

Before applying the provisions of the RMS, it is assumed that appropriate radon/radon decay product measurements have been performed within the structure, and that the owner has decided that radon remediation is necessary.

6.0 IMPLEMENTATION

6.1 The RMS includes requirements for installation of radon remediation systems and provides a basis for evaluating the quality of those installations. It may be adopted by state regulatory agencies for state or local radon mitigation contractor

licensure programs. It may also be used as a reference during inspection of in-progress or completed radon mitigation work.

6.2 Contractors shall personally conduct follow-up inspection of any radon mitigation systems installed by their firm or by subcontractors to insure conformance with the requirements of the RMS. This requirement shall include the post-mitigation testing prescribed in paragraph 17.0.

6.3 EPA will evaluate reports of non-compliance with the RMS that are referred to the Agency by states and other agencies that monitor radon mitigation services. Based on its evaluation, EPA may initiate established RCP program de-listing procedures against contractors that the Agency or States (with certification programs) find are in violation of the mandatory provisions of the RMS (See paragraph 6.4). In addition, EPA or its agent may conduct inspections of radon mitigation projects. State radon program personnel or their contracted representatives are considered EPA agents for conducting such inspections.

6.4 Those provisions of the RMS that are considered to be mandatory are prefaced by the term "shall." Provisions that are considered good practice but which are not mandatory are prefaced by the terms "should" or "recommended."

6.5 The RMS will be updated as necessary, and in response to technological advances and field experience.

7.0 LIMITATIONS

7.1 Although the provisions of the RMS have been carefully reviewed for potential

conflicts with other regulatory requirements, adherence to the RMS does not guarantee compliance with the applicable codes or regulations of any other Federal, state, or local agency having jurisdiction.

7.2 Where discrepancies exist between provisions of the RMS and local codes or regulations, local codes shall take precedence. However, where compliance with local codes necessitates a deviation from the RMS, EPA recommends that RCP listed contractors report the deviation in writing to the appropriate EPA Regional Office and the appropriate state regulatory official within 30 days. It should be noted that EPA is not requiring the reporting that is recommended in this paragraph. States with radon contractor certification programs may require that contractors give prior notification of their intent to deviate from the RMS for research or other purposes.

7.3 The RMS is not intended to be used as a design manual, and compliance with its provisions will not guarantee reduction of indoor radon concentrations to any specific level.

7.4 The RMS shall not apply to radon mitigation systems installed prior to its effective date, except when a previously installed system is altered. "Altering" radon mitigation systems does not include activities such as replacing worn out equipment, or providing new filters, while leaving the remainder of the system unchanged. Mitigation systems installed prior to the effective date of the RMS should be in compliance with the requirements in force at that time (i.e. EPA Interim Radon Mitigation Standards, December 15, 1991, as amended by the Addendum on Backdrafting of October 1, 1992). If a radon mitigation system is

found that does not comply with current standards, contractors should recommend to clients that the system be upgraded or altered to meet current standards.

7.5 Because of the wide variation in building design, size, operation and use, the RMS does not include detailed guidance on how to select the most appropriate mitigation strategy for a given building. That guidance is provided in the documents referenced in paragraphs 8.1, 8.2, and 8.3.

7.6 The provisions of the RMS are limited to proven technologies and methods. Publication of this standard is not intended, however, to inhibit research and evaluation of other innovative radon mitigation techniques. When such research is conducted, a performance standard shall be applied, i.e., post-mitigation radon levels shall be at or below EPA's action level (currently 4 pCi/L), and the systems design criteria in paragraph 13.0 shall be applied. Contractors who expect to deviate from proven radon mitigation technologies and methods (as defined in the RMS and other EPA references in Section 8.0) for purposes of research on innovative mitigation techniques, shall obtain prior approval from state regulatory officials, document the non-standard techniques, and inform the client of the deviation from standard procedures. In cases where radon mitigation is not regulated by the state, contractors shall obtain prior approval from a Regional EPA office.

7.7 At this time, the RMS does not include standards for installing systems to mitigate radon in water. However, EPA is currently developing a standard that will regulate radon levels in domestic water supplies. Following publication of that standard, the RMS may be revised, as

appropriate, to include standards for installation of systems that are effective in reducing radon levels in water.

8.0 REFERENCE DOCUMENTS

The following documents are sources of additional radon mitigation information and are recommended reading for contractors participating in the RCP program.

8.1 EPA Training Manual, "Reducing Radon In Structures," (Third Edition), January 1993.

8.2 "Radon Reduction Techniques for Detached Houses, Technical Guidance (Second Edition)" EPA/625/5-87/019, January 1988.

8.3 "Application of Radon Reduction Methods," EPA/625/5-88/024, August 1988.

8.4 "Indoor Radon and Radon Decay Product Measurement Device Protocols," EPA 402-R-92-004, July, 1992.

8.5 "Protocols for Radon and Radon Decay Product Measurements in Homes," EPA 402-R-92-003, June, 1993.

8.6 "A Citizen's Guide To Radon (Second Edition)" EPA 402-K92-001, May 1992.

8.7 "Consumer's Guide to Radon Reduction," EPA, 402-K92-003, August, 1992.

8.8 "Home Buyer's and Seller's Guide to Radon," EPA 402-R-93-003, March, 1993.

8.9 "ASHRAE Standard 62-1989," Appendix B, Positive Combustion Air Supply.

8.10 "National Gas Code," Appendix H (p.2223.1-98), 1988, Recommended Procedure for Safety Inspection of an Existing Appliance Installation.

8.11 "Chimney Safety Tests User's Manual," Second Edition, January 12, 1988, Scanada Shelter Consortium Inc., for Canada Mortgage and Housing Corp.

8.12 OSHA "Safety and Health Regulations for Construction, Ionizing Radiation," 29 CFR 1926.53.

8.13 OSHA "Occupational Safety and Health Regulations, Ionizing Radiation," 29 CFR 1910.96.

8.14 NIOSH "Guide to Industrial Respiratory Protection," DHHS (NIOSH) Publication No. 87-116, September, 1987.

8.15 NCRP "Measurement of Radon and Radon Decay Daughters in Air," NCRP Report No. 97, Nov 1988.

8.16 EPA "Handbook, Sub-Slab Depressurization for Low-Permeability Fill Material," EPA/625/6-91/029, July 1991.

8.17 "Radon Reduction Techniques for Existing Detached Houses, Technical Guidance (Third Edition) for Active Soil Depressurization Systems," EPA/625/R-93-011, October, 1993.

9.0 DESCRIPTION OF TERMS

For this document, certain terms are defined in this section. Terms not defined herein should have their ordinary meaning within the context of their use. Ordinary meaning is as defined in "Webster's Ninth New Collegiate Dictionary."

9.1 Backdrafting: A condition where the normal movement of combustion products up a flue, resulting from the buoyant forces on the hot gases, is reversed, so that the combustion products can enter the house. Backdrafting of combustion appliances (such as fireplaces and furnaces) can occur when depressurization in the house overwhelms the buoyant force on the hot gases. Backdrafting can also be caused by high air pressures or blockage at the chimney or flue termination.

9.2 Backer Rod: A semi-rigid foam material resembling a rope of various diameters. Used to fill around pipes, etc. to assist in making a sealed penetration. For example, where a pipe is inserted through a concrete slab, a length of backer rod is jammed into the opening around the pipe. Caulking is then applied to the space above the backer rod and between the outside of the pipe and the slab opening. The purpose of the backer rod is to hold the semi-fluid caulk in place until it sets or hardens.

9.3 Block Wall Depressurization: A radon mitigation technique that depressurizes the void network within a block wall foundation by drawing air from inside the wall and venting it to the outside.

9.4 Perimeter Channel Drain: A means for collecting water in a basement by means of a large gap or channel between the concrete floor and the wall. Collected water may flow to aggregate beneath the slot ("French Drain") or to a sump where it can be drained or pumped away.

9.5 Certified: A rating applied by some jurisdictions to individuals or firms that are qualified and authorized to provide radon testing or mitigation services within the area

of their jurisdiction.

9.6 Client: The person, persons, or company that contracts with a radon mitigation contractor to install a radon reduction system in a building.

9.7 Combination Foundations: Buildings constructed with more than one foundation type, e.g., basement/crawlspace or basement/slab-on-grade.

9.8 Communication Test: A diagnostic test designed to qualitatively measure the ability of a suction field and air flow to extend through the material beneath a concrete slab floor and thus evaluate the potential effectiveness of a sub-slab depressurization system. This qualitative test is commonly conducted by applying suction on a centrally located hole drilled through the concrete slab and simultaneously observing the movement of smoke downward into small holes drilled in the slab at locations separated from the central suction hole. (See also paragraph 9.16, Pressure Field Extension.)

9.9 Contractor: An individual listed in the RCP program, or certified by a state which requires adherence to the RMS.

9.10 Crawlspace Depressurization: A radon control technique designed to achieve lower air pressure in the crawlspace relative to indoor air pressure by use of a fan-powered vent drawing air from within the crawlspace. (See also paragraph 9.14, Mechanically Ventilated Crawlspace System.)

9.11 Diagnostic Tests: Procedures used to identify or characterize conditions within buildings that may contribute to radon entry

or elevated radon levels or may provide information regarding the performance of a mitigation system.

9.12 Drain Tile Loop: A continuous length of drain tile or perforated pipe extending around all or part of the internal or external perimeter of a basement or crawlspace footing.

9.13 Mitigation System: Any system or steps designed to reduce radon concentrations in the indoor air of a building.

9.14 Mechanically Ventilated Crawlspace System: A radon control technique designed to increase ventilation within a crawlspace, achieve higher air pressure in the crawlspace relative to air pressure in the soil beneath the crawlspace, or achieve lower air pressure in the crawlspace relative to air pressure in the living spaces, by use of a fan. (See also paragraph 9.10, Crawlspace Depressurization.)

9.15 pCi/L: The abbreviation for picocuries per liter which is a unit of measure for the amount of radioactivity in a liter of air. The prefix "pico" means a multiplication factor of 1 trillionth. A Curie is a commonly used measurement of radioactivity.

9.16 Pressure Field Extension: The distance that a pressure change is induced in the sub-slab area, measured from a single or multiple suction points. (See also paragraph 9.8, Communication Test.)

9.17 Radon: A naturally occurring radioactive element (Rn-222) which exists as a gas and is measured in picocuries per liter (pCi/L).

9.18 Radon Decay Products: The four short-lived radioactive elements (Po-218, Pb-214, Bi-214, Po-214) which exist as solids and immediately follow Rn-222 in the decay chain. They are measured in working levels (WL).

9.19 Re-Entrainment: The unintended re-entry into a building of radon that is being exhausted from the vent of a radon mitigation system.

9.20 Soil Gas: The gas mixture present in soil which may contain radon.

9.21 Soil-Gas Retarder: A continuous membrane or other comparable material used to retard the flow of soil gases into a building.

9.22 Stack Effect: The overall upward movement of air inside a building that results from heated air rising and escaping through openings in the building envelope, thus causing indoor air pressure in the lower portions of a building to be lower than the pressure in the soil beneath or surrounding the building foundation.

9.23 Sub-Membrane Depressurization: A radon control technique designed to achieve lower air pressure in the space under a soil-gas-retarder membrane laid on the crawl-space floor, relative to air pressure in the crawlspace, by use of a fan-powered vent drawing air from beneath the membrane.

9.24 Sub-Slab Depressurization (Active): A radon control technique designed to achieve lower sub-slab air pressure relative to indoor air pressure by use of a fan-powered vent drawing air from beneath the concrete slab.

9.25 Sub-Slab Depressurization (Passive): A radon control technique designed to achieve lower sub-slab air pressure relative to indoor air pressure by use of a vent pipe (without a fan) routed through the conditioned space of a building and connecting the sub-slab area to the outdoor air. This system relies primarily on the convective flow of warmed air upward in the vent to draw air from beneath the concrete slab.

9.26 Working Level (WL): A unit of radon decay product exposure rate. Numerically, any combination of short-lived radon decay products in one liter of air that will result in the ultimate emission of 130,000 MeV of potential alpha energy. This number was chosen because it is approximately the total alpha energy released from the short-lived decay products in equilibrium with 100 pCi of Rn-222 per liter of air. (See also the referenced document in paragraph 8.15.)

9.27 Working Level Month (WLM): A unit of exposure used to express the accumulated human exposure to radon decay products. It is calculated by multiplying the average working level to which a person has been exposed by the number of hours exposed and dividing the product by 170.

10.0 GENERAL PRACTICES

The following general practices are required for all contacts between radon mitigation contractors and clients.

10.1 In the initial contact with a client, the contractor shall review any available results from previous radon tests to assist in developing an appropriate mitigation strategy.

10.2 Based on guidance contained in "A Citizen's Guide to Radon (Second Edition)," (paragraph 8.6) or subsequent revisions of that document, the contractor shall refer the client to the discussions of interpreting indoor radon test results and the health risk associated with the radon level found in the building. The "Consumer's Guide to Radon Reduction," (paragraph 8.7) is an appropriate reference for providing advice on actions to take to reduce indoor radon levels. Similar documents developed by states and mandated for dissemination by state regulations may also be used as references.

10.3 When delays in the installation of a permanent radon control system are unavoidable due to building conditions or construction activities, and a temporary system is installed, the contractor shall inform the client about the temporary nature of the system. A label that is readable from at least three feet shall be placed on the system. The label shall include a statement that the system is temporary and that it will be replaced with a permanent system within 30 days. The label shall also include the date of installation, and the contractor's name, phone number, and RCP Identification Number. (EXCEPTION: The 30 day limit on use of a temporary mitigation system may be extended in cases where a major renovation or change in building use necessitates a delay in installation of a permanent mitigation system that is optimized to the new building configuration or use. The appropriate state or local building official or radon program official should be notified when this exception is being applied.)

10.4 When the selected mitigation technique requires use of sealants, caulks, or

bonding chemicals containing volatile solvents, prior to starting work the contractor shall inform the client of the need to ventilate work areas during and after the use of such materials. Ventilation shall be provided as recommended by the manufacturer of the material.

11.0 BUILDING INVESTIGATION

11.1 The contractor shall conduct a thorough visual inspection of the building prior to initiating any radon mitigation work. The inspection is intended to identify any specific building characteristics and configurations (e.g., large cracks in slabs, exposed earth in crawlspaces, open stairways to basements) and operational conditions (e.g., continuously running HVAC systems or operational windows) that may affect the design, installation, and effectiveness of radon mitigation systems. As part of this inspection, clients should be asked to provide any available information on the building (e.g., construction specifications, pictures, drawings, etc.) that might be of value in determining the radon mitigation strategy.

11.2 To facilitate selection of the most effective radon control system and avoid the costs of installing systems that subsequently prove to be ineffective, it is recommended that the contractor conduct diagnostic tests to assist in identifying and verifying suspected radon sources and entry points. Radon grab sampling, continuous radon monitoring, and use of chemical smoke sticks are examples of the type of diagnostic testing commonly used. (See paragraph 11.4).

11.3 It is recommended that during the building investigation, contractors routinely

perform diagnostic tests to evaluate the existence of, or the potential for, backdrafting of natural draft combustion appliances. Published procedures for conducting backdrafting tests are covered in the Reference Documents listed in Paragraphs 8.9, 8.10, and 8.11. The following checklist has been extracted from material in these references and may be used to test for existing or potential backdrafting conditions:

- (1) Close all windows and doors, both external and internal.
- (2) Open all HVAC supply and return air duct vents/registers.
- (3) Close fireplace and wood stove dampers.
- (4) Turn on all exhaust and air distribution fans and combustion appliances EXCEPT the appliance being tested for backdrafting.
- (5) Wait 5 minutes.
- (6) Test to determine the indoor-outdoor pressure differential in the room where the appliance being tested is located. If the pressure differential is a negative 5 Pascals or more, assume that a potential for backdrafting exists.
- (7) To begin a test for actual spillage of flue gases, turn on the appliance being tested. (If the appliance is a forced air furnace, ensure that the blower starts to run before proceeding.)
- (8) Wait 5 minutes.
- (9) Using either a smoke tube or a carbon dioxide gas analyzer, check for flue gas spillage near the vent hood.
- (10) Repeat steps (4) through (9) for each natural draft combustion appliance being tested for backdrafting. Seasonal and extreme weather

conditions should be considered when evaluating pressure differentials and the potential for backdrafting.

If spillage is confirmed from any natural draft combustion appliance, clients shall be advised of the backdrafting condition and that active (fan-powered) radon mitigation systems cannot be installed until the condition has been corrected. Contractors should advise the client to contact an HVAC contractor if correcting an existing or potential backdrafting condition is necessary. (See paragraph 17.3 for post-mitigation backdrafting testing.)

11.4 If installation of a sub-slab depressurization system is contemplated and characteristics of the sub-slab material are unknown, a communication test, as defined in paragraph 9.8 is recommended.

11.5 As part of the building investigation, a floor-plan sketch shall be developed (if not already in existence and readily available) that includes illustrations of the building foundation (slab-on-grade, basement or crawlspace area.) The sketch should include the location of load-bearing walls, drain fixtures and HVAC systems. It should be annotated to include suspected or confirmed radon entry points, results of any diagnostic testing, the anticipated layout of any radon mitigation system piping, and the anticipated locations of any vent fan and system warning devices for the envisioned mitigation systems. The sketch shall be finalized during installation and shall be included in the documentation. (See paragraph 18.2 and Appendix A.)

12.0 WORKER HEALTH AND SAFETY

12.1 Contractors shall comply with all OSHA, state and local standards or regulations relating to worker safety and occupational radon exposure. Applicable references in the Code of Federal Regulations and NIOSH publications are listed in paragraphs 8.12, 8.13, and 8.14.

12.2 In addition to the OSHA and NIOSH standards, the following requirements that are specifically or uniquely applicable for the safety and protection of radon mitigation workers shall be met:

12.2.1 The contractor shall advise workers of the hazards of exposure to radon and the need to apply protective measures when working in areas of elevated radon concentrations.

12.2.2 The contractor shall have a worker protection plan on file that is available to all employees and is approved by any state or local regulating agencies that require such a plan. Exception: A worker protection plan is not required for a contractor who is a sole proprietor unless required by state or local regulations.

12.2.3 The contractor shall ensure that appropriate safety equipment such as hard hats, face shields, ear plugs, steel-toe boots and protective gloves are available on the job site during cutting, drilling, grinding, polishing, demolishing or other activity associated with radon mitigation projects.

12.2.4 All electrical equipment used during radon mitigation projects shall be properly grounded. Circuits used as a power source should be protected by Ground-fault Circuit Interrupters (GFCI).

12.2.5 When work is required at elevations above the ground or floor, the contractor shall ensure that ladders or scaffolding are safely installed and operated.

12.2.6 Work areas shall be ventilated to reduce worker exposure to radon decay products, dust, or other airborne pollutants. In work areas where ventilation is impractical or where ventilation cannot reduce radon levels to less than 0.3 WL (based on a short term diagnostic test, e.g., grab sample), the contractor shall ensure that respiratory protection conforms with the requirements in the NIOSH Guide to Industrial Respiratory Protection. (See paragraph 8.14.) (Note: If unable to make working level measurements, a radon level of 30 pCi/L shall be used.)

12.2.7 Where combustible materials exist in the specific area of the building where radon mitigation work is to be conducted and the contractor is creating any temperatures high enough to induce a flame, the contractor shall ensure that fire extinguishers suitable for type A, B, and C fires are available in the immediate work area.

12.2.8 Pending development of an approved personal radon exposure device and a protocol for its use, contractors shall record employee exposure to radon at each work site, based on: (1) the highest pre-mitigation indoor radon or working level measurement available, and (2) the time employees are exposed (without respirator protection) at that level (See paragraph 12.2.6.) (Note: This approach is not intended to preclude the alternative use of on-site radon or radon decay product measurements to determine exact exposure.)

Consistent with OSHA Permissible Exposure Limits, contractors shall ensure that employees are exposed to no more than 4 working level months (WLM) over a 12 month period. (An equilibrium ratio of 50 percent shall be used to convert radon exposure to WLM.)

12.2.9 In any planned work area where it is suspected that friable asbestos may exist and be disturbed, radon mitigation work shall not be conducted until a determination is made by a properly trained or accredited person that such work will be undertaken in a manner which complies with applicable asbestos regulations.

12.2.10 When mitigation work requires the use of sealants, adhesives, paints, or other substances that may be hazardous to health, contractors shall provide employees with the applicable Material Safety Data Sheets (MSDS) and explain the required safety procedures.

13.0 SYSTEMS DESIGN

13.1 All radon mitigation systems shall be designed and installed as permanent, integral additions to the building, except where a temporary system has been installed in accordance with paragraph 10.3.

13.2 All radon mitigation systems shall be designed to avoid the creation of other health, safety, or environmental hazards to building occupants, such as backdrafting of natural draft combustion appliances.

13.3 All radon mitigation systems shall be designed to maximize radon reduction and in consideration of the need to minimize excess energy usage, to avoid compromising moisture and temperature controls and other comfort features, and to minimize noise.

13.4 All radon mitigation systems and their components shall be designed to comply with the laws, ordinances, codes, and regulations of relevant jurisdictional authorities, including applicable mechanical, electrical, building, plumbing, energy, and fire prevention codes.

14.0 SYSTEMS INSTALLATION

14.1 General Requirements

14.1.1 All components of radon mitigation systems installed in compliance with provisions of the RMS shall also be in compliance with the applicable mechanical, electrical, building, plumbing, energy and fire prevention codes, standards, and regulations of the local jurisdiction.

14.1.2 The contractor shall obtain all required licenses and permits, and display them in the work areas as required by local ordinances.

14.1.3 Where portions of structural framing material must be removed to accommodate radon vent pipes, material removed shall be no greater than that permitted for plumbing installations by applicable building or plumbing codes.

14.1.4 Where installation of a radon mitigation system requires pipes or ducts to penetrate a firewall or other fire resistance rated wall or floor, penetrations shall be protected in accordance with applicable building, mechanical, fire, and electrical codes.

14.1.5 When installing radon mitigation systems that use sump pits as the suction point for active soil depressurization, if sump pumps are needed, it is

recommended that submersible sump pumps be used. (See paragraphs 14.5.1, 14.7.4, 15.7, and 15.8.)

14.2 Radon Vent Pipe Installation Requirements

14.2.1 All joints and connections in radon mitigation systems using plastic vent pipes shall be permanently sealed with adhesives as specified by the manufacturer of the pipe material used. (See paragraph 14.3.7 for exception when installing fans, and paragraph 14.2.7 for exception when installing vent pipes in sumps.) Joints or connections in other vent pipe materials shall be made air tight.

14.2.2 Attic and external piping runs in areas subject to sub-freezing conditions should be protected to avoid the risk of vent pipe freeze-up.

14.2.3 Radon vent pipes shall be fastened to the structure of the building with hangers, strapping, or other supports that will adequately secure the vent material. Existing plumbing pipes, ducts, or mechanical equipment shall not be used to support or secure a radon vent pipe.

14.2.4 Supports for radon vent pipes shall be installed at least every 6 feet on horizontal runs. Vertical runs shall be secured either above or below the points of penetration through floors, ceilings, and roofs, or at least every 8 feet on runs that do not penetrate floors, ceilings, or roofs.

14.2.5 To prevent blockage of air flow into the bottom of radon vent pipes, these pipes shall be supported or secured in a permanent manner that prevents their downward movement to the bottom of

suction pits or sump pits, or into the soil beneath an aggregate layer under a slab.

14.2.6 Radon vent pipes shall be installed in a configuration that ensures that any rain water or condensation within the pipes drains downward into the ground beneath the slab or soil-gas retarder membrane.

14.2.7 Radon vent pipes shall not block access to any areas requiring maintenance or inspection. Radon vents shall not be installed in front of or interfere with any light, opening, door, window or equipment access area required by code. If radon vent pipes are installed in sump pits, the system shall be designed with removable or flexible couplings to facilitate removal of the sump pit cover for sump pump maintenance.

14.2.8 To prevent re-entrainment of radon, the point of discharge from vents of fan-powered soil depressurization and block wall depressurization systems shall meet all of the following requirements: (1) be above the eave of the roof, (2) be ten feet or more above ground level, (3) be ten feet or more from any window, door, or other opening into conditioned spaces of the structure that is less than two feet below the exhaust point, and (4) be ten feet or more from any opening into an adjacent building. The total required distance (ten feet) from the point of discharge to openings in the structure may be measured either directly between the two points or be the sum of measurements made around intervening obstacles. Whenever possible, the exhaust point should be positioned above the highest eave of the building and as close to the roof ridge line as possible.

14.2.9 When a radon mitigation system is designed to draw soil gas from a perimeter drain tile loop (internal or external) that discharges water through a drain line to daylight or a soakaway, a one-way flow valve, water trap, or other control device should be installed in or on the discharge line to prevent outside air from entering the system while allowing water to flow out of the system.

14.3 Radon Vent Fan Installation Requirements

14.3.1 Vent fans used in radon mitigation systems shall be designed or otherwise sealed to reduce the potential for leakage of soil gas from the fan housing.

14.3.2 Radon vent fans shall be sized to provide the pressure difference and air flow characteristics necessary to achieve the radon reduction goals established for the specific mitigation project. Guidelines for sizing vent fans and piping can be found in the references cited in paragraphs 8.1, 8.16, and 8.17.

14.3.3 Radon vent fans used in active soil depressurization or block wall depressurization systems shall not be installed below ground nor in the conditioned (heated/cooled) space of a building, nor in any basement, crawlspace, or other interior location directly beneath the conditioned spaces of a building. Acceptable locations for radon vent fans include attics not suitable for occupancy (including attics over living spaces and garages), garages that are not beneath conditioned spaces, or on the exterior of the building.

14.3.4 Radon vent fans shall be installed in a configuration that avoid condensation buildup in the fan housing. Whenever possible, fans should be installed in vertical runs of the vent pipe.

14.3.5 Radon vent fans mounted on the exterior of buildings shall be rated for outdoor use or installed in a water tight protective housing.

14.3.6 Radon vent fans shall be mounted and secured in a manner that minimizes transfer of vibration to the structural framing of the building.

14.3.7 To facilitate maintenance and future replacement, radon vent fans shall be installed in the vent pipe using removable couplings or flexible connections that can be tightly secured to both the fan and the vent pipe.

14.3.8 The intakes of fans used in crawlspace pressurization, or in pressurizing the building itself, shall be screened or filtered to prevent ingestion of debris or personal injury. Screens or filters shall be removable to permit cleaning or replacement and building owners shall be informed of the need to periodically replace or clean such screens and filters. This information shall also be included in the documentation. (See paragraph 18.5)

14.4 Suction Pit Requirement for Sub-Slab Depressurization (SSD) Systems

14.4.1 To provide optimum pressure field extension of the sub-slab communication zone, adequate material shall be excavated from the area immediately below the slab penetration point of SSD system vent pipes.

14.5 Sealing Requirements

14.5.1 Sump pits that permit entry of soil-gas or that would allow conditioned air to be drawn into a sub-slab depressurization system shall be covered and sealed. The covers on sumps that previously provided protection or relief from surface water collection shall be fitted with a water or mechanically trapped drain. Water traps should be fitted with an automatic supply of priming water. (See paragraph 15.7 for details on sump cover and sealing materials.)

14.5.2 Openings around radon vent pipe penetrations of the slab, the foundation walls, or the crawlspace soil-gas retarder membrane shall be cleaned, prepared, and sealed in a permanent, air-tight manner using compatible caulks or other sealant materials. (See paragraph 15.5.) Openings around other utility penetrations of the slab, walls, or soil-gas retarder shall also be sealed.

14.5.3 Where a Block Wall Depressurization (BWD) system is used to mitigate radon, openings in the tops of such walls and all accessible openings or cracks in the interior surfaces of the walls shall be closed and sealed with polyurethane or equivalent caulks, expandable foams, or other fillers and sealants. (See paragraphs 15.5 and 15.6.) Openings or cracks that are determined to be inaccessible or beyond the ability of the contractor to seal shall be disclosed to the client and included in the documentation.

14.5.4 Openings, perimeter channel drains, or cracks that exist where the slab meets the foundation wall (floor-wall joint), shall be sealed with urethane caulk or

equivalent material. When the opening or channel is greater than 1/2 inch in width, a foam backer rod or other comparable filler material shall be inserted in the channel before application of the sealant. This sealing technique shall be done in a manner that retains the channel feature as a water control system. Other openings or cracks in slabs or at expansion or control joints should also be sealed. Openings or cracks that are determined to be inaccessible or beyond the ability of the contractor to seal shall be disclosed to the client and included in the documentation.

14.5.5 When installing baseboard-type suction systems, all seams and joints in the baseboard material shall be joined and sealed using materials recommended by the manufacturer of the baseboard system. Baseboards shall be secured to walls and floors with adhesives designed and recommended for such installations. If a baseboard system is installed on a block wall foundation, the tops of the blockwall shall be closed and sealed as prescribed in paragraph 14.5.3.

14.5.6 Any seams in soil-gas retarder membranes used in crawlspaces for sub-membrane depressurization systems shall be overlapped at least 12 inches and should be sealed. To enhance the effectiveness of sub-membrane depressurization systems, the membrane should also be sealed around interior piers and to the inside of exterior walls.

14.5.7 In combination basement/crawlspace foundations, where the crawlspace has been confirmed as a source of radon entry, access doors and other openings between the basement and the adjacent crawlspace shall be closed and

sealed. Access doors required by code shall be fitted with air tight gaskets and a means of positive closure, but shall not be permanently sealed. In cases where both the basement and the adjacent crawlspace areas are being mitigated with active SSD and SMD systems, sealing of the openings between those areas is not required.

14.5.8 When crawlspace depressurization is used for radon mitigation, openings and cracks in floors above the crawl-space which would permit conditioned air to pass out of the living spaces of the building, shall be identified, closed, and sealed. Sealing of openings around hydronic heat or steam pipe penetrations shall be done using non-combustible materials. Openings or cracks that are determined to be inaccessible or beyond the ability of the contractor to seal shall be disclosed to the client and included in the documentation.

14.6 Electrical Requirements

14.6.1 Wiring for all active radon mitigation systems shall conform to provisions of the National Electric Code and any additional local regulations.

14.6.2 Wiring may not be located in or chased through the mitigation installation ducting or any other heating or cooling ductwork.

14.6.3 Any plugged cord used to supply power to a radon vent fan shall be no more than 6 feet in length.

14.6.4 No plugged cord may penetrate a wall or be concealed within a wall.

14.6.5 Radon mitigation fans installed on the exterior of buildings shall be hard-wired into an electrical circuit. Plugged fans shall not be used outdoors.

14.6.6 If the rated electricity requirements of a radon mitigation system fan exceeds 50 percent of the circuit capacity into which it will be connected, or if the total connected load on the circuit (including the radon vent fan) exceeds 80 percent of the circuit's rated capacity, a separate, dedicated circuit shall be installed to power the fan.

14.6.7 An electrical disconnect switch or circuit breaker shall be installed in radon mitigation system fan circuits to permit deactivation of the fan for maintenance or repair by the building owner or servicing contractor (Disconnect switches are not required with plugged fans).

14.7 Drain Installation Requirements

14.7.1 If drains discharge directly into the soil beneath the slab or through solid pipe to a soakaway, the contractor should install a drain that meets the requirements in paragraph 14.5.1.

14.7.2 If condensate drains from air conditioning units terminate beneath the floor slab, the contractor shall install a trap in the drain that provides a minimum 6-inch standing water seal depth, reroute the drain directly into a trapped floor drain, or reconnect the drain to a condensate pump.

14.7.3 Perimeter (channel or French) drains should be sealed with backer rods and urethane or comparable sealants in a manner that will retain the channel feature

as a water control system. (See paragraph 14.5.4.)

14.7.4 When a sump pit is the only system in a basement for protection or relief from excess surface water and a cover is installed on the sump for radon control, the cover shall be recessed and fitted with a trapped drain meeting the requirements of paragraph 14.5.1.

14.8 HVAC Installation Requirements

14.8.1 Modifications to an existing HVAC system, which are proposed to mitigate elevated levels of radon, should be reviewed and approved by the original designer of the system (when possible) or by a licensed mechanical contractor.

14.8.2 Foundation vents, installed specifically to reduce indoor radon levels by increasing the natural ventilation of a crawlspace, shall be non-closeable. In areas subject to sub-freezing conditions, the existing location of water supply and distribution pipes in the crawlspace, and the need to insulate or apply heat tape to those pipes, should be considered when selecting locations for installing foundation vents.

14.8.3 Heat Recovery Ventilation (HRV) systems shall not be installed in rooms that contain friable asbestos.

14.8.4 In HRV installations, supply and exhaust ports in the interior shall be located a minimum of 12 feet apart. The exterior supply and exhaust ports shall be positioned to avoid blockage by snow or leaves and be a minimum of 10 feet apart.

14.8.5 Contractors installing HRV systems shall verify that the incoming and

outgoing airflow is balanced to ensure that the system does not create a negative pressure within the building. Contractors shall inform building owners that periodic filter replacement and inlet grill cleaning are necessary to maintain a balanced airflow. This information shall also be included in the documentation.

14.8.6 Both internal and external intake and exhaust vents in HRV systems shall be covered with wire mesh or screening to prevent entry of animals or debris or injury to occupants.

15.0 MATERIALS

15.1 All mitigation system electrical components shall be U.L. listed or of equivalent specifications.

15.2 As a minimum, all plastic vent pipes in mitigation systems shall be made of Schedule 20 PVC, ABS or equivalent piping material. Schedule 40 piping or its equivalent should be used in garages and in other internal and external locations subject to weathering or physical damage.

15.3 Vent pipe fittings in a mitigation system shall be of the same material as the vent pipes. (See paragraph 14.3.7 for exception when installing vent fans, and paragraph 14.2.7 for exception when installing radon vent pipes in sump pit covers.

15.4 Cleaning solvents and adhesives used to join plastic pipes and fittings shall be as recommended by manufacturers for use with the type of pipe material used in the mitigation system.

15.5 When sealing cracks in slabs and other small openings around penetrations of

the slab and foundation walls, caulks and sealants designed for such application shall be used. Urethane sealants are recommended because of their durability.

15.6 When sealing holes for plumbing rough-in or other large openings in slabs and foundation walls that are below the ground surface, non-shrink mortar, grouts, expanding foam, or similar materials designed for such application shall be used.

15.7 Sump pit covers shall be made of durable plastic or other rigid material and designed to permit air-tight sealing. To permit easy removal for sump pump servicing, the cover shall be sealed using silicone or other non-permanent type caulking materials or an air-tight gasket.

15.8 Penetrations of sump covers to accommodate electrical wiring, water ejection pipes, or radon vent pipes shall be designed to permit air-tight sealing around penetrations, using caulk or grommets. Sump covers that permit observation of conditions in the sump pit are recommended.

15.9 Plastic sheeting installed in crawlspaces as soil-gas retarders shall be a minimum of 6 mil (3 mil cross-laminated) polyethylene or equivalent flexible material. Heavier gauge sheeting should be used when crawlspaces are used for storage, or frequent entry is required for maintenance of utilities.

15.10 Any wood used in attaching soil-gas retarder membranes to crawlspace walls or piers shall be pressure treated or naturally resistant to decay and termites.

16.0 MONITORS AND LABELING

16.1 All active soil depressurization and block wall depressurization radon mitigation systems shall include a mechanism to monitor system performance and warn of system failure. The mechanism shall be simple to read or interpret and be located where it is easily seen or heard by building occupants and protected from damage or destruction.

16.2 Electrical radon mitigation system monitors (whether visual or audible) shall be installed on non-switched circuits and be designed to reset automatically when power is restored after service or power supply failure. Battery operated monitoring devices shall not be used unless they are equipped with a low-power warning feature.

16.3 Mechanical radon mitigation system monitors, such as manometer type pressure gauges, shall be clearly marked to indicate the range or zone of pressure readings that existed when the system was initially activated.

16.4 A system description label shall be placed on the mitigation system, the electric service entrance panel, or other prominent location. This label shall be legible from a distance of at least three feet and include the following information: "Radon Reduction System," the installer's name, phone number, and RCP Identification Number, the date of installation, and an advisory that the building should be tested for radon at least every two years or as required or recommended by state or local agencies. In addition, all exposed and visible interior radon mitigation system vent pipe sections shall be identified with at least one label on each floor level. The label shall read, "Radon Reduction System."

16.5 The circuit breakers controlling the circuits on which the radon vent fan and system failure warning devices operate shall be labeled "Radon System."

17.0 POST-MITIGATION TESTING

17.1 After installation of an active radon control system (e.g., SSD), the contractor shall re-examine and verify the integrity of the fan mounting seals and all joints in the interior vent piping.

17.2 After installation of any active radon mitigation system, the contractor shall measure suctions or flows in system piping or ducting to assure that the system is operating as designed. (Note: When SSD systems are installed and activated, a test of pressure field extension is a good practice, particularly when there is uncertainty regarding the permeability of materials under all parts of the slab.)

17.3 Immediately after installation and activation of any active (fan-powered) sub-slab depressurization or block wall depressurization system in buildings containing natural draft combustion appliances, the building shall be tested for backdrafting of those appliances. Any backdrafting condition that results from installation of the radon mitigation system shall be corrected before the system is placed in operation. (Procedures and a checklist for conducting backdrafting tests are covered in the reference documents listed in paragraphs 8.9, 8.10, and 8.11, and in paragraph 11.3.)

17.4 Upon completion of radon mitigation work, a test of mitigation system effectiveness shall be conducted using an RMP listed test device and in accordance with EPA testing protocols or state requirements. This test should be conducted

no sooner than 24 hours nor later than 30 days following completion and activation of the mitigation system(s). This test may be conducted by the contractor, by the client, or by a third party testing firm. If this test is conducted by the mitigation contractor, and the test results are accepted by the client as satisfactory evidence of system effectiveness, further post-mitigation testing is not required. However, to avoid the appearance of conflict of interest, the contractor shall recommend to the client that a mitigation system effectiveness test be conducted by an independent RMP listed or state certified testing firm or by the client. The contractor should request a copy of the report of any post-mitigation testing conducted by the client or by an independent testing firm.

17.5 To ensure continued effectiveness of the radon mitigation system(s) installed, the contractor shall advise the client to retest the building at least every two years or as required or recommended by state or local authority. Retesting is also recommended if the building undergoes significant alteration.

18.0 CONTRACTS AND DOCUMENTATION

18.1 EPA recommends that contractors provide the following written information to clients prior to initiation of work:

- (1) The contractor's RCP Program identification number.
- (2) A statement that describes the planned scope of the work and that includes an estimate of the time needed to complete the work.
- (3) A statement describing any known hazards associated with chemicals used in or as part of the installation.

- (4) A statement indicating compliance with and implementation of all EPA standards and those of other agencies having jurisdiction (e.g., code requirements).
- (5) A statement describing any system maintenance that the building owner would be required to perform.
- (6) An estimate of the installation cost and annual operating costs of the system.
- (7) The conditions of any warranty or guarantee.

18.2 EPA recommends that RCP listed contractors keep records of all radon mitigation work performed and maintain those records for 3 years or for the period of any warranty or guarantee, whichever is longer. These records should include:

- (1) The Building Investigation Summary and floor plan sketch. (See Appendix A.)
- (2) Pre- and post-mitigation radon test data.
- (3) Pre- and post-mitigation diagnostic test data.
- (4) Copies of contracts and warranties.
- (5) A narrative or pictorial description of mitigation system(s) installed.

18.2.1 Appendix A contains a suggested standard format for compiling mitigation project records.

18.3 Other records or bookkeeping required by local, state, or Federal statutes and regulations shall be maintained for the period(s) prescribed by those requirements.

18.4 EPA recommends that health and safety records, including worker radon exposure logs, be maintained for a minimum of 20 years.

18.5 Upon completion of the mitigation project, contractors shall provide client with an information package that includes:

- (1) Any building permits required by local codes.
- (2) Copies of the Building Investigation Summary and floor plan sketch. (See Appendix A.)
- (3) Pre- and post-mitigation radon test data.
- (4) Copies of contracts and warranties.
- (5) A description of the mitigation system installed and its basic operating principles.
- (6) A description of any deviations from the RMS or State requirements.
- (7) A description of the proper operating procedures of any mechanical or electrical systems installed, including manufacturer's operation and maintenance instructions and warranties.
- (8) A list of appropriate actions for clients to take if the system failure warning device indicates system degradation or failure.
- (9) The name, telephone number, and RCP Identification Number of the contractor, and the phone number of the state radon office.

APPENDIX A

MITIGATION PROJECT RECORD

RCP Contractor's Name (System Designer) _____

RCP Identification Number _____

Contractor's Address _____

Company Name _____

Company Address _____

Client's Name _____

Client's Address _____

Type of Building:

☐ Detached Home

☐ Townhome

☐ Other (Describe) _____

Pre-Mitigation Test

Results

Test Device(s) Used

☐ Homeowner

☐ RMP Listed Company

☐ Mitigation Contractor

☐ Activated Charcoal

☐ Electret

☐ Alpha Track

☐ Continuous Monitor (Type) _____

Post Mitigation Test

Results

Test Device(s) Used

☐ Homeowner

☐ RMP Listed Company

☐ Mitigation Contractor

☐ Activated Charcoal

☐ Electret

☐ Alpha Track

☐ Continuous Monitor (Type) _____

Mitigation Method Used:

☐ Sub-slab depressurization

☐ Sub-membrane depressurization

☐ Block wall depressurization

☐ Ventilation

☐ Pressurization

☐ Other (Describe) _____

Building Investigation Summary and Floor Plan Sketch (See Paragraphs 11.0, 11.5, and 18.2 in the Mitigation Standard.)

Use the grid pattern sheet on page 2 of this form to sketch the foundation plan and dimensions of the building. At the top of page 2 is a list of suggested items for entry on the sketch. If a sub-slab or sub-membrane depressurization system is installed, the routing of the vent piping in the basement and/or crawlspace areas should be included, as well as pipe drops into the concrete slab or plastic membrane. If a fan has been included in the system, describe its location and the location of any monitoring or system failure warning device(s).

Signature

The contractor performing the Building Investigation, designing the mitigation system, and certifying its operational performance should sign this Project Record.

Mitigation Contractor

Date

APPENDIX A (Continued)

Floor Plan Sketch

(Scale: _____)

Suggested items to include in the sketch:

Foundation dimensions.

Stairways.

Grade-level, walk-out areas from basement.

Heating, Ventilating, Air Conditioning Equipment.

Ductwork.

Ductwork under slabs.

Foundation vents.

Access doors to crawlspaces.

Locations of radon entry.

Open areas to crawlspaces from basements.

Piers and Lolly columns.

Footings located inside the foundation perimeter.

Sump holes/pumps.

Floor drains.

[illegible]

SECTION 01020

ALLOWANCES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Related Requirements Specified Elsewhere
 - 1. Measurement and Payment: Section 01026.
- B. Include in the Total Bid Amount a Lump Sum Contingency Allowance as indicated.
- C. The overhead and profit for these allowances are not included in the Base Bid and are part of these allowances.
- D. **The contingency allowances shall be used only upon written authorization of the Engineer and the Owner's Representative.**
- E. At the closeout of the Project, monies remaining in the Contingency Allowance will be credited to the Owner by Change Order.

1.2 ALLOWANCES

- A. General Construction
 - 1. Included in the Base Bid is the sum of Five Thousand Dollars (\$5,000) to cover the actual cost of Work resulting from unforeseen conditions discovered during the progress of the Work and beyond the scope of the Contract Documents. The Engineer shall determine whether or not unforeseen conditions exist or if work is out of scope.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

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SECTION 01026

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 PURPOSE

- A. The purpose of this Section is to define the methods of measuring the payment quantities for all Work performed by the Contractor under this lump sum Contract.

1.2 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. General Requirement Specifications.
- B. Technical Specifications.
- C. General Conditions of the Construction Contract.
- D. Supplemental Conditions to the General Conditions.
- E. Bid Form.

1.3 NON-DIRECT PAYMENT

- A. The Contractor is advised that while required or called for by the Contract Documents, no direct payment will be made for:
 - 1. Project administration.
 - 2. Bonds and insurance.
 - 3. Demobilization.
 - 4. Areas outside the Work limits damaged by the Contractor's operation.

The cost of this Work, as well as all other Work not specifically identified under paragraph 1.4 Payment Items, shall be included on the lump sum prices bid for the various items in the Contract.

1.4 SCHEDULE OF PAYMENT ITEMS

- A. Payment Item No. 1: Mobilization and Site Preparation.
 - 1. Measurement shall be a single lump sum payment to cover the initial project startup costs incurred by the Contractor including procurement and movement of materials, tools, equipment, and supplies to the project site and preparation of building areas for installation of the sub-slab depressurization system. Payment shall be full compensation for all Work required for the Contractor to mobilize crews to the project site.
- B. Payment Item No. 2: Electrical Service Installations (6)
 - 1. Measurement shall be a single unit of measure (Lump Sum) and will cover all work required to provide electric services to the six (6) fans installed for the project. This work includes providing all labor, equipment, and materials to complete this item. Payment shall be full compensation for all Work required to install the electric services as required to complete the full scope of this Item.

- C. Payment Item No. 3: Piping, Fan, and Mechanical Installations (6)
1. Measurement shall be a single unit of measure (Lump Sum) and will cover all work required to furnish and install the sub-slab depressurization equipment in accordance with the Summary of Work. This work includes providing all labor, equipment, and materials to complete this task. Payment shall be full compensation for all Work required to provide equipment in conformance with the Plans and Specifications.
- D. Payment Item No. 4: Restoration of Interior Office Areas
1. Measurement shall be a single lump sum payment to provide materials and labor to fully restore the building interior areas in accordance with the Summary of Work. Payment shall be full compensation for all Work required for the Contractor to restore the impacted work areas in conformance with the Plans and Specifications.
- E. Payment Item No. 5: Project Closeout Including System Testing
1. Measurement shall be a single lump sum payment for all items necessary to complete the work in accordance with the Contract and Summary of Work including initial system testing and correction of deficiencies identified by the Engineer. Payment shall be full compensation for all Work required for the Contractor to complete the Work in conformance with the Plans and Specifications.

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