

PROJECT MANUAL

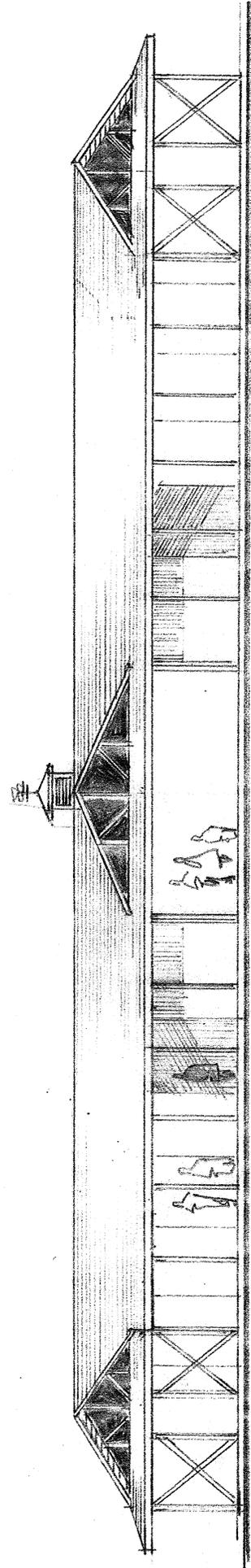
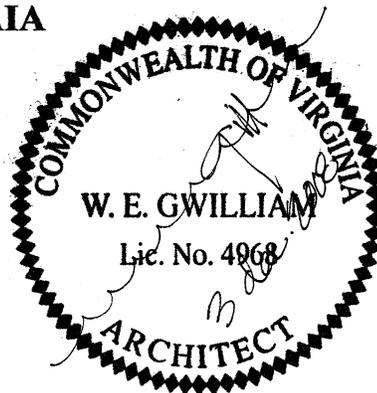
NORTHUMBERLAND FARMERS MARKET PAVILION

NORTHUMBERLAND COUNTY
72 MONUMENT PLACE
P.O. BOX 129
HEATHSVILLE, VA 22473

PREPARED BY

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NOVEMBER 2008



ADVERTISEMENT FOR BIDS
NORTHUMBERLAND COUNTY MARKET PAVILION

Separate sealed bids are requested for site work and construction of a 5300 sq. ft. Pavilion on the Courthouse lawn in Heathsville, VA. The Pavilion is a turned down edge concrete slab with 4"x 4" enclosed column posts, 2"x12" beams, 2" x 4" trussed roof, with 5/8" osb and asphalt shingles. The 400 sq. ft. of storage, utility spaces is enclosed with 2" x 4" stud walls, ½" plywood and Hardie or equal color plus siding with 4' x 9' sliding barn doors. Utilities are limited to a 200 amp electric service, minimal area lighting and convenience outlets.

Bids will be received at the Office of County Administrator, Mr. Kenneth Eades, at 72 Monument Place, Heathsville, VA until 4:00 p.m. on 9 January 2009, and then at same office publicly opened and read aloud. Any person may contact the office by phone (804) 580-7666 or email keades@co.northumberland.va.us for further information.

After December 11, contract documents may be examined at the Northumberland County Administrator's Office and the Dodge Plan Room, Richmond, Virginia. Copies of contract documents may be obtained at the Northumberland County Administrator's Office upon payment of \$15 for each set and \$25 for two sets. Any bidder upon returning the contract documents in good condition within ten (10) days of bid opening will be refunded \$15. Any non-bidder, sub-contractor, or supplier upon so returning the contract documents will be refunded \$10.

A pre-bid conference will be held at the site on Monday, 22 December 2008, at 3:00 PM. Prospective bidders should contact the County Administrator's Office to confirm their planned attendance.

The procedure for withdrawal of bid shall be according to provision "(i)" contained in 11-54, Code of Virginia (1950) as amended.

If a contract is for seventy thousand dollars (\$70,000) or more, or if the total value of all construction, removal, repair, or improvements undertaken by the bidder within any twelve-month period is five hundred thousand dollars (\$500,000) or more, the bidder is required under Title 54, Chapter 11, Code of Virginia (1950) as amended, to show evidence of being licensed as a "Class A Contractor." If a contract is fifteen hundred dollars (\$1500) or more but less than seventy thousand dollars (\$70,000), the bidder is required to show evidence of being licensed as a "Class B Contractor." The bidder shall place on the outside of the envelope containing the bid and shall place in the bid over his signature whichever of the following notations is appropriate: "Licensed Class A Virginia Contractor No. _" or "Licensed Class B Virginia Contractor No. _"

Northumberland County Board of Supervisors
By: Kenneth D. Eades, County Administrator

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DRAWING SCHEDULE

S.1 SITE PLAN

- 1. Floor Plans with Electrical**
- 2. Foundation Plan & Details**
- 3. Roof Framing Plan**
- 4. Elevations & Sections**
- 5. Details**
- 6. Details**

Issue Date All Drawings: December 3, 2008

Invitation to Bid – Document 00010
Northumberland County
P.O. Box 129
72 Monument Place
Heathsville, VA 22473

Farmers Market Pavilion

Northumberland County, Virginia in cooperation with a United States Department of Agriculture Rural Development Grant solicits proposal to build a Farmers Market Pavilion.

The scope of work includes building the open Pavilion of 5000 square feet first floor space. The frame is basically 4 x 4 PVC-encased treated wood columns with wall and ceilings of plywood and asphalt shingles. Exterior is finished with Hardie or approved equal pre-painted cement composite siding. County will waive fee for building permit, however contractor must draw permit. Site preparation and stripping will be monitored for Archeological significance.

It is the desire of the Board of Directors of the Foundation to solicit general contractor bids as described in the plans and specifications prepared by Willard E. Gwilliam, FAIA, and to award the contract for the project to the lowest bidder.

A pre-bid conference will be held at 3:00 p.m., Monday December 22, 2008 at the project site, at which time prospective bidders may discuss the project with representatives of the Owner. All contractors interested in bidding the project are requested to call Carol Seymour at 804-580-4216 and state their interest and desire to obtain a set of drawings and specifications so that the Owner will have them available after December 11, 2008. Otherwise sets of drawings will be available at a deposit price of \$15 per set or two (2) sets for \$25. A refund will be paid upon return of sets in good condition. Make all checks payable to Northumberland County Virginia.

Bids will be due before 4:00 p.m. at the Northumberland County Administration Office, 72 Monument Place, Heathsville, VA on January 9, 2009 and will be opened publicly at that time.

00010-1

BID SECURITY

All bids must be accompanied by a certified check or bid bond in the amount of 5% of the total base bid, payable to Northumberland county and the Contractor's EVIDENCE OF REGISTRATION per Title 54.1-1100 et. Seq., Chapter II, contractors, Code of Virginia. Material and payment bond or bank's letter of credit to the full amount of contract will be required at signing of the contract.

BIDDER'S REPRESENTATIONS

Each bidder, by making his bid, represents that he has read and understands the referenced document. He has visited the site, and is familiar with the local site conditions, all federal, state, and local codes and is satisfied that the work can be performed as described, and his bid is based upon the plans and specifications, without exception.

CONSIDERATION OF BIDS

Bidders may withdraw bids at any time prior to the date and time of bid opening, upon written notice to the Architect, through Northumberland County.

It is in the interest of the Owner to add or delete alternate bid items. However the Project will be awarded based on the Lowest Bid for the base bid items. The Owner reserves the right to waive any informality or irregularity in any bid, and to accept the bid, which in his judgment is in his own best interest.

The Owner shall have the right to accept alternates in any order or combination and to remain within the funds budgeted for the project.

OTHER BID INFORMATION

Bidders shall promptly notify the Architect of any ambiguity, inconsistency or error they may discover upon examination of the bidding documents or the site conditions.

The bidders are requested to give strong consideration to sub-bids from local contractors.

ALTERNATE BIDS

Project includes the following alternate prices:

Alternate #1: State the amount to be added or deducted from the contract to

- A. Add 10 feet x 32 feet bay, with two rental spaces and a 6 feet corridor either to the north or south pavilions in the truss roof areas. \$ _____
- B. Deduct the same space noted above reducing the size of the building. \$ _____

Alternate #2:

State the amount to deduct from the contract ,to delete all 4-inch white square PVC column covers. If alternate base detail is selected, the PVC sleeve should be held flush with the finish floor. Provide treated southern yellow pine 1-inch box trim with beveled top to conceal the base anchors or straps.

00010-3

DOCUMENT 00100

**INSTRUCTION TO BIDDERS
AIA DOCUMENT A -701 - 1997**

**AMENDED BY
SUPPLEMENTAL INSTRUCTIONS TO BIDDERS
RURAL DEVELOPMENT 1942 - A
ATTACHMENT 2 - PP 1-3**

**These AIA documents are available for reading
at the Northumberland County Administration
Office or for purchase there at \$10 per set.
They are also available for purchase from
the American Institute of Architects online.
One copy of each will be provided with the final
signed contract.**

ATTACHMENT TO AIA DOCUMENT A701-1997, *Instructions to Bidders*

The provisions of this Attachment shall delete, modify and supplement the provisions contained in the "*Instructions to Bidders*," AIA Document A701-1997 Edition. The provisions contained in this Attachment will supersede any conflicting provisions of the AIA Document. The term "Agency," as used in this Attachment, shall mean the United States of America, acting through the United States Department of Agriculture.

ARTICLE 2, BIDDER'S REPRESENTATIONS

2.1 Add the following subparagraph to paragraph 2.1:

2.1.5 This Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid, with any other Bidder or with any competitor.

ARTICLE 4, BIDDING PROCEDURES

4.1.1 Add the following sentence to subparagraph 4.1.1:

Only one copy of the Bid is to be submitted.

4.2.1 Delete subparagraph 4.2.1 and substitute the following:

4.2.1 Each Bid must be accompanied by a Bid Bond payable to the Owner for five percent of the total amount of the Bid.

4.2.2 Delete Subparagraph 4.2.2 and substitute the following:

4.2.2 The Bid Bond shall be written on a form identical to that included in the Bidding Documents, and the attorney-in-fact who executes the Bid Bond on behalf of the surety shall affix to the Bid Bond a certified and current copy of the power of attorney.

4.2.3 Add the words "payment and performance" before the word "bonds"; and add the following to subparagraph 4.2.3:

As soon as the Bid prices have been compared, the Owner will return the Bid Bonds of all except the three lowest responsible Bidders. When the Agreement is executed, the Bid Bonds of the two remaining unsuccessful Bidders will be returned.

4.2 Add the following subparagraph to paragraph 4.2:

4.2.4 If a Bidder refuses to execute the Agreement or obtain the Performance and Payment Bonds within the agreed time, the Owner may consider the Bidder in default, in which case the Bid Bond accompanying the Bid shall become the property of the Owner.

4.3 Add the following subparagraphs to paragraph 4.3:

4.3.5 All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project, shall apply to the Contract throughout.

4.3.6 The Bidder agrees to abide by the requirements of Executive Order 11246, specifically including the provisions of the Equal Opportunity Clause and the Standard Federal Equal Employment Construction Contract Specifications set forth in the Supplementary Conditions.

4.3.7 The Bidder agrees to abide by the requirements of section 319 of Public Law 101-121, which pertains to lobbying activities and applies to recipients of contracts or subcontracts that exceed \$100,000 at any tier under a Federal loan that exceeds \$150,000 or a Federal grant that exceeds \$100,000. Each Bid shall be accompanied by a completed lobbying certification form identical to that included in the Bidding Documents.

4.3.8 The Bidder agrees to abide by the requirements under 7 C.F.R. part 3017, which pertains to the debarment or suspension of a person from participating in a Federal program or activity. Each Bid exceeding \$25,000 shall be accompanied by a relevant completed certification form identical to that included in the Bidding Documents.

4.4.1 Delete subparagraph 4.4.1 and substitute the following:

4.4.1 No Bidder may withdraw, modify or cancel a Bid within 60 calendar days after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period? The time may be extended by mutual agreement between the Owner and the Bidder, and the concurrence of the Agency.

4.4.4 Delete the words ", if required," from Subparagraph 4.4.4.

ARTICLE 5, CONSIDERATION OF BIDS

5.3.2 Delete subparagraph 5.3.2 and substitute the following:

5.3.2 The Owner shall have the right to accept Alternates in the sequence or combinations listed and to determine the low Bidder on the basis of the sum of the Base Bid and the Alternates accepted.

ARTICLE 7, PERFORMANCE BOND AND PAYMENT BOND

7.1.1 Delete subparagraph 7.1.1 and substitute the following:

7.1.1 Prior to execution of the Contract, the Bidder shall furnish Bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder. Both Bonds shall be separately written, each in the amount of the Contract Sum. The cost shall be included in the Bid.

7.1.2 Delete subparagraph 7.1.2 and substitute the following:

7.1.2 Surety companies executing Bonds must hold a certificate of authority as a acceptable surety on Federal Bonds as listed in Treasury Circular 570, as amended, and be authorized to transact business in the State where the Project is located.

7.1.3 Delete subparagraph 7.1.3.

7.2.1 Delete subparagraph 7.2.1 and substitute the following:

7.2.1 The Bidder to whom the Contract is awarded will be required to execute the Agreement and obtain Performance and Payment Bonds within ten (10) calendar days from the date when the Notice of Award is delivered to the Bidder. The Notice shall be accompanied by the necessary Agreement and Bond forms.

7.2.2 Delete subparagraph 7.2.2 and substitute the following:

7.2.2 The Bonds shall be written on forms identical to those included in the Bidding Documents.

(Note: Any additional provisions that are necessary to remain effective after execution of the Contract for Construction will be inserted here and continue in the same format.)

oOo

DOCUMENT 00125

CONSTRUCTION BID FORM

**NORTHUMBERLAND FARMERS MARKET PAVILION
P.O. BOX 129
72 MONUMENT AVENUE
HEATHSVILLE, VA 22473**

Bid of _____ (hereafter called "BIDDER"), *a corporation,
Organized and existing under the laws of State of _____,
*a partnership, or an individual doing business as _____
with Northumberland County (hereafter called "OWNER").

Gentlemen:

The Bidder, in compliance with your *Invitation for Bids* for construction work for the Northumberland Farmers Market Pavilion in Northumberland County, Virginia having examined the Drawings and Specification with related documents and the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed **Pavilion** project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies and to construct the project in accordance with the Contract Documents, within the time quoted therein, and at the following contract Price stated. This price is to cover all expenses incurred in performing the work required under the contract documents, of which this bid is part.

The Undersigned agrees to hold open this Bid proposal for a period of Sixty (60) days following the submission of this Bid Proposal.

1. **BASE BID:** Provide all labor, materials and equipment necessary to complete all work as show on the drawings and as required in the **Project Manual** for the construction of Northumberland Farmers Market Pavilion as stipulated hereinafter.

STIPULATED SUM OF _____ Dollars
(\$ _____).

The following amounts are included in the BASE BID:

Sitework	\$ _____
Footings & Concrete Work	\$ _____
Rough & Finish Carpentry	\$ _____
Roofing	\$ _____
Electrical	\$ _____

Bidder acknowledges receipt of the following Addenda:

_____ Date

2. STATE the amount to be added or subtracted from the BASE BID for the following ALTERNATIVES:

Alternate No. 1A:

Add _____ Dollars (\$ _____)

Alternate No. 1B:

Deduct _____ Dollars (\$ _____)

Alternate No. 2

Deduct _____ Dollars (\$ _____)

00125-2

CONTRACT COMPLETION DATE

The Undersigned agrees, if awarded the Contract, to complete the entire work within _____ calendar days from date of Notice to Proceed.

The Bidder endorses a Certified Check, Cashier's Check or Bid Bond in the amount of

\$ _____ Dollars, (\$ _____) representing Five Percent (5%) or more of the Base Bid and agrees that such check or bond shall be subject to all of the terms and conditions set forth in the instructions to Bidders.

Signature of person, firm or corporation making bid:

_____ Date

Firm Name _____

By _____

Mailing Address _____

Virginia Registration No. _____

Complete below if Bidder is a Partnership

Name of All Partners

Residence of All Partners

Complete below if Bidder is a Corporation

CERTIFIED COPY OF RESOLUTION OF BOARD OF DIRECTORS OF

(Name of Corporation)

“Resolved that _____ (person authorized to sign)

_____ (title) to _____

(name of corporation) be authorized to sign and submit a Bid of This Corporation for the following:

Northumberland Farmers Market Pavilion
For Northumberland County
72 Monument Place
P.O. Box 129
Heathsville, Virginia 22473

The foregoing is a true and correct copy of the resolution adopted by _____
_____ (name of corporation) at a meeting of its
Board of Directors held on the _____ day of _____, 2008.

By _____

Title _____

(Seal)

***Contractor to complete and sign the
attached USDA Form AD 1048 (1/92)
and USDA Form 400-6 and enclose with
Bid.***

00125 - 4

U.S. DEPARTMENT OF AGRICULTURE

**Certification Regarding Debarment, Suspension, Ineligibility
and Voluntary Exclusion - Lower Tier Covered Transactions**

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 7 CFR part 3017, Section 3017.510, Participants' responsibilities. The regulations were published as Part IV of the January 30, 1989, Federal Register (pages 4722-4733). Copies of the regulations may be obtained by contacting the Department of Agriculture agency with which this transaction originated.

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)

- (1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Organization Name

PR/Award Number or Project Name

Name(s) and Title(s) of Authorized Representative(s)

Signature(s)

Date

Instructions for Certification

1. By signing and submitting this form, the prospective lower tier participant is providing the certification set out on the reverse side in accordance with these instructions.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this form that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this form that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," without modification, in all lower tier covered transaction and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

COMPLIANCE STATEMENT

This statement relates to a proposed contract with _____

(Name of borrower or grantee)

who expects to finance the contract with assistance from either the Rural Housing Service (RHS), Rural Business-Cooperative Service (RBS), or the Rural Utilities Service (RUS) or their successor agencies, United States Department of Agriculture (whether by a loan, grant, loan insurance, guarantee, or other form of financial assistance). I am the undersigned bidder or prospective contractor, I represent that:

1. I have, have not, participated in a previous contract or subcontract subject to Executive Order 11246 (regarding equal employment opportunity) or a preceding similar Executive Order.
2. If I have participated in such a contract or subcontract, I have, have not, filed all compliance reports that have been required to file in connection with the contract or subcontract.

If the proposed contract is for \$50,000 or more and I have 50 or more employees, I also represent that:

3. I have, have not previously had contracts subject to the written affirmative action programs requirements of the Secretary of Labor.
4. If I have participated in such a contract or subcontract, I have, have not developed and placed on file at each establishment affirmative action programs as required by the rules and regulations of the Secretary of Labor.

I understand that if I have failed to file any compliance reports that have been required of me, I am not eligible and will not be eligible to have my bid considered or to enter into the proposed contract unless and until I make an arrangement regarding such reports that is satisfactory to either the RHS, RBS or RUS, or to the office where the reports are required to be filed.

I also certify that I do not maintain or provide for my employees any segregated facilities at any of my establishments, and that I do not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I certify further that I will not maintain or provide for my employees any segregated facilities at any of my establishments, and that I will not permit my employees to perform their services at any location, under my control, where segregated facilities are maintained. I agree that a breach of this certification is a violation of the Equal Opportunity clause in my contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and wash rooms, restaurants and other eating areas time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. I further agree that (except where I have obtained identical certifications for proposed subcontractors for specific time periods) I will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that I will retain such certifications in my files; and that I will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods): (See Reverse).

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0575-0018. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

**NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENTS FOR
CERTIFICATIONS OF NON-SEGREGATED FACILITIES**

A certification of Nonsegregated Facilities, as required by the May 9, 1967, order (32F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e. quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

DATE _____

(Signature of Bidder or Prospective Contractor)

Address (including Zip Code)

DOCUMENT 00300

**GENERAL CONDITIONS
OF THE
CONTRACT FOR CONSTRUCTION**

AIA DOCUMENT A201 - 1997

**AMENDED BY
SUPPLEMENTAL ATTACHMENT TO GENERAL CONDITIONS
RURAL DEVELOPMENT INSTRUCTION 1942A GUIDE 27
ATTACHMENT 4 PP 1 - 11**

**These AIA documents are available for reading
at the Northumberland County Administration
Office or for purchase there at \$10 per set.
They are also available for purchase from
the American Institute of Architects online.
One copy of each will be provided with the final
signed contract.**

**Northumberland
Farmers Market Pavilion**

ATTACHMENT TO AIA DOCUMENT A201-1997, *General Conditions of the Contract for Construction*

The provisions of this Attachment shall delete, modify and supplement the provisions contained in the "*General Conditions of the Contract for Construction*," AIA Document A201-1997 Edition. The provisions contained in this Attachment will supersede any conflicting provisions of the AIA Document. The term "Agency," as used in this Attachment, shall mean the United States of America, acting through the United States Department of Agriculture.

ARTICLE 1, GENERAL PROVISIONS

1.2 Add the following subparagraph to paragraph 1.2:

1.2.4 Concurrence in the Contract by the Agency is required before the contract is effective.

ARTICLE 2, OWNER

2.2.5 Delete subparagraph 2.2.5 and substitute the following:

2.2.5 The Contractor will be furnished, free of charge, _____ copies of the Drawings and Project Manuals necessary for execution of the Work. Additional copies will be available from the Architect at the cost of reproduction and handling.

ARTICLE 4, ADMINISTRATION OF THE CONTRACT

4.1.1 Delete the last sentence of subparagraph 4.1.1 and substitute the following:

The term "Architect" means the Architect, or the Engineer when the nature of the Work is within the authority granted engineers by the State licensure law, or an authorized representative of the Architect or Engineer.

4.2.12 Delete the words "and will not be liable for results of interpretations or decisions so rendered in good faith" in the last sentence of subparagraph 4.2.12.

4.4.5 Add after the word "but", the words "may be" in the second sentence of subparagraph 4.4.5.

4.6.1 Replace the word "shall" with the word "may" in the first and second sentences of subparagraph 4.6.1.

4.6.2 Delete subparagraph 4.6.2 and substitute the following:

4.6.2 The arbitration provisions in this subparagraph may be initiated by either party to this Contract by filing with the other party and the Architect a written request for arbitration. The other party may accept or reject the request by filing a written answering statement with the requesting party and the Architect within fourteen (14) calendar days of the receipt of such request. If the request is accepted the provisions of this section shall apply. If the request is rejected or an answering statement is not filed within the fourteen (14) day period, the provisions in this subparagraph will not apply.

4.6.2.1 Within fourteen (14) calendar days or any mutually agreeable time period thereafter, each party to this Contract will appoint one arbitrator. Within fourteen (14) calendar days or any mutually agreeable time period thereafter, the two arbitrators will select a third arbitrator. Failure to appoint an arbitrator within the mutually agreeable time periods will terminate further actions under this subparagraph.

4.6.2.2 The arbitrators will select a hearing location as close to the Owner's locale as possible.

4.6.2.3 The procedure for conducting the hearings will follow the Construction Industry Arbitration Rules of the American Arbitration Association.

4.6.3 Replace the word "demand" with the word "request" in the first sentence of subparagraph 4.6.3.

4.6.5 Replace the word "demand" with the word "request" in the first sentence of subparagraph 4.6.5.

ARTICLE 7, CHANGES IN THE WORK

7.1.2 Insert the words ", Agency" after the word "Owner" in subparagraph 7.1.2.

7.2.1 Delete subparagraph 7.2.1 and substitute the following:

7.2.1 A change order is a written order to the Contractor utilizing Form RD 1924-7, "Contract Change Order," signed by the Owner, Architect, Contractor, and the Agency representative. It is issued after the execution of the Contract, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. The Contractor's signing of the change order indicates complete agreement therein. When the Contract Sum is based on unit price, a unit bid quantity may be increased or decreased by a maximum of twenty percent (20%) without invalidating the unit price.

7.3.1 Add the following sentence to subparagraph 7.3.1.

A Construction Change Directive may be used only for a change in response to an emergency, as described in Paragraph 10.6.

7.3.3 Delete subparagraph 7.3.3.

7.3.4 Delete subparagraph 7.3.4.

7.3.6 Delete Subparagraph 7.3.6.

ARTICLE 8, TIME

8.2 Add the following subparagraph to paragraph 8.2:

8.2.4 The Notice to Proceed shall be issued within twenty (20) calendar days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement of the Owner and Contractor, with the concurrence of the Agency. If the Notice to Proceed has not been issued within the twenty (20) calendar day period or within the period mutually agreed, the Contractor may terminate the Agreement without further liability on the part of either party.

8.3 Add the following subparagraph to paragraph 8.3:

8.3.4 As outlined in article 3 of the Agreement, the Contractor agrees to pay liquidated damages to the Owner for each calendar day the Contractor shall be in default.

ARTICLE 9, PAYMENTS AND COMPLETION

9.3.1.1 Add the following sentence to clause 9.3.1.1:

Work performed and materials supplied under a Change Order may be included for payment only after the Change Order has been approved by all appropriate parties, including the Agency.

9.4.1 Replace the word "seven" with the word "ten (10)" in the first sentence; and add the words, "using AIA Documents 702, 'Application and Certificate for Payment' or Form RD 1924-18, 'Partial Payment Estimate'," after "Certificate for Payment" in Subparagraph 9.4.1.

9.6 Add the following subparagraph to paragraph 9.6:

9.6.8 No progress payments will be made that deplete the retainage, nor place in escrow any funds that are required for retainage, nor invest the retainage for the benefit of the Contractor.

9.7.1 Replace the word "seven" with the word "ten (10)" in the first sentence, second and third lines of subparagraph 9.7.1.

9.8.4 Add the words ", in collaboration with the Agency Architect or Engineer," after "prepare" in the first sentence of subparagraph 9.8.4.

9.8.5 Delete subparagraph 9.8.5 and substitute the following:

9.8.5 When the Work has been substantially completed, except for the Work which cannot be completed because of weather conditions, lack of materials or other reasons, which, in the judgment of the Owner, are valid reasons for non-completion, the Owner may make additional payments, retaining at all times an amount sufficient to cover the estimated cost of the Work still to be completed.

9.9.1 Delete subparagraph 9.9.1 and substitute the following:

9.9.1 The Contractor agrees to the use and occupancy of a portion or unit of the Project before formal acceptance by the Owner under the following conditions:

9.9.1.1 A Certificate of Substantial Completion shall be prepared and executed as provided in subparagraph 9.8.4, except that when, in the opinion of the Architect, the Contractor is chargeable with unwarranted delay in completing the Work or the Contract requirements, the signature of the Contractor will not be required. The Certificate of Substantial Completion shall be accompanied by copies of Contractor's insurance policies, written endorsements of the Contractor's insurance carrier, and the surety permitting occupancy by the Owner during the remaining period of the Project Work. Occupancy and use by the Owner shall not commence until authorized by public authorities having jurisdiction over the Work.

9.9.1.2 Occupancy by the Owner shall not be construed by the Contractor as being an acceptance of that part of the Project to be occupied.

9.9.1.3 The Contractor shall not be held responsible for any damage to the occupied part of the Project resulting from the Owner's occupancy.

9.9.1.4 Occupancy by the Owner shall not be deemed to constitute a waiver of existing claims in behalf of the Owner or Contractor against each other.

9.9.1.5 If the Project consists of more than one building, and one of the buildings is to be occupied, the Owner, prior to occupancy of that building, shall secure permanent property insurance on the building to be occupied and necessary permits which may be required for use and occupancy.

9.9.2 Delete subparagraph 9.9.2 and substitute the following:

9.9.2 With the exception of clause 9.9.1.5, use and occupancy by the Owner prior to Project acceptance does not relieve the Contractor of the responsibility to maintain all insurance and bonds required of the Contractor under the Contract Documents until the Project is completed and accepted by the Owner.

9.9.3 Delete subparagraph 9.9.3.

9.10.2 Delete the second and third sentences of subparagraph 9.10.2.

ARTICLE 11, INSURANCE AND BONDS

11.1.2 Replace the words "the Contract Documents" with the words "subparagraph 11.1.4 of the Attachment to the Federal Supplementary Conditions of the Contract for Construction" in the first sentence of subparagraph 11.1.2.

11.4.2 Replace the word "Owner" with "Contractor" in the first sentence of subparagraph 11.4.2.

11.4.3 Delete the last sentence in subparagraph 11.4.3.

11.4.5 Delete subparagraph 11.4.5.

11.4.7 Delete subparagraph 11.4.7.

11.5.1 Delete subparagraph 11.5.1 and substitute the following:

11.5.1 The Contractor shall furnish the Owner Bonds covering faithful performance of the Contract and payment of obligations arising thereunder within ten (10) calendar days after receipt of the Notice of Award. The surety company executing the Bonds must hold a certificate of authority as an acceptable surety on Federal Bonds as listed in Treasury Circular 570, as amended, and be authorized to transact business in the State where the Project is located. The Bonds (using the forms included in the Bidding Documents) shall each be equal to the amount of the Contract Sum. The cost of these Bonds shall be included in the Contract Sum.

11.5.1.1 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 power of attorney.

11.5.1.2 If at any time a surety on any such Bond is declared bankrupt or loses its right to do business in the State in which the Work is to be performed or is removed from the list of surety companies accepted on Federal Bonds, the Contractor shall within ten (10) calendar days after notice from the Owner to do so, substitute an acceptable Bond in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums of such Bond shall be paid by the Contractor. No further payment shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable Bond to the Owner.

ARTICLE 13, MISCELLANEOUS PROVISIONS

13.5 Add the following subparagraph to Paragraph 13.5:

13.5.7 The Contractor shall reimburse the Owner for services provided by the Architect in connection with evaluating substitutions proposed by the Contractor and making subsequent revisions to Drawings, Specifications and other documentation resulting therefrom.

13 Add the following paragraphs to article 13:

13.8 EQUAL OPPORTUNITY REQUIREMENTS

Non-discrimination in Employment by Federally Assisted Construction Contractors, by Executive Order 11246.

13.8.1 This section summarizes Executive Order 11246, as amended, which prohibits employment discrimination and requires employers holding non-exempt Federal contracts and subcontracts and federally-assisted construction contracts and subcontracts in excess of \$10,000 to take affirmative action to ensure equal employment opportunity without regard to race, color, religion, sex, or national origin. The Executive Order requires, as a condition for the approval of any federally assisted construction contract, that the applicant incorporate nondiscrimination and affirmative action clauses into its non-exempt federally assisted construction contracts.

13.8.2 Executive Order 11246, as amended, is administered and enforced by the Office of Federal Contract Compliance Programs (OFCCP), an agency in the U.S. Department of Labor's Employment Standards Administration. OFCCP has issued regulations at 41 C.F.R. Chapter 60 implementing the Executive Order. The regulations at 41 C.F.R. Part 60-4 establish the procedures which the Agency, as an administering agency, must follow when making grants, contracts, loans, insurance or guarantees involving federally assisted construction which is not exempt from the requirements of Executive Order 11246. The regulations which apply to Federal or federally assisted construction contractors also are published at 41 C.F.R. Part 60-4.

13.8.3 OFCCP has established numerical goals for minority and female utilization in construction work. The goals are expressed in percentage terms for the contractor's aggregate workforce in each trade. OFCCP has set goals for minority utilization based on the percentage of minorities in the civilian labor force in the relevant area. There is a single nationwide goal of 6.9 percent for utilization of women. The goals apply to all construction work in the covered geographic area, whether or not it is federal, federally assisted or non-federal. A notice advises bidders of the applicable goals for the area where the project is to be located.

13.8.4 Application. This section applies to all of a construction contractor's or subcontractor's employees who are engaged in on-site construction including those construction employees who work on a non-Federal or non-Federally assisted construction site.

13.8.4.1 Agency officials will notify the appropriate Regional Director of OFCCP that an Agency financed construction contract has been awarded, and that the equal opportunity clauses are included in the contract documents.

13.8.4.2 The Regional Director, OFCCP-DOL, will enforce the non-discrimination requirements of Executive Order 11246.

13.8.5 The prospective contractor or subcontractor must comply with the Immigration Reform and Control Act of 1986 by completing and retaining Form I-9, "Employment Eligibility Verification," for employees hired. This form is available from the Immigration and Naturalization Service, and Department of Justice.

13.8.6 The prospective contractor or subcontractor must submit Form RD 400-6, "Compliance Statement," to the applicant and an Agency official as part of the bid package, prior to any contract bid negotiations and comply with the Executive Order 11246 as stated in the contract documents.

13.9 STATUTES

13.9.1 The contractor and each subcontractor shall comply with the following statutes (and the regulations issued pursuant thereto, which are incorporated herein by reference):

13.9.1.1 Clean Air Act (42 U.S.C. 7414), section 114, and the Water Pollution Control Act (33 U.S.C. 1813), section 308. Under Executive Order 11738 and Environmental Protection Agency (EPA) regulations 40 C.F.R. part 15, all Contracts in excess of \$100,000 are required to comply with these Acts. The Acts require the Contractor to:

13.9.1.1.1 Notify the Owner of the receipt of any communication from EPA indicating that a facility to be utilized in the performance of the Contract is under consideration to be listed on the EPA list of Violating Facilities,

13.9.1.1.2 Certify that any facility to be utilized in the performance of any nonexempt contractor or subcontractor is not listed on the EPA list of Violating Facilities as of the date of the Contract Award.

13.9.1.1.3 Include or cause to be included the above criteria and requirements of clauses 13.9.1.1.1 and 13.9.1.1.2 in every nonexempt Subcontract, and that the Contractor will take such actions as the Agency may direct as a means of enforcing such provisions.

13.9.1.2 Restrictions on Lobbying (Public Law 101-121, section 319) as supplemented by Department of Agriculture regulations (7 C.F.R. part 3018). This Law applies to the recipients of contracts and subcontracts that exceed \$100,000 at any tier under a Federal loan that exceeds \$150,000 or a Federal grant that exceeds \$100,000. If applicable, the Contractor must complete a certification form on lobbying activities related to a specific Federal loan or grant that is a funding source for this Contract. The certification and disclosure forms shall be provided by the Owner.

13.9.1.3 Copeland Anti-Kickback Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 C.F.R. part 3). This Act provides that each Contractor shall be prohibited from inducing, by any means, any person in connection with the construction to give up any part of the compensation to which the person is otherwise entitled.

13.10 RECORDS

13.10.1 If the Contract is based on a negotiated Bid, the Owner, the United States Department of Agriculture, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the Contractor which are directly pertinent to a specific Federal loan program for the purpose of making audit, examination, excerpts, and transcriptions. The Contractor shall maintain records for at least three years after the Owner makes final payment and all other pending matters are closed.

13.11 ENVIRONMENTAL REQUIREMENTS

13.11.1 Mitigation Measures - The contractor shall comply with applicable mitigation measures established in the environmental assessment for the project. These may be obtained from the Agency representative.

13.11.2 Endangered Species - The Contractor shall comply with the Endangered Species Act. Should any evidence of the presence of endangered or threatened species or their critical habitat be brought to the attention of the Contractor, the Contractor will immediately report this evidence to the Architect and the Agency representative. Construction shall be temporarily halted pending the notification process and further directions issued by the Agency after consultation with the U.S. Fish and Wildlife Service.

13.11.3 The Contractor, when constructing a Project involving trenching, excavating, or other earth moving activity, shall comply with the following environmental constraints:

13.11.3.1 Historic Preservation - Any excavation or other earth moving activity by the Contractor that uncovers a historical or archaeological artifact shall be immediately reported to the Architect and the Agency representative. Construction shall be temporarily halted pending the notification process and further directions issued by the Agency after consultation with the State Historic Preservation Officer or other appropriate historic preservation official.

13.11.3.2 Human Remains and Cultural Items - Any excavation or other earth moving activity by the Contractor that uncovers human remains or cultural items shall be immediately reported to the Architect and the Agency representative. Construction shall be temporarily halted pending the notification process and further directions issued by the Agency after consultation with the appropriate authorities.

13.11.3.3 Paleontology - Any excavation or other earth moving activity by the Contractor that uncovers a fossil or other paleontological material that may have scientific significance shall be immediately reported to the Architect and the Agency representative. Construction shall be temporarily halted pending the notification process and further directions issued by the Agency after consultation with appropriate authorities.

13.11.3.4 Wetlands - The Contractor, when disposing of excess, spoil, or other construction materials on public or private property, will not fill in wetlands.

13.11.3.5 Floodplains - The Contractor, when disposing of excess, spoil, or other construction materials on public or private property, will not fill in 100-year floodplain areas delineated on the latest Federal Emergency Management Administration floodplain maps.

13.11.4 Lead-Based Paint - The Contractor and Owner shall comply with applicable Agency requirements of the Lead-Based Paint Poisoning Prevention Act, as amended (42 U.S.C. 4821 et seq.), and the Residential Lead-Based Paint Hazard Reduction Act of 1992 (42 U.S.C. 4851 et seq.) for rehabilitation work on residential property built prior to 1978.

13.12 DEBARMENT AND SUSPENSION

13.12.1 The Contractor shall comply with the requirements of 7 C.F.R. part 3017, which pertains to the debarment or suspension of a person from participating in a Federal program or activity.

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DOCUMENT 00301

**FEDERAL SUPPLEMENTAL CONDITIONS OF THE
CONTRACT FOR CONSTRUCTION
AIA DOCUMENT A 201/SC - 1999
WITH RURAL DEVELOPMENT 1942A GUIDE 27 ATTACHMENT 5, P 1**

**Rural Development 1940 – Q Exhibit A.1
VA Instructions 1942 – A Guide 1 Attachment 2 PP 1-4 Performance Bond
VA Instructions 1942 – A Guide 1 Attachment 3 PP 1-4 Payment Bond**

Note:

Northumberland County will accept a letter of credit for the full amount of the Contract in lieu of Performance and Payment Bond.

These AIA documents are available for reading at the Northumberland County Administration Office or for purchase at \$10 per set. They are also available for purchase from the American Institute of Architects online. One copy of each will be provided with the final signed contract.

Virginia Instruction 1942 – A Guide PP 1-3

ATTACHMENT TO AIA DOCUMENT A201/SC-1999, *FEDERAL SUPPLEMENTARY
CONDITIONS OF THE CONTRACT FOR CONSTRUCTION*

The provisions of this Attachment shall delete, modify and supplement the provisions contained in the "*FEDERAL SUPPLEMENTARY CONDITIONS OF THE CONTRACT FOR CONSTRUCTION*", AIA Document A201/SC-1999 Edition. The provisions contained in this Attachment will supersede any conflicting provisions of the AIA Document. The term "Agency", as used in this Attachment, shall mean the United States of America, acting through the United States Department of Agriculture.

ARTICLE 11, INSURANCE AND BONDS

11.4 Paragraph 11.4, Property Insurance, shall be modified as described in "Option B" of AIA Document A201/SC.

11.5.1 Delete the words "on Standard Form 25" from the first sentence replace the fourth sentence in its entirety with "The contractor shall furnish a Payment Bond in an amount equal to one hundred percent (100%) of the contract sum."

ARTICLE 15, MISCELLANEOUS SUPPLEMENTARY CONDITIONS

15.4 Delete paragraph 15.4.

15.6 Delete paragraph 15.6.

15.7 Delete paragraph 15.7.

15.8 Delete paragraph 15.8.

15.9 Delete paragraph 15.9.

15.11.1 Add the words "as applicable," after the words "through 15.16," in the first sentence; and add the words ", as applicable" at the end of the last sentence of subparagraph 15.11.1.

15.12 Delete paragraph 15.12

15.13 Delete paragraph 15.13

15.14 Delete paragraph 15.14

15.15 Delete paragraph 15.15

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CERTIFICATION FOR CONTRACTS, GRANTS AND LOANS

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

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

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant or loan, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

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

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

(name)

(date)

(title)

000

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called PRINCIPAL, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, and the United States of America acting through the Rural Housing Service hereinafter referred to as the GOVERNMENT in the total aggregate penal sum of _____
(Dollars) (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain Agreement with the OWNER, dated the _____ day of _____, 19_____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the PRINCIPAL shall well, truly, and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Agreement during the original term thereof, and any written extensions thereof which may be granted by the OWNER, or GOVERNMENT, with or without notice to the SURETY and during the one year guaranty period and if the PRINCIPAL shall satisfy all claims and demands incurred under such Agreement, and shall fully indemnify and save harmless the OWNER and GOVERNMENT from all costs and damages which it may suffer by reason of failure to do so, including attorney fees and other litigation or arbitration costs, and shall reimburse and repay the OWNER and GOVERNMENT all outlay and expense which the OWNER and GOVERNMENT may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the liability of the PRINCIPAL and SURETY hereunder to the GOVERNMENT shall be subject to the same limitations and defenses as may be available to them against a claim hereunder by the OWNER, provided, however, that the GOVERNMENT may, at its option, perform any obligations of the OWNER required by the Agreement.

PROVIDED, FURTHER, that the said SURETY, for value received hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Agreement or work to be performed thereunder or the specifications accompanying same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Agreement or to the work or to the specifications.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Agreement not increasing the Agreement price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Agreement as so amended. The term "Amendment," wherever used in this BOND, and whether referring to this BOND, the Agreement, or the Loan Documents shall include any alteration, addition, extension, or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER or GOVERNMENT and the PRINCIPAL shall abridge the right of the other beneficiary hereunder, whose claim may be unsatisfied. The OWNER and GOVERNMENT are the only beneficiaries hereunder.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one
(Number)
of which shall be deemed an original, this the _____ day of _____, 19_____.

ATTEST:

(PRINCIPAL) Secretary

PRINCIPAL

(Witness as to PRINCIPAL)

By _____

(Address)

(Address)

SURETY

ATTEST:

Witness to SURETY

BY _____
Attorney-in-Fact

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Agreement.

If CONTRACTOR is partnership, all partners should execute BOND. IMPORTANT: SURETY companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the Commonwealth of Virginia.

PAYMENT BOND FOR PUBLIC BODIES

KNOW ALL PERSONS BY THESE PRESENTS: That

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called PRINCIPAL and
(Corporation, Partnership, or Individual)

(Name of Surety)

hereinafter called SURETY, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER and the United States of America acting through the Rural Housing Service hereinafter referred to as GOVERNMENT, and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the Agreement and to their successors and assigns in the total aggregate penal sum of _____ Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the PRINCIPAL entered into a certain Agreement with the OWNER, dated the _____ day of _____, 19_____, a copy of which is hereto attached and made a part hereof for the construction of:

The purpose of this bond is to insure the prompt payment by the Principal of Principal's financial obligations under the Contract Documents.

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such Agreement, and any authorized extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and for all labor cost incurred in such work including that by a Subcontractor, and to any mechanic or materialman lienholder whether it acquires its lien by operation of State or Federal law, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the Subcontractors, Suppliers, and persons, firms, and corporations having a direct contact with the PRINCIPAL or its Subcontractors.

PROVIDED, FURTHER, that the said SURETY for value received hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of this Agreement or to the work or to the specifications.

PROVIDED, HOWEVER, that this BOND is executed pursuant to the provisions of Sections 11-58 and 11-60 of the Code of Virginia as amended, not otherwise in conflict with any legal provisions of the Contract Documents, and all liabilities on this BOND to all such claimants shall be determined in accordance with the provisions of said Sections to the same extent as if they were copied at length herein.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Agreement not increasing the Agreement price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Agreement as so amended. The term "Amendment," wherever used in this BOND and whether referring to this BOND, the Agreement, or the loan documents shall include any alteration, addition, extension, or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER or GOVERNMENT and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

WITNESS, WHEREOF, this instrument is executed in _____ counterparts, each of which
(Number)

shall be deemed original, this the _____ day of _____ 19 _____.

ATTEST:

PRINCIPAL

(PRINCIPAL) Secretary

(SEAL)

By _____

(Address)

Witness as to PRINCIPAL

(Address)

SURETY

ATTEST:

Witness as to SURETY

By _____
Attorney-in-Fact

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Agreement.

If CONTRACTOR is partnership, all partners should execute BOND. IMPORTANT:
SURETY companies executing BONDS must appear on the Treasury Department's most
current list (Circular 570 as amended) and be authorized to transact business in the
Commonwealth of Virginia.

I. Introduction

The purpose of this bulletin is to modify and supplement the information found in Rural Development (RD) Instruction 1942-A, Guide 27. It is intended that when an engineer/architect follows these guides in the preparation of the construction contract document section of the specification book, the result will be acceptable to Rural Development in Virginia. When there is a conflict between this guide and Rural Development Instruction 1942-A, Guide 27, this guide will prevail.

This guide consists of the following sections:

- I. Introduction
- II. List of Contract Documents
- III. Final Payment Requirements
- IV. Project Sign

Note that the project sign is to be placed either in the plans or specifications at the engineer's/architect's discretion. The project sign is required for all Rural Development contracts in excess of \$100,000. Also, as attachments are those items listed in Section II - List of Contract Documents for Rural Development Community Facility Projects.

II. List of Construction Contract Documents for Rural Development Community Facility Projects

<u>ITEM</u>	<u>DOCUMENT</u>
Advertisement or Invitation to Bid	Virginia Instruction 1942-A, Guide 1, Attachment 1
Instructions to Bidders	AIA Document A701-1997
Supplementary Instructions to Bidders	RD Instruction 1942-A, Guide 27, Attachment 2
Bid Forms	AIA Form Preferred
Bid Bond	AIA Form Preferred
Notice of Award	AIA Form Preferred
Owner-Contractor Agreement	AIA Document A101-1997
Supplement to the Standard Form of Agreement Between Owner and Contractor	RD Instruction 1942-A, Guide 27, Attachment 3
Performance Bond	VA Instruction 1942-A, Guide 1, Attachment 2
Payment Bond for Public Bodies	VA Instruction 1942-A, Guide 1, Attachment 3
Payment Bond for Non-Profit Corporations	VA Instruction 1942-A, Guide 1, Attachment 4
General Conditions	AIA Document A201-1997
Attachment to the General Conditions of the Contract for Construction	RD Instruction 1942-A, Guide 27, Attachment 4
Federal Supplementary Conditions of the Contract for Construction	AIA Document A201/SC-1999 Edition
Attachment to the Federal Supplementary Conditions of the Contract for Construction	RD Instruction 1942-A, Guide 27, Attachment 5

VA PN No. 182 (Rev. 10-28-04)

Compliance Statement and Notice to Prospective Subcontractors of Requirements for Certifications of Non-Segregated Facilities	Form RD 400-6
Certificate of Owner's Attorney	RD Instruction 1942-A, Guide 18, Pages 7 and 8
Application and Certificate for Payment	AIA Document G702-Latest Edition
Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion - Lower Tier Covered Transactions	Form AD-1048, RD Instruction 1940-M
Certification for Contracts, Grants, and Loans	RD Instruction 1940-Q, Exhibit A-1
Change Order	Form RD 1924-7

III. Final Payment Requirements

Listed are the necessary documents required before final payment is made to contractors and/or design consultants on projects financed in whole or in part by Rural Development. Some of the items may not be applicable on each project or in all contracts of the same project. When more than one contractor is on the same project, most of the following items will be submitted for each.

1. Final change order shall be updated and reflect the changes to correlate with the as-built drawings.
2. For projects where a performance and payment bond are in effect, a "Consent of Surety as to Final Payment" is needed. When surety bonds are not provided, contractors will furnish the owner required evidence of payment in full for all materials, labor, and any other items procured under the contract. Form RD 1924-10, "Release by Claimants," and/or Form RD 1924-9, "Certificate of Contractor's Release," may be used for this purpose.
3. A statement of acceptance from VDOT stating that satisfactory repairs were made to the roadways which were disturbed during the construction period and that all expenses associated with VDOT inspections have been paid in full.
4. A statement signed by the design consultant stating that the work has been inspected and that the construction was completed in accordance with the approved contract documents. Exhibit E of EJCDC No. 1910-1-FA, "Notice of Acceptability of Work," should be used for this purpose.
5. A statement from the borrower indicating full acceptance of the project.

IV. Project Sign

For construction contracts, the contractor shall supply, erect, and maintain a project sign (Exhibits A and B) according to the specifications set forth below:

Size: 4' x 8' x 3/4"

Material: APA Rated A-B Grade - Exterior

Framing: 2" x 4" nominal on four sides and center cross bracing

Supports: 4" x 4" x 11' nominal post

Mounting: Sign is to be mounted to the 4" x 4" post with a 3/8" minimum bolt and nut, four on each side of the sign. Each bolt is to have two washers, one between the sign and the head of the bolt and the other between the post and the nut.

Erection: 4" x 4" posts are to set three to four feet deep into concrete 12" in diameter.

Paint: Face: three coats outdoor enamel (sprayed)
Rear: one coat outdoor enamel (sprayed)

Colors: See temporary construction sign, Exhibit A

Lettering: Silk screen enamel. Lettering sizes and positioning will be as illustrated.

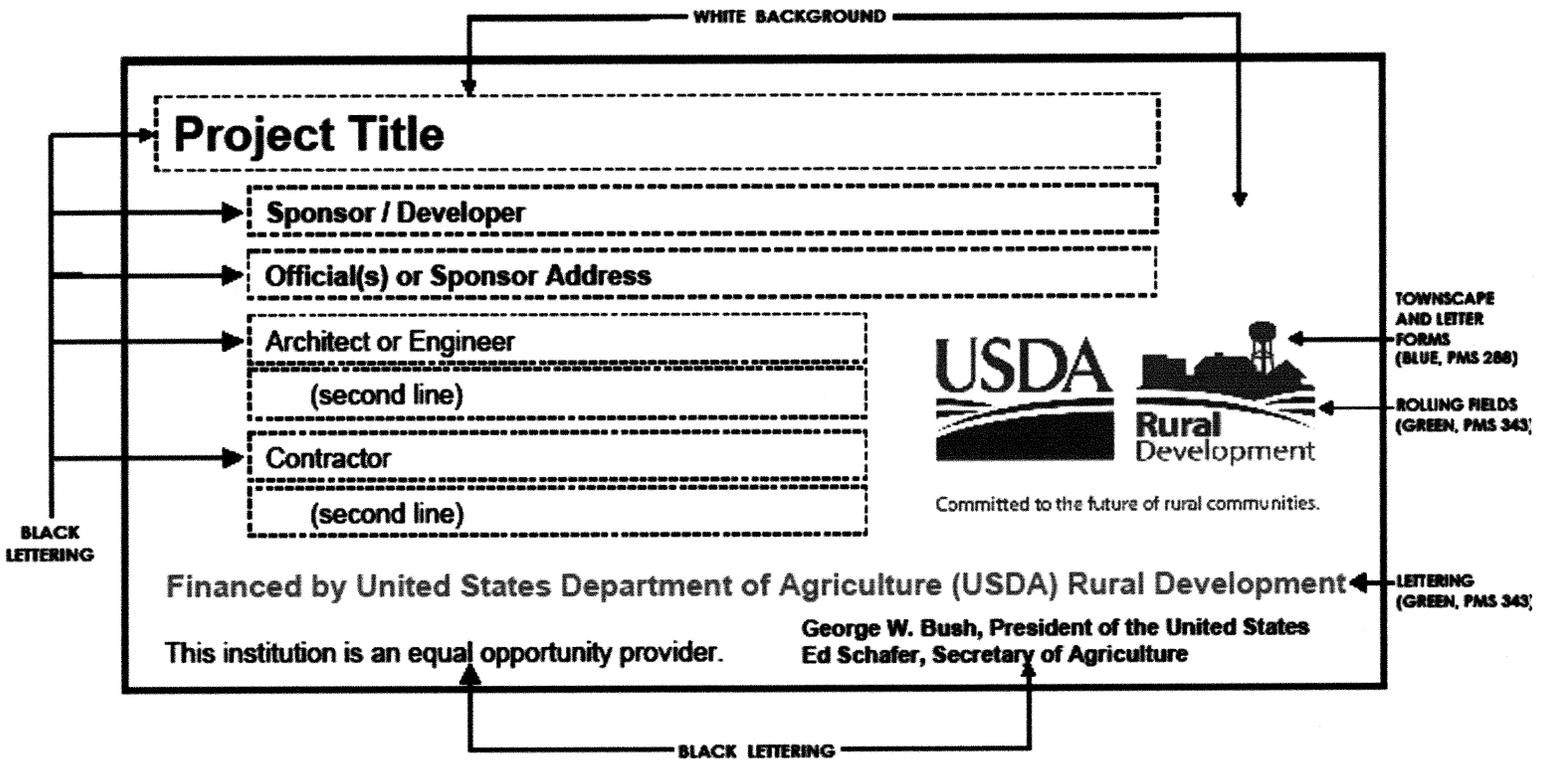
Location and height of sign will be coordinated with the agency responsible for highway or street safety in the area, if any possibility exists for obstruction of traffic's line of sight.

The project sign will be substantially in accordance with Exhibits A and B, placed in a prominent location, and maintained in good condition until the completion of the project.

Information for items will be supplied by the engineer/architect.

Cost of sign, including erection and removal, shall be included in the lump sum or unit prices bid.

TEMPORARY CONSTRUCTION SIGN FOR RURAL DEVELOPMENT PROJECTS



SIGN DIMENSIONS: 1200 mm x 2400 mm x 19 mm (approx. 4' x 8' x 3/4")
PLYWOOD PANEL (APA RATED A-B GRADE-EXTERIOR)

DOCUMENT 00400

**CONTRACT FORM
CONSTRUCTION CONTRACT
AIA DOCUMENT A101 - 1997
AMENDED BY SUPPLEMENTAL ATTACHMENT TO AIA 101 CONTRACT
RURAL DEVELOPMENT INSTRUCTION 1942-A GUIDE 27
ATTACHMENT 3 PP 1 - 4**

**These AIA documents are available for reading
at the Northumberland County Administration
Office or for purchase there at \$10 per set.
They are also available for purchase from
The American Institute of Architects online.
One copy of each will be provided with the final
signed contract.**

ATTACHMENT TO AIA DOCUMENT A101-1997, *Standard Form of Agreement Between Owner and Contractor*

The provisions of this Attachment shall delete, modify and supplement the provisions contained in the "*Standard Form of Agreement Between Owner and Contractor*," AIA Document A101-1997 Edition. The provisions contained in this Attachment shall supersede any conflicting provisions of the AIA Document. The term "Agency," as used in this Attachment, shall mean the United States of America, acting through the United States Department of Agriculture.

ARTICLE 3, DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

3.1 Delete paragraph 3.1 and substitute the following:

3.1 The date of commencement shall be contained in by the Notice to Proceed.

3.3 Add the following sentences to paragraph 3.3

If the Work is not substantially complete on or before this date, or within this period of time, or extension thereof granted by the Owner, the Owner will sustain damage that will be impracticable and extremely difficult to quantify in the event of and by reason of such delays. The Contractor shall pay to the Owner liquidated damages in the sum of \$ 50⁰⁰/₁₀₀ for each calendar day of delay. Any sums that may be due the Owner as liquidated damages may be deducted from any monies due or to become due the Contractor under the Contract or may be collected from the Contractor's surety.

ARTICLE 5, PAYMENTS

5.1.6 Insert "ten" and "10" in the appropriate spaces in subparagraphs 5.1.6.1 and 5.1.6.2.

5.1.8 Insert the following sentences in subparagraph 5.1.8:

The amount retained shall be 10% of the value of Work until 50% of the Work has been completed. At 50% completion, further partial payments shall be made in full to the Contractor and no additional amounts may be retained unless the Architect certifies that the Work is not proceeding satisfactorily, but amounts previously retained shall not be paid to the Contractor. At 50% completion or any time thereafter when the progress of the Work is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than 10% of the value of Work completed.

ARTICLE 7, MISCELLANEOUS PROVISIONS

7.6 Add the following subparagraph to article 7.6:

7.6.1 This Agreement shall not become effective until concurred in writing by the Agency. Such concurrence shall be evidenced by the signature of a duly authorized representative of the Agency in the space provided at the end of the Agency Attachment to this Agreement. The concurrence so evidenced by the Agency shall in no way commit the Agency to render financial assistance to the Owner and is without liability to the Agency for any payment hereunder, but in the event such assistance is provided, the concurrence shall signify the provisions of this Agreement are consistent with Agency requirements.

ARTICLE 8, ENUMERATION OF CONTRACT DOCUMENTS

The following Documents should be referenced, if applicable:

Subparagraph 8.1.3:

Attachment to the *Standard Form of Agreement Between Owner and Contractor* (RD Instruction 1942-A, Guide 27, Attachment 3)
General Conditions of the Contract for Construction, AIA A201-1997
Attachment to the *General Conditions of the Contract for Construction* (RD Instruction 1942-A, Guide 27, Attachment 4)
Federal Supplementary Conditions of the Contract for Construction (AIA Document A201/SC) Attachment to the *Federal Supplementary Conditions of the Contract for Construction* (RD Instruction 1942-A, Guide 27, Attachment 5) Special Conditions

Subparagraph 8.1.7:

Invitation for Bids (Form RD 1924-5)
Instructions to Bidders (AIA Document A701)
Supplementary Instructions to Bidders (RD Instruction 1942-A, Guide 27, Attachment 2)
Bid Form
Bid Bond
Compliance Statement (Form RD 400-6)
Payment Bond
Performance Bond
Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions (Form AD 1048)
Disclosure of Lobbying Activities (SF-LLL)
Certification for Contracts, Grants and Loans (RD Instruction 1940-Q, Exhibit A-1)

SIGNATURE BLOCK:

Delete the signature block on page 7 of this Agreement and substitute the block on the following page:

(08-26-98) PN 296

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in duplicate on the respective dates indicated below:

ATTEST: _____
Type Name _____
Title _____
Date _____

ATTEST: _____
Type Name _____
Title _____
Date _____

AGENCY CONCURRENCE:

By _____
Type Name _____
Title _____
Date _____

OWNER:

By _____
Type Name _____
Title _____
Date _____

ARCHITECT:

By _____
Type Name _____
Title _____
Date _____

o0o

ADVERTISEMENT FOR BIDS

NORTHUMBERLAND COUNTY

Owner

72 MONUMENT PLACE

P.O. BOX 129

HEATHSVILLE, VIRGINIA

FARMERS MARKET PAVILION

Separate sealed bids for the construction of :

Sitework and construction of the 5300 sq. ft. Pavilion.

The Pavilion is a turned down edge concrete slab with 4"x 4" enclosed column posts, 2"x12" beams, 2" x 4" trussed roof, with 5/8" osb and asphalt shingles.

The 400 sq. ft. of storage, utility spaces is enclosed with 2" x 4" stud walls, ½" plywood and Hardie or equal color plus siding with 4' x 9' sliding barn doors.

Utilities are limited to a 200 amp electric service, minimal area lighting and convenience outlets.

Bids will be received at the office of Mr. Kenneth Eades, County Administrator, Northumberland County at the above address until 4:00 p.m.

_____ 2008, and then at same office publicly opened and read aloud.

The contract documents may be examined at the following locations:

Northumberland County Administration Office and Dodge Plan Room, Richmond, Virginia.

Copies of contract documents may be obtained at the Northumberland County Administration Office, 72 Monument Place, Heathsville, VA upon payment of \$15 For each set and \$25 for two sets.

Any bidder upon returning the contract documents in good condition within ten (10) days of bid opening will be refunded \$15. Any non-bidder, sub-contractor, or supplier upon so returning the contract documents will be refunded \$10.

A pre-bid conference will be held on _____, 2008 at the county administrator's office.

The procedure for withdrawal of bid shall be according to provision "(i)" contained in 11-54, Code of Virginia (1950) as amended.

If a contract is for seventy thousand dollars (\$70,000) or more, or if the total value of all construction, removal, repair, or improvements undertaken by the bidder within any twelve month period is five hundred thousand dollars (\$500,000) or more, the bidder is required under Title 54, Chapter 11, Code of Virginia (1950) as amended, to show evidence of being licensed as a "Class A Contractor." If a contract is fifteen hundred dollars (\$1500) or more but less than seventy thousand dollars (\$70,000), the bidder is required to show evidence of being licensed as a "Class B Contractor." The bidder shall place on the outside of the envelope containing the bid and shall place in the bid over his signature whichever of the following notations is appropriate:

"Licensed Class A Virginia Contractor No. _____"

"Licensed Class B Virginia Contractor No. _____"

Date

SECTION 01045

CUTTING AND PATCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Administrative and procedural requirements for cutting and patching.

1.2 RELATED SECTIONS

- A. See other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
- B. Requirements of this Section apply also to applicable mechanical and electrical installations specified in sections of Divisions – 15 and –16 for cutting and patching requirements and limitations.

1.3 SUBMITTALS

- A. Cutting and Patching Procedures: Perform all cutting, patching, boring, sawing under the supervision of a competent, experienced craftsman of the specific trade involved.
- B. All cutting, patching, etc. on new materials either now installed or insured under this Contract shall be the responsibility of the subcontractor requiring the cutting, etc. to have the work performed by the installing subcontractor.

1.3 QUALITY ASSURANCE

- A. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.
- B. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Use materials that are identical to specified materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to fullest extent possible with regard to visual effect.**

PART 3 EXECUTION

3.1 PREPARATION

- A. Temporary Support: Each subcontractor provide temporary support of Work to be cut to facilitate his work.**
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.**
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.**

3.2 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching of new construction work. Proceed with cutting and patching at the earliest feasible time and complete without delay.**
- B. Cutting: Cut new construction using methods least likely to damage remaining elements or adjoining construction.**
- C. Patching: Patch all existing structural and finish materials cut under T.S. No. 09200. Patch with durable seams in new materials that are as invisible as possible. Comply with specified tolerances.**

- a. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
- b. Restore exposed new finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
- c. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken containing the patch, after the patched area has received primer and second coat.

3.3 CLEANING

- A. General: Comply with requirements of Sections 01700.
- B. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary construction and support facilities provided by the Owner for the support of contractor include, but not limited to, the following:
 - 1. Electricity
 - 2. Water

- B. Temporary construction and support facilities required to be provided by the Contractor include but are not limited to the following:
 - 1. Lighting.
 - 2. Sanitary Facilities.
 - 3. Telephone Services.
 - 4. Clean up during construction.
 - 5. Security.
 - 6. Dust Control.
 - 7. Field Offices and Storage Sheds.
 - 8. Access Roads and Parking Areas.
 - 9. Temporary Heat

- C. Removal of temporary facilities and services prior to final acceptance of the Work is the responsibility of the Contractor.

1.2 RELATED SECTION

- A. Section 01010 – Summary of Work for access to site.

1.3 ELECTRICITY AND LIGHTING

- A. Contractor will provide task lighting and power source connection to the Tavern for construction use.

- B. Contractor to distribute power as required for temporary distribution panels for Contractor's own work and office trailer as required.
 - 1. Electrical Service and Distribution: 120/240 Volt, 1 phase, 3 wire.

Properly ground in compliance with NEC, and provide ground fault interrupters as required by code.

- D. Provides safety lighting of Contractor's site parking, staging and Construction area. This lighting is not intended for night time construction operations.

1.4 TELEPHONE SERVICE

- A. Obtain and pay for permits and utility services and fees for Contractor's own site phone and facsimile/data line service. Pay monthly telephone service charges.

1.5 WATER AND SANITARY FACILITIES

- A. Contractor to provide temporary connection to Tavern to provide potable water source for Employee drinking water and cleaning, and truck and equipment wash, from the permanent building supply as soon as possible.
- B. Contractor will provide sanitary and toilet facilities.

1.6 TEMPORARY HEAT

- A. If Contractor elects to work in inclement cold weather (average daily temp below 45 degrees on nights below freezing) he must provide building enclosure and heat to maintain 50 degrees temperature in work area and pay all cost.
- B. Method of heating to be approved by Owner.
- C. Specific caution is expressed for the Historic nature of the adjoining building and insuring fire, heat and humidity efforts for the building.

1.7 PROTECTION OF INSTALLED WORK

- A. Temporary protective materials used to prevent damage to completed work.
- B. Remove protection materials at completion of Contract.

1.8 DRAINAGE CONTROL

- A. Grade excavation work to drain site as indicated on site drawings.

- B. Employ erosion measures to eliminate erosion or sedimentation in existing storm drains as a result of cleaning equipment, storm drainage or dewatering.

1.9 CLEAN UP DURING CONSTRUCTION

- A. Provide daily clean up and disposal of construction debris and rubbish. Remove debris and rubbish from the site in compliance with local jurisdiction.
- B. Remove from site, access, driveways, and roads daily construction mud, dirt and debris
Created by construction operations, delivery vehicles, and inclement weather.
- C. Do not burn rubbish, debris, packaging, and excess construction materials or allow open fires on the construction site.

1.10 SITE SECURITY

- A. Protection of Contractor's own tools, materials, and equipment from theft or vandalism.
- B. Cooperation with the Owner and Architect in implementation of work rules and other security measures when required and issued by the Owner.

1.11 ACCESS ROADS AND PARKING AREAS

- A. Repair damage to access roads and parking areas. Prior to completion of the Contract, abandon and remove temporary roads and parking areas in compliance with the site work improvements.

1.12 DUST CONTROL

- A. Provide dust control measures as required by Project Manager until end of construction Contract as necessary to limit dust to the immediate work area.
- B. Revise and adjust dust control elements to achieve objectives.

1.13 FIELD OFFICES AND STORAGE SHEDS

- A. Provide field offices and/or storage sheds for use by own trade staff.

B. Locate as indicated on site plans or in other locations as approved by the Architect. Owner reserves the right to direct Contractor to relocate temporary facilities to other areas of site to accommodate other contracts, other contractors or to facilitate start-up and commissioning operations of the building.

C. Connect utilities in compliance with local jurisdiction.

1.14 REMOVAL OF TEMPORARY FACILITIES AND SERVICES

A. Remove all temporary facilities and leave building and site in a finished, cleaned and usable condition.

SECTION 01631

PRODUCT SUBSTITUTIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contractor's options in selection of products.
- B. Requests for substitution (after award of Contract).

1.2 RELATED REQUIREMENTS

- A. Section 01095 - References, Standards, and Definitions.
- B. Section 01300 - Submittals.
- C. Section 01720 - Project Record Documents.

1.3 OPTION DEFINITIONS

- A. Specified by Reference standards or by Description Only: Any product meeting those standards.
- B. Specified by Naming One or More Manufacturers with Provisions for Substitutions: Submit a request for substitution for any manufacturer not specifically named.
- C. Specified by Naming One or More Manufacturers with Provision for Substitutions: Products of named manufacturers and meeting specifications, no options, no substitutions.

1.4 PRODUCT LIST

- A. Submit a list of major products that are proposed for installation. Include name of manufacturer and product information at the Preconstruction Conference.
- B. Tabulate products by Specifications Section number, title, Article number, and Shop Drawing submittal schedule.

- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- D. Architect will reply in writing within 12 calendar days stating whether there is reasonable objection to listed items. Failure to object to a projected substitution shall not constitute a waiver of requirements of Contract Documents.

1.5 LIMITATIONS ON SUBSTITUTIONS

- A. During Bidding period, Instructions to Bidders govern times for submitting requests for substitutions under requirements specified in this Section.
- B. Requests for substitutions of products will be considered only within 30 calendar days following date of Notice to Proceed. Subsequent requests will be considered only in case of product unavailability. Exceptions are at the sole discretion of the Architect.
- C. Substitutions will not be considered when:
 - 1. Indicated on shop drawings or product data submittals without separate formal request and/or requested directly by subcontractor or supplier.
 - 2. When acceptance will require substantial revision of Contract Documents.
- D. Substitute products shall not be ordered or installed without written acceptance.
- E. Only one request for substitution for each product will be considered. When substitution is not accepted, provide specified product.
- F. Architect will determine final acceptability of substitutions.

1.6 REQUESTS FOR SUBSTITUTIONS

- A. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.
- B. Identify product by Specification Section and Article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers, as appropriate.

- C. Attach product data as specified in Section 01300.
- D. List similar projects using product, dates of installation, and names of Architect, Engineer, and Owner.
- E. Give itemized comparison of proposed substitution with specified product, listing variations, and reference to Specification Section and Article numbers.
- F. Give quality and performance comparison between proposed substitution and the specified product.
- G. Give cost data comparing proposed substitution with specified product, and amount of net change to Contract Sum.
- H. List availability of maintenance services and replacement materials.
- I. State effect of substitution on construction schedule, and changes required in other Work or products.

1.7 CONTRACTOR REPRESENTATION

- A. Request for substitution constitutes a representation that Contractor has investigated proposed product and has determined that it is equal to or superior in all respects to specified product, or that the cost reduction offered is ample justification for accepting the offered substitution.
- B. Contractor will provide no less than same warranty for substitution as for specified product.
- C. Contractor will coordinate installation of accepted substitute, making such changes as may be required for Work to be complete in all respects.
- D. Contractor certifies that cost data presented is complete and includes all related costs under this Contract.
- E. Contractor waives claims for additional costs related to substitution that may later become apparent.

1.8 SUBMITTAL PROCEDURES

- A. During the Bidding period, Architect will record acceptable substitutions only by Addenda.

1. Submit 3 copies of request for substitution.
 2. Provide substitution submittals through the Architect. All decisions will come through the Architect.
- B. After award of Contract, Architect will notify Contractor, in writing, of decision to accept or reject requested substitution within 30 calendar days.
- C. For accepted products, submit shop drawings, product data, and samples under provisions of Section 01300.

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Maintenance of Record Documents and Samples at site.
- B. Submittal of Record Documents and Samples.

1.2 RELATED SECTIONS

- A. Section 01300 – Submittals for submittal procedures.

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. See individual specifications Sections for requirements of manufacturer's certificates and certificates of inspection.
- B. Store Record Documents and samples apart from documents used for construction.
- C. Label Record Documents and samples in accordance with Section number listings in Table of Contents of this Project Manual. Label each document PROJECT RECORD in neat, large, printed letters.
- D. Maintain Record Documents in a clean, dry, and legible condition. Do not use Record Documents for construction purposes.

1.4 RECORDING

- A. Record information on a set of black and white line opaque drawings.
- B. Use felt tip marking pens, maintaining separate colors for each major system, for recording information.
- C. Record information concurrently with construction progress. Do not conceal any Work until required information is recorded.
- D. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction, including:

1. Measured depths of elements of foundations and underground elements in relation to finish first floor datum.
 2. Measured horizontal and vertical locations of underground appurtenances referenced to permanent structures or established grid lines or building components.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction
 4. Field changes of dimension and detail.
 5. Changes made by modifications.
 6. Details not shown on Contract Drawings.
 7. References to related shop drawings and modifications.
- E. Specifications: Legibly mark each item to record actual construction, including:
1. Manufacturer, trade name, and catalog number of each product actually installed, particularly optional items and substitute items.
 2. Changes made by Addenda and contract modifications.
- F. Other Documents: Maintain manufacturer's certifications, inspection certifications, and field test records, as required by individual Specification Section.

1.5 SUBMITTALS

- A. At Contract closeout, deliver Record Documents and samples.
- B. Transmit with cover letter in duplicate, listing:
1. Document date.
 2. Project title and number.
 3. Contractor's and subcontractors name, address and telephone number.
 4. Number and title of each Record Document.
 5. Signature of Contractor or authorized representative.

SECTION 03300

CAST-IN-PLACE CONCRETE

1.1 GENERAL

A. Submittals: Submit the following:

1. Product data for reinforcement, forming accessories, admixtures, patching compounds, joint systems, curing compounds, and others as requested by Architect.

B. Quality Assurance: Comply with provisions of ACI 301, "Specifications for Structural Concrete for Buildings," ACI 318, "Building Code Requirements for Reinforced Concrete," and CRSI "Manual of Standard Practice," except where more stringent requirements are indicated.

1. Materials certificates signed by concrete producer and Contractor may be submitted in lieu of materials laboratory testing when acceptable to Architect.

1.2 PRODUCTS

A. Form Materials: Furnish form materials with sufficient stability to withstand pressure of placed concrete without bow or deflection.

1. Forms for Exposed Concrete Surfaces: Suitable panel-type material to provide continuous, straight, smooth, exposed surfaces.

B. Reinforcing Materials: As follows:

1. Deformed Reinforcing Bars: ASTM A 615, Grade 60, unless otherwise indicated.
2. Welded Wire Fabric: ASTM A 185.
3. *Fiber Reinforcement.*

C. Concrete Materials: As follows:

1. Portland Cement: ASTM C 150, Type 1.
2. Aggregates: ASTM C 33, except local aggregates of proven durability may be used when acceptable to Architect.

3. Water: Potable

4. Use Fiber Reinforced Concrete Exclusively

D. Admixtures: Provide admixtures that contain not more than 0.1 percent chloride ions.

1. Air-Entraining Admixture: ASTM C 260.

2. Water-Reducing, Retarding, and Accelerating Chemical Admixtures; ASTM C 494.

E. Related Materials: As follows:

1. Vapor Retarder: Clear 8-mil-thick polyethylene.

2. Membrane-Forming Curing Compound: ASTM C 309, Type I, Moisture loss not more than 0.55 kg/sq. meter when applied at 200 sq.ft./gal.

3. Evaporation Control: Monomolecular film-forming compound applied exposed concrete slab surfaces for temporary protection from rapid moisture loss.

F. Mix Proportions and Design: Proportion mixes complying with mix design procedures specified in ACI 301.

1. Design mixes to provide normal weight concrete with the following properties:

a. 3000-psi, 28-day compressive strength; water-cement ratio, 0.58 maximum (non-air-entrained), 0.46 maximum (air-entrained).

2. Limit maximum water-cement ratio of concrete exposed to freezing and thawing to 0.45.

3. Slump Limits: Proportion and design mixes to result in concrete slump at point replacement as follows:

a. Ramps, Slabs, and Sloping Surfaces: Not more than 3 inches.

b. Reinforced Foundation Systems: Not less than 1 inch and not more than 3 inches.

c. Other Concrete: Not more than 4 inches.

4. Adjust mix designs when material characteristics, job conditions, weather, results, or other circumstances warrant. Do not use revised concrete mixes after laboratory test data and strength results have been submitted to and reviewed by Architect.

G. Use water-reducing, accelerating, and retarding admixtures that have been tested and accepted in mix designs in strict compliance with manufacturer's directions.

H. Ready-Mix Concrete: ASTM C 94.

1.3 EXECUTION

A. Formwork: Construct formwork so that concrete members and structures are of correct size, shape, alignment, elevation, and position. Select form materials to obtain required finishes.

1. Maintain formwork tolerances and surface irregularities within ACI 347 limits, Class A tolerances for concrete exposed to view and Class C tolerances for other concrete surfaces.
2. Provide openings in formwork to accommodate work of other trades. Accurately place and securely support items built into forms.
3. Clean and adjust forms prior to concrete placement. Apply form-release agents or wet forms as required. Retighten forms during concrete placement, if required, to eliminate mortar leaks.

B. Vapor Retarders/Barriers: Place vapor retarder/barrier membrane for slabs on grade, with joints lapped 6 inches and sealed.

C. Reinforcement: Accurately position and support reinforcement, and secure against displacement. Locate and support reinforcement to maintain minimum cover with metal chairs, runners, bolsters, spacers, and hangers as required. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

D. Joints: Locate and install construction, isolation, and control joints as indicated or required. Locate construction joints so they do not impair strength and appearance of structure. Place isolation and control joints in slabs-on-ground to stabilize differential settlement and prevent random cracking.

E. Installation of Embedded Items: Set and build anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete. Use setting diagrams, templates, and instructions provided by others for locating and setting.

F. Concrete Placement: Comply with ACI 304, "Guide for Measuring, Mixing, Transporting, and Placing Concrete," for placing concrete in a continuous operation within planned joints or sections. Do not begin concrete placement until other affected work is completed.

1. Consolidate placed concrete using mechanical vibrating equipment with hand rodding and tamping so that concrete is worked around reinforcement and other embedded items and into forms.
2. Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placing, and curing.
 - a. In cold weather comply with ACI 306.
 - b. In hot weather comply with ACI 305.

G. Finish of Formed Surface: As follows:

1. **Smooth-Formed Finish:** Provide a smooth finish for concrete surface exposed to view and surfaces to be covered with a coating or covering material applied directly to concrete. Repair and patch defective areas, with fins and other projections completely removed and smoothed.

H. Monolithic Slab Finishes: As follows:

1. **Float Finish:** Apply float finish to monolithic slab surfaces to receive trowel finish when surface water has disappeared and when concrete has stiffened sufficiently to permit operation of power-driven floats. Consolidate surface with power-driven floats or by hand-floating.
 - a. Check and level surface plane to tolerances of (F(F) 18 (floor flatness) and F(L) 15 (floor levelness). Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.
2. **Trowel Finish:** Apply trowel finish to monolithic slab surfaces to be exposed to view and slab surfaces to be covered with resilient flooring, carpet, paint, or other thin film-finish coating system.
 - a. After floating, begin first trowel-finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks,

uniform in texture and appearance, and with surface leveled to tolerances of F(F) 20 (floor flatness) and F (L) 17 (floor levelness). Grind smooth surface defects that would telegraph through applied floor covering system

3. Trowel and Fine Broom Finish: Where ceramic or quarry tile is to be installed with thin-set mortar, apply trowel finish as specified, then immediately follow with slightly scarifying surface by fine brooming.
 4. Nonslip Broom Finish: Apply nonslip broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
 - a. Immediately after float finishing, slightly roughen concrete surface by brooming with fiber-bristle broom perpendicular to main traffic route.
- I. Curing: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. In hot, dry, and windy weather, apply an evaporation-control compound according to manufacturer's instructions after screeding and bull floating, but before power floating and troweling.
1. Begin initial curing as soon as free water has disappeared from exposed surfaces.
 2. Continue curing unformed concrete surfaces by water ponding, continuous fog spraying, continuously wetted absorptive cover, or by moisture-retaining cover curing. Cure formed surfaces by moist curing until forms are removed. Keep concrete continuously moist for not less than 72 hours for high-early strength concrete and 7 days for all other concrete.
 3. Apply membrane-forming curing compound to exposed interior slabs and to exterior slabs, walks, and curbs as soon as final finishing operations are complete. Apply uniformly according to manufacturer's directions. Recoat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - a. Use membrane-curing compounds that will not affect surfaces to be covered with finish materials applied directly to concrete.
- J. Field Quality Control: Perform sampling and testing during concrete placement, as follows:

K. Field Quality Control: The Owner will employ a testing agency to perform tests and to submit test reports. Sampling and testing for quality control during concrete placement may include the following, as directed by Architect.

1. **Sampling Fresh Concrete:** ASTM C 172, except modified for slump to comply with ASTM C 94.
 - a. **Slump:** ASTM C 143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
 - b. **Air Content:** ASTM C 231, volumetric method for lightweight or normal weight concrete; ASTM C 231, pressure method for normal weight concrete; one for each day's pour of each type of air-entrained concrete.
 - c. **Concrete Temperature:** ASTM C 1064; one test hourly when air temperature is 40 deg F (4 deg C) and below, when 80 deg F (27 deg C) and above, and one test for each set of compressive-strength specimens.
 - d. **Compression Test Specimen:** ASTM C 31; one set of four standard cylinders for each compressive-strength test, unless otherwise directed. Mold and store cylinders for laboratory-cured test specimens except when field-cured test specimens are required.
 - e. **Compressive-Strength Tests:** ASTM C 39; one set for each day's pour exceeding 5 cu. yd. Plus additional sets for each 50 cu. yd. More than the first 25 cu. yd. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
2. When frequency of testing will provide fewer than five strength tests for a given class of concrete, conduct testing from at least five randomly selected batches or from each batch if fewer than five are used.
3. When total quantity of a given class of concrete is less than 50 cu. yd., Architect may waive strength testing if adequate evidence of satisfactory strength is provided.
4. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
5. Strength level of concrete test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 psi.

6. Test results will be reported in writing to Architect, Structural Engineer, ready-mix producer, and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the Project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breading strength, and type of break for both 7-day tests and 28-day tests.
7. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
8. Additional Tests: The testing agency will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.

SECTION 06100

ROUGH CARPENTRY

PART 1 GENERAL

1.1 REFERENCES SPECIFICATIONS ARE REFERENCED BY ABBREVIATIONS AS FOLLOWS:

- A. American Plywood Association APA
- B. American Society For Testing And Materials ASTM
- C. American Wood-Preservers Association AWPA
- D. American Wood Preservers Bureau AWPB
- E. American Wood Preservers Institute AWPI
- F. California Redwood Association CRA
- G. National Forest Products Association NFPA
- H. Southern Pine Inspection Bureau SPIB
- I. Western Wood Products Association WWPA

- 1.2 Store lumber stacked off the ground and protected from weather.
- 1.3 Obtain and verify all measurements at the project as required to lay out the work and be responsible for the accuracy and fit of the various parts of the work.
- 1.4 Provide rough hardware, bolts, nails, and other metal fastenings as required for proper completion of carpentry work.

PART 2 PRODUCTS

- 2.1 Lumber shall be kiln dried material, not otherwise noted, S4S, complying with requirements of its specified grade. Each piece shall bear identification and grade mark of the recognized grading association for the particular species. Moisture content shall not exceed 19 percent except as otherwise specified. Sizes shall meet requirements of minimum American Lumber Standards.
- 2.2 Pressure preservative treatment for wood specified below shall be in accordance with AWPB Standard LP-2 "Pressure Treated With Water-Borne Preservatives For Use Above Ground, And LP-22 For Use In Ground." AWPB quality mark shall occur on each piece of lumber and plywood so treated. Redry material to 19 percent moisture content.

- A. Include all lumber in contact with masonry, concrete, and flooring materials, such as framing and furring lumber, wood blocking, wood nailers, posts for wood construction fencing, and plywood backing for membrane flashing and the like.
 - 1. If distinctive color is not apparent, tag preservative treated materials for field identification.

2.3 FRAMING MATERIALS SHALL BE AS FOLLOWS:

- A. Canceled dimension lumber shall be SPIB No. 1 Common Southern Yellow Pine.
 - B. Beams and stingers shall be SPIB Southern Yellow Pine No.1 Dense, FB1, 500, air dried.
 - C. Pressure preservative treated dimension lumber shall be SPIB No. 2 Common Southern Yellow Pine.
 - D. Wood flooring use Advantek
 - E. Furring lumber shall be SPIB No. 2 Common Southern Yellow Pine.
 - F. Boards and strips shall be SPIB No. 2 Common Southern Yellow Pine, NFPA Eastern Hemlock, or Tidewater Red Cypress.
 - G. Plywood for construction shall be of designated thickness on drawings, C/D or better sheathing with exterior glue.
- 2.4 Building paper shall be 30 pounds asphalt-saturated felt.
- 2.5 Glue shall be water-resistant type such as ureaformaldehyde resin glue, except use type 1 waterproof glue for extreme conditions.
- 2.6 Nails for interior work shall be uncoated common and finish nails or sheetrock screws. Nails for exterior use shall be aluminum coated or zinc coated nails of type suitable for intended use. Bolts for exterior use shall be galvanized; for interior use, uncoated. Where nail heads will be visible in exterior work, the Owner shall approve nail head design and nailing pattern before commencement of work.
- 2.7 For rough framing attachment use sheetrock screws (self taping) to prevent banging/hammering impact on existing fabric and to facilitate removal of components and screws in the future. Coordinate with Project Coordinator for all work which impacts on existing structure fabric.

- 2.8 Fasteners, anchors, straps for preservative treated wood shall be hop-dip galvanized steel or solid aluminum, as required as manufactured by SEMCO, (Southeastern Metals of Jacksonville, FL or approval equal.)
- 209 In-wall blocking shall be as in 2.3 A above, to accept the return of studs or brought flush with the face of the studs by application of plywood stripping the full width of the blocking. Blocking shall be nominal 2-inch thick material suitable for firestopping.

PART 3 EXECUTION

- 3.1 Select lumber pieces and locate cuts to produce soundest practical pieces in the work.
- 3.2 Cut, fit, and set work to fit the conditions of the project, the work or others, and to receive the work of others. Set all rough and dressed lumber and millwork, and furnish and set all templates, centers, and bracing required for other trades. Centers shall be accurately formed to required shapes, well braced, and be strong enough to carry the weight imposed upon them. Centers shall remain in place until work is self-supporting.
- A. Firestop concealed spaces with 2-inch thick wood blocking.
- B. Anchor and fasten wood as recommended in NFPA Publication "Manual For House Framing" where not otherwise indicated.
- 3.3 Coordinate location of wood grounds with shop drawings of finish carpentry, kitchen equipment, and other items secured to the grounds.
- 3.4 Where nailing patterns are shown on exposed new work, coordinate framing behind or beneath to receive nails in the pattern and spacing shown.

SECTION 02230

EARTHWORK FOR UTILITIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Earthwork for utilities including, but not limited to, stripping, grading, excavation, filling, backfilling, bracing, sheathing, shoring, and related construction, as required for pipes, utilities, conduit, and utility structures.
- B. See 1.1 – B Attachment

1.2 RELATED SECTIONS

- A. Section 02660 - Water Mains.

1.3 REFERENCES

- A. American Society of Testing and Materials (ASTM):
 - 1. ASTM C 136 Sieve or Screen Analysis of Fine and Coarse Aggregates.
 - 2. ASTM D 1557 Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10lb.(4.54 kg) Rammer and 18 in.(457-mm) Drop.
 - 3. ASTM D 2487 Classification of Soils for Engineering Purposes.
- B. Army Corps of Engineers (COE):
 - 1. EM-385-1-1 COE Manual.
- C. Local Authority Standards and Specifications:
 - 1. Northumberland County Standards.
 - 2. Sydnor Hydronics Water Standards.
 - 3. Virginia Erosion and Sediment Control Handbook.
- D. Safety Codes Commission, Commonwealth of Virginia:

1. "Rules and Regulations Governing Construction, Demolition and Excavations"

E. Virginia Department of Transportation (VDOT)

1. VDOT Road and Bridge Specifications, January 1, 1994.

1.4 SUBMITTALS

- A. Submit certified test reports for backfill and compaction.

1.5 QUALITY ASSURANCE

A. Testing:

1. Backfill Test: ASTM C 136 and ASTM D 2487.
2. Compaction Test: ASTM D 1557.

- B. Classification of Excavation: Unclassified regardless of nature of material encountered.

- C. Protection of Underground Utilities. Contact Owner's Representative no later than 72 hours prior to construction for locating existing underground utilities.

- D. Dewatering: Include dewatering, collection, and disposal of forms of surface and subsurface water that may be encountered in course of construction.

- E. Comply with provisions of Overhead Voltage Act (Safety Flash), effective July 1, 1989.

1.6 UNIT PRICES

- A. Do not use VDOT specifications pertaining to measurement and payment.

- B. Payment for work pertaining to excavation, filling and backfilling of utilities, and appurtenances, shall be included in Lump Sum Price Bid as listed in Bid Form.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Borrow Backfill Material: VDOT Specification, Section 207, CBR 20 minimum.**
- B. Granular Bedding Material: VDOT Specification, Section 203, Size Number 57.**

PART 3 EXECUTION

3.1 PROTECTION

- A. General: Adequately protect excavations from caving by providing suitable sheathing, shoring and bracing.**
 - 1. Deposit excavated material sufficient distance from sides of trenches to prevent excessive surcharge on trench banks.**
 - 2. Retain and maintain sheathing as required during construction operations in compliance with "Rules and Regulations Governing Construction, Demolition and Excavations" adopted by Safety Codes Commission, Commonwealth of Virginia and VA-OSHA Handbook for Construction Industry.**
- B. Responsibility: Contractor is responsible for damages and losses resulting from omission of required shoring and bracing, regardless of Owner's Representative direction for placing or not placing excavation protection.**

3.2 SHORING AND SHEETING

- A. Shore and sheet with members of sizes and arrangement sufficient to prevent injury to persons, damage to structures, caving, and erosion. Remove shoring, sheeting, and bracing as excavations are backfilled. Exercise care to prevent caving and damages during removal of excavation protection.**
- B. Comply with Army Corps Engineer Manual EM-387-5-1, Section XXIII A and B:**
 - 1. Prevent undermining of pavements.**

2. Banks may be sloped where space permits and as may be directed by the Owner's Representative.

3.3 CONSTRUCTION DRAINAGE

- A. Adequately drain construction site to keep trenches, subgrades and subsoils sufficiently dry to permit construction operations to successfully progress. Provide temporary ditches, swales, or other drainage features and equipment to maintain dry soils during construction.
- B. If Contractor's failure to comply with specified requirements results in development of unsuitable working platforms for equipment operations and unsuitable soil support for subsequent construction features, provide at Contractor's expense, removal of unsuitable material to depth necessary to restore suitable working platforms and soil support, and replace with suitable fill material from borrow sources.

3.4 MOVEMENT OF CONSTRUCTION MACHINES AND EQUIPMENT

- A. Provide at Contractor's risk, movement of equipment over pipes and utilities during construction. Repair or remove damaged material and provide new pipe and utilities for existing or new work.

3.5 EROSION AND SEDIMENT CONTROL

- A. Construct and maintain silt traps sufficient to prevent soil from being eroded from the site into adjacent drainage system, ditches or water courses. Promptly remove eroded materials. Implement erosion measures as first step of construction and complete additional measures, if required, immediately to correct erosion and construction of sediment control structures.
- B. Provide erosion control measures shown on drawings in compliance with erosion and sedimentation control standards of "Virginia Erosion and Sediment Control Handbook" and Northumberland County Standard.

3.6 CONSTRUCTION

- A. General: As far as practicable, construct excavation by open cut, and maintain sides vertical. Remove from site or as otherwise directed by Owner's Representative, unsatisfactory excavated material and excavation not required or suitable for backfilling. Service of existing sewers, water mains, and other underground utilities must be protected and maintained. Repair damage to facilities, caused by Contractor's operations. Where water is encountered,

prevent it from accumulating in excavated areas by sump pumping, well points, or other means, as required. Owner's Representative may request review of Contractor's method capacity, and effectiveness of dewatering.

B. Trench Excavation and Backfilling: Comply with the following:

1. Cover: Minimum cover for gravity main and water main; 36 inches from finished grade.

C. Degree of Compaction:

1. Degree of compaction is expressed as a percentage of the maximum density obtained by test procedure specified in ASTM D 1557 and abbreviated in this Section as percent laboratory maximum density.
2. Compact each layer to not less than percentage of maximum density specified, prior to placement of next layer as follows:

<u>Backfill</u>	Percent ASTM D 1557 <u>Maximum Density</u>	
	<u>Cohesive Material</u>	<u>Cohesionless Material</u>
Under proposed structures, and paved areas	95	95
Under sidewalks and grassed areas	85	90

- D. Excess Material: Dispose off-site, unless otherwise directed by Owner's Representative.**

SECTION 02230 1.1 - B Attachment

SITE STRIPPING.

There is archeological interest and concern for the potential signs of early occupation of the site. Accordingly the contractor is advised that blading off the topsoil in 6-8 inch cuts in the area for site grading and foundation preparation must be carefully done and under the purview of approved representatives of Rices Hotel/Hughletts Tavern. If shards or foundation remnants are found, the contractor is expected to shift work away from that area while the information or materials are photographed and/or removed. If materials found are extensive, the contractor may be asked to excavate them to a location on site for sifting or other investigation. Topsoil should be stacked for later finish grading and seeding.

Section 06600
Fiber-Cement Siding and Trim

Part I General

- 1.1 Related work specified elsewhere
 - A. Section 06100 Rough Carpentry
 - B. Section 06200 Finish Carpentry
- 1.2 Scope includes all exterior siding and trim fascia, etc.

Part II Products

- 2.1 Siding, James Hardie or approved equal Color Plus Select Cedarhill Siding (color as selected by architect)
 - 5/16 thickness by 8.25 niche width
 - 15 year warranty on paint finish and 50 year warranty on plank
 - Non-combustible tested to ASTM Method E-136
 - Furnish HAZMAT data sheets to RH/HT project representative
- 2.2 Vapor barrier - Tyvar or approved equal breathable barrier under all siding or 30lb. building paper
- 2.3 Trim - James Hardie or approved equal fiber cement corner post, inside corners, trim, fascia, etc. all prepainted
- 2.4 Accessories - Matching color Hardie sealant, touch-up paint, etc, window wrap and corner wrap
- 2.5 Protect all materials stored on site

Part III Installation

- 3.1 Install in strict compliance with manufacturer's written specifications and approved by manufacturer's representative
- 3.2 Blind nail with approved nails
- 3.3 Tape behind all corners and around window and door frames
- 3.4 Provide projecting flashing at window and door heads
- 3.5 Provide 4"x8" felt strip behind all butt joints and seal all joints in excess of 1/8" joints
Maintain 1/8" space, sealed at all windows and doors
- 3.6 Touch up all color damage

**SECTION 07410
ASPHALT SHINGLES ROOFING**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Asphalt roof system with flashing accessories and installation accessories.

1.2 RELATED SECTIONS

- A. Section 06100 – Rough carpentry for treated wood blocking and nailers.

1.3 REFERENCES

- A. ASTM D3462 – Standard Specification for fiberglass asphalt shingles.
- B. ASTM D3081 Type 1
- C. UL 2218 Class 4

1.4 DESIGN CRITERIA

- A. Comply with manufacturer's specification using the following design loads, applied normal to load surface, at point of maximum calculated deflection.
- B. Roof:
 - 1. 20 psf superimposed live load.
 - 2. Wind surcharge of 10 psf downward, and 20 psf upward.
 - 3. 40-year warranty and 130 mph wind resistance.

1.5 SUBMITTALS

- A. General: Comply with requirements of Section 01300
- B. Certification: Manufacturer's written certification that products furnished meet design and performance criteria of this Section.

1.6 QUALITY ASSURANCE

- A. Field verify controlling conditions.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. General: Comply with manufacturer's printed requirements and in compliance with best practices of the trades.
- B. Deliver products to Project site in manufacturer's original, undamaged packing and store in protected location.
- C. Protect products from weather, physical damage, water damage, or contamination.

1.8 PRE-INSTALLATION CONFERENCE

- A. General: Comply with requirements of the general contractor.
- B. One week prior to commencing work, convene a pre-installation conference to coordinate the work with prior, current, and subsequent work.

1.9 WARRANTY

- A. Provide manufacturer's 40-year warranty signed by manufacturer's authorized representative, Contractor, and Installer.

PART 2 PRODUCTS

2.1 GENERAL

- A. Use materials or products of a single manufacturer.

2.2 MATERIAL AND MANUFACTURER

- A. Furnish and install complete system with flashings, ventilating ridges of Owens Corning Weatherguard HP Shingles or Certainteed.

2.3 FLASHING, COPING, AND PENETRATIONS

PART 3 EXECUTION

3.2 INSPECTION OF STRUCTURE

- A. Should any conditions be found that will prevent the proper execution of work, report such conditions in writing to Architect. Do not proceed with installation until unacceptable conditions are corrected.
- B. Layout roofs, appurtenances, accessories, and other work generally as shown, providing proper clearances and access. Carefully examine contract drawings and fit work in each location without alteration.

3.3 INSTALLATION

- A. Install roofing material square and true, in proper alignment and relation to established lines as shown on approved shop drawings.
- B. Install flashing and penetration seals to maintain watertight integrity of roofing system.
- C. Screw all anchorage elements to and through all materials to nailers using galvanized self tapping screws.

SECTION 07600

FLASHING AND SHEET METAL

PART 1 GENERAL

- 1.1 Work includes but is not necessarily limited to the following categories:
 - A. Shop and field fabricated exposed and concealed metal flashing and trim in place
- 1.2 Related work specified elsewhere includes the following:
 - A. Section 07410 - Preformed Metal Roof
 - B. Section 06100 - Rough carpentry (Nailers)
 - C. Section 07900 - Sealants and caulking
- 1.3 Reference specifications are referred to by abbreviation as follows:
 - A. American Iron & Steel Institute AISI
 - B. American Society for Testing and Materials ASTM
 - C. Copper Development Association, Incorporated CDA
 - D. Sheet Metal & A/C Contractors National Association Inc. SMACNA
- 1.4 Quality Assurance
 - A. Flashing and sheet metal work shall be in accordance with standards and recommendations of SMACNA and CDA as applicable.
- 1.5 Submittals
 - A. Submit two copies of manufacturer's specifications and installation instructions, and general recommendations for all flashing and sheet metal materials. Indicate by transmittal that this information has been provided to the installer.
- 1.6 Clean all surfaces and correct any imperfections prior to installation. Do not install any flashing or sheet metal work until curb and substrate construction, cant strips, blocking, reglets, and other incidental construction is complete.

PART 2 PRODUCTS

2.1 The following fabrication materials shall meet requirements of referenced specifications:

- A.** Copper fabric flashing sheet, cold rolled composite material, 2 ounces PSF of copper between two layers of dense glass fabric and asphalt bonded to the copper. All as manufactured by Advance Building Products of Springvale, Maine, or Sandell Flashings of Amersterdam, New York.
- B.** Miscellaneous Materials: adhesive nails etc. and fasteners recommended by the producer of the metal sheets, for Fabrication and installation.

2.2 Shop Fabricated Products

PART 3 EXECUTION

- 3.1** Install field fabricated products in accordance with SMACNA "Architectural Sheet Metal Manual" recommendations and manufacturer printed recommendations.
- 3.2** Provide overlapping flat-lock seams for all nonmoving seams. Where absolutely necessary where full length one piece products are not available.
- 3.3** Provide for thermal expansion of all exposed sheet metal work exceeding 15 feet running length.
- 3.4** Conceal fasteners and expansion provisions wherever possible. Fold back edges on concealed side of exposed edges to form a hem.

SECTION 07900

JOINT SEALERS

PART 1 GENERAL

- 1.1 Related work specified includes the following:
 - A. Section 09310 - Ceramic Tile
 - B. Section 08800 - Glazing
- 1.2 Reference specifications and standards are referred to by abbreviation as follows:
 - A. Federal Specifications FS
- 1.3 Submit manufacturer's specifications, installation instructions, and color chart for selection of colors for each compound.

PART 2 PRODUCTS

- 2.1 Compounds shall be manufactured by dap, dow-corning, general electric, pecora, prc, or tremco. Products shall be sealed in original containers bearing manufacturer's name and product designation.
- 2.2 Sealants shall be as listed below and shall meet indicated requirements as well as those of the referenced specifications. Color shall be as selected by architect.
 - A. Sealant No. 1, two part elastomeric, FS TT-S-00227, Class A, Type II nonsag, maximum joint movement or plus or minus 25 percent.
 - 1. Polysulfide base, bearing "thiokal" seal, or polyurethane base.
 - B. Sealant No. 2, one part acrylic latex caulk, nonstaining, no joint movement, paintable for interior use as manufactured by DAP, PECORA, or Tremco.
- 2.3 Primer shall be as recommended by the sealant manufacturer and shall have been tested for staining and durability on samples of the surface to be sealed.

PART 3 EXECUTION

- 3.1 Inspect all surfaces to receive compound. Ensure that all surfaces are clean and dry before application of compound. Prepare surfaces by using backup material, primer bond

preventive material, and cleaning in accordance with manufacturer's printed recommendations.

3.2 Apply compound with proper size gun nozzle suitable to the joint width and with sufficient pressure to force out all air and to fill the joint completely in both depth and width. Temperature conditions and joint surface shall be in accordance with manufacturer's printed recommendations.

A. Tool all joints concave, applying uniform pressure.

3.3 SEALANT SCHEDULE

A. Exterior

1. Use Sealant No. 1 or 3 in expansion joints, control joints, and at flashing receivers on walls, cracks and joints in existing siding trim and materials.

B. Interior

1. Use Sealant No.1 at penetrations of exterior wall and roof and at expansion joints in ceramic tile.
2. Use Sealant No. 2 in remaining joints not otherwise specified, including those around frames of openings, casework, cabinets, and the like.
3. Use Sealant No. 1 around sinks, and in ceramic tile control joints.

SECTION 10520

FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fire extinguisher.
- B. Cabinets.

1.2 RELATED SECTIONS

- A. Division 6 - Wood and Plastics
- B. Division 9 - Finishes

1.3 REFERENCES

- A. NFPA 10 - Portable Fire Extinguisher.

1.4 QUALITY ASSURANCE

- A. Comply with NFPA 10 requirements for extinguisher.

1.5 SUBMITTALS

- A. Submit product data under provisions of Section 01340.
- B. Include physical dimensions, operational features, color and finish, wall mounting brackets with mounted measurements, anchorage details, rough-in measurements, location, and details.
- C. Submit manufacturer's published installation instructions.

1.6 OPERATION AND MAINTENANCE DATA

- A. Submit manufacturer's operation and maintenance data under provisions of Section 01730.

- B. Include test, refill, or recharge schedules, procedures, and re-certification requirements including requirements applicable to the Work.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not install extinguisher when ambient temperatures may cause freezing.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. J.L. Industries.
- B. Larson.
- C. Watrous.
- D. Substitutions: Under provisions of Section 01630

2.2 EXTINGUISHER

- A. Dry Chemical Type: Steel tank, Model Cosmic 6E manufactured by J.L. Industries or approved equal with pressure gage. Size and classification of 3A-40BC.
- B. Dry Chemical Type: Surface mounted in bracket in control room as directed by the architect.

2.3 CABINETS

- A. Cabinet: Equal to J.L. Industries cosmopolitan 1036B20.
- B. Trim: Returned to wall surface, baked enamel.
- C. Door: Baked enamel with lock and break glass.
- D. Glass: 1/8 - inch thick single strength glass.
- E. Mounting Hardware: Appropriate to cabinet.
- F. Graphic Identification: "Fire Extinguisher" in red vertical copy on door.

2.4 ACCESSORIES

- A. Fire Extinguisher Brackets: J.L. Industries MB 808 or approved equal.

2.5 FABRICATION

- A. Form body of cabinet with tight inside corners and seams.
- B. Pre-drill holes for anchorage.
- C. Form perimeter trim and door stiles by welding, filing, and grinding smooth.
- D. Hinge doors for 180 degree opening with continuous piano hinge. Provide nylon catch.
- E. Glaze doors with resilient channel gasket glazing.

2.6 FINISHES

- A. Extinguisher: Red enamel.
- B. Cabinet Interior: White enamel.
- C. Cabinet exterior: Red enamel.

PART 3 EXECUTION

3.1 INSPECTION

- A. Verify rough openings for cabinet are correctly sized and located.
- B. Beginning of installation means acceptance of existing conditions.

3.2 INSTALLATION

- A. Install cabinets plumb and level in wall openings as shown on the drawings.
- B. Secure rigidly in place in compliance with manufacturer's published instructions.

SECTION 16140
WIRING DEVICES

PART 1 GENERAL

1.1 SUBMITTALS

- A. Submit product data according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Comply with NFPA 70 "National Electrical Code" for devices and installation.
- C. Listing and Labeling: Provide products that are listed and labeled for their applications and installation conditions and for the environments in which installed.
 - 1. The terms "Listed" and "Labeled": As defined in the "National Electrical Code," Article 100.

PART 2 PRODUCTS

- 2.1 Wiring Devices: Comply with NEMA Standard WD 1, "General Purpose Wiring Devices."
 - A. Enclosures: NEMA 1 equivalent, except as otherwise indicated.
 - 1. Color: As selected by the Owner's representative from manufacturer's standard colors.
 - 2. Ground-Fault Circuit Interrupter (GFCI) Receptacles: UL Standard 943, "Ground Fault Circuit Interrupters," feed-through type, with integral NEMA 5-20R duplex receptacle arranged to protect connected downstream receptacles on the same circuit. Design units for installation in a 2-3/4 inch (70-mm) deep outlet box without an adapter.
- 2.2 Snap Switches: Quite-type a.c. switches, NRTL listed and labeled as complying with UL Standard 20 "General Use Snap Switches," and with Federal Specifications W-S-896.
- 2.3 Combination Switch and Receptacle: Both devices in a single gang unit with plaster ears and removable tab connector that permits separate or common feed connection.

- A. Switch: 20 ampere, 120-277 V a.c.
 - B. Receptacle: NEMA configuration 5-20R
- 2.4 Dimmer Switches: Modular full-wave solid units with integral, quiet on-off switches, and audible and electromagnetic noise filters.
- A. Wattage rating exceeds connected load by 30 percent minimum, except as otherwise indicated.
 - B. Control: Continuously adjustable slide knob. Single-pole or 3-way switch to suit connections. Each dimmer shall have an on-off switch or 3-way switch separate from the slide.
- 2.5 Wall Plates: Single and combination types that mate and match with corresponding wiring devices. Features include the following:
- A. Color: Matches wiring device except as otherwise indicated.
 - B. Plate-Securing Screws: Metal with heads colored to match plate finish.
 - C. Material for Finished Spaces: Smooth Nylon.
 - D. Material for Unfinished Spaces: Galvanized steel.
- 2.6 Floor Service Outlet Assemblies: Modular, above-floor, dual-service units suitable for the wiring method used.
- A. Compartmentation: Barrier separates power and signal compartments.
 - B. Housing Material: Die-cast aluminum, satin finish.
 - C. Power Receptacle: NEMA configuration 5-20R, gray finish, except as otherwise indicated.
 - D. Signal Outlet: Blank cover with bushed cable opening, except as otherwise indicated.
- 2.7 Poke-Through Assemblies: Factory-fabricated and prewired assembly of below floor junction box unit with multichanneled, through floor raceway/firestop unit and detachable mating floor service outlet assembly as specified above. Features include the following:
- A. Size: Selected to fit nominal 3-inch (75-mm) cored holes in the floor and matched to the floor thickness.

- B. **Fire Rating:** Unit is listed and labeled to match the fire rating of the floor.
 - C. **Closure Plug:** Arranged to close unused 3-inch (75-mm) cored openings and reestablish the fire rating of the floor.
 - D. **Wiring:** Three No. 12 AWG power and ground conductors, one 75-ohm coaxial telephone/data cable, and one 4-pair 75-ohm telephone/data cable, except as otherwise indicated.
- 2.8 **Multi-Outlet Assemblies:** Comply with Standard UL 5, "Surface Metal Raceways and Fittings."
- A. **Components of Assemblies:** Products of a single manufacturer designed to be used together to provide a complete matching assembly of raceways and receptacles.
 - B. **Raceway Material:** Metal, with manufacturer's standard corrosion-resistant finish.
 - C. **Wire:** No. 12 AWG.

PART 3 EXECUTION

- 3.1 **Install devices and assemblies plumb and secure.**
- 3.2 **Install wall plates when painting is complete.**
- 3.3 **Arrangement Devices:** Except as otherwise indicated, mount flush, with long dimension, vertical, and grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.
- 3.4 **Protect devices and assemblies during painting.**
- 3.5 **Adjust locations at which floor service outlets and telephone/power service poles are installed to suit the indicated arrangement of partitions and furnishings.**
- 3.6 **Switches:** Where 3 or more switches are ganged, and elsewhere where indicated, identify each switch with approved legend engraved on wall plate.
- 3.7 **Receptacles:** Identify the panelboard and circuit number from which served. Use machine-printed, pressure-sensitive, abrasion-resistant label tape on face of plate and durable wire markers or tags within outlet boxes.

SECTION 16470

PANELBOARDS

PART 1 GENERAL

- 1.1 Submittals: Product Data for each type of panelboard, accessory item, and component specified.
- 1.2 Listing and Labeling: Provide products specified in this Section that are UL listed and labeled.
- 1.3 Comply with NFPA 70
- 1.4 Comply with NEMA PB 1.

PART 2 PRODUCTS

- 2.1 Panelboard Enclosures: Flush or surface-mounted cabinets as indicated. NEMA PB 1, type 1, unless otherwise indicated to meet environmental conditions at installed location.
 - A. Wet or Damp Indoor Locations: NEMA 250, Type 4x
- 2.2 Panelboard Front: Secured to box with concealed trim clamps, unless otherwise indicated. Front for surface-mounted panelboards shall be same dimensions as box. Fronts for flush panelboards shall overlap box, unless otherwise indicated.
- 2.3 Directory Frame: Metal, mounted, inside each panelboard door.
- 2.4 Bus: Hard drawn copper of 98 percent conductivity.
- 2.5 Equipment Ground Bus: Adequate for feeder and branch-circuit equipment ground conductors. bonded to box. Hard drawn copper of 98 percent conductivity.
- 2.6 Service Equipment Approval: Listed for use as service equipment for panelboards with main service disconnect switch.
- 2.7 Feed-through Lugs: Sized to accommodate feeders indicated.
- 2.8 Load Centers - shall not be used
- 2.9 Lighting and Appliance Branch-Circuit Panelboards: Features include the following:

A. **Branch Overcurrent Protective Devices:** Bolt-on circuit breakers, replaceable without disturbing adjacent units.

B. **Doors:** In panelboards front, with concealed hinges. Secure with flush catch and tumbler lock, all keyed alike.

2.10 Distribution Panelboards: Features include the following:

A. **Doors:** In panelboard front, except omit in fusible-switch panelboard, unless otherwise indicated. Secure door with vault-type latch with tumbler lock, all keyed alike.

B. **Branch-Circuit Breakers:** Where overcurrent protective devices are indicated to be circuit breakers, use bolt-on circuit breakers, except circuit breakers 225-A frame size and greater may be plug-in-type where individual positive-locking device requires mechanical release for removal.

2.11 Molded-Case Circuit Breaker: NEMA AB 1, handle lockable.

A. **Characteristics:** Frame size, trip rating, number of poles, and auxiliary devices as indicated and interrupting capacity rating to meet available fault current.

B. **Application Listing:** Appropriate for application, including Type SWD for switching fluorescent lighting loads and Type HACR for heating, air conditioning, and refrigerating equipment.

C. **Lugs:** Mechanical lugs and power-distribution connectors for number, size, and material of conductors indicated.

D. **Shunt Trip:** Where indicated.

2.12 Fusible Switch: NEMA KS 1, Type HD, clips to accommodate specified fuses, handle lockable.

PART 3 EXECUTION

3.1 Install panelboards and accessory items according to NEMA PB 1.1.

3.2 **Mounting Heights:** Top of trim 74 inches (1880 mm) above finished floor, unless otherwise indicated.

3.3 **Mounting:** Plumb and rigid without distortion of box. Mount flush panelboards uniformly flush with wall finish.

- 3.4 **Circuit Directory:** Type directory to indicate installed circuit loads after balancing panelboard loads. Obtain approval before installing.
- 3.5 **Install filler plates in unused spaces.**
- 3.6 **Provision for Future Circuits at Flush Panelboards:** Stub four 1-inch (27-GRC) empty conduits from panelboard into accessible ceiling space or space designated to be ceiling space in the future. Stub four 1-inch (27-GRC) empty conduits into raised floor space or below slab not on grade.
- 3.7 **Wiring in Panelboard Gutters:** Arrange conductors into groups, and bundle and wrap with wire ties after completing load balancing.
- 3.8 **Identify field-installed wiring and components and provide warning signs as specified in Division 16, section "Basic Electrical Materials and Methods."**
- 3.9 **Panelboard Nameplates:** Label each panelboard with engraved laminated-plastic or metal nameplates mounted with corrosion-resistant screws.
- 3.10 **Make equipment grounding connections for panelboards as indicated.**
- 3.11 **Provide ground continuity to main electrical ground bus as indicated.**
- 3.12 **Tighten electrical connectors and terminals, including grounding connections, according to manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.**
- 3.13 **Field Quality Control: Perform acceptance tests as follows:**
 - A. **Make insulation-resistance tests of each panelboard bus, component, and connecting supply, feeder, and control circuits.**
 - B. **Make continuity tests of each circuit.**
 - C. **Procedures: Perform each visual and mechanical inspection and electrical test stated in NETA ATS, Section 7.5 for switches and Section 7.6 for molded-case circuit breakers. Certify compliance with test parameters.**
- 3.14 **Adjusting:** Set field-adjustable switches and circuit-breaker trip ranges as indicated.

3.8 Isolated Ground Receptacles: Connect to isolated grounding conductor routed to designated isolated equipment ground terminal of electrical system.

SECTION 16476

DISCONNECT SWITCHES

PART 1 GENERAL

- 1.1 **Submittals:** Submit Product Data for disconnect switches, circuit breakers, and accessories according to the Conditions of the Contract and Division 1 Specification Sections.
- 1.2 Comply with NFPA 70 for components and installation.
- 1.3 **Listing and Labeling:** Provide disconnect switches and circuit breakers specified in this section that are UL listed and labeled.

PART 2 PRODUCTS

- 2.1 Enclosed, Nonfusible Switch: NEMA KS 1, Type HD, with lockable handle.
- 2.2 Enclosed Fusible Switch, 800 A and Smaller: NEMA KS 2 Type HD, clips to accommodate specified fuses, enclosure consistent with environment where located, handle lockable with 2 padlocks, and interlocked with cover in CLOSED position.
- 2.3 Enclosure: NEMA KS 1, Type 1 unless otherwise specified or required to meet environmental conditions of installed location.
 - A. Outdoor Locations: Type 3R
 - B. Wet or Damp Indoor Locations: Type 4x

PART 3 EXECUTION

- 3.1 Install disconnect switches in locations as indicated, according to manufacturer's written instructions.
- 3.2 Install disconnect switches level and plumb.
- 3.3 Install wiring between disconnect switches, control, and indication devices.
- 3.4 Connect disconnect switches and components to wiring system and to ground as indicated and instructed by manufacturer.

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- 3.5 Identify each disconnect switch and circuit breaker according to requirements specified in division 16 Section "Basic Electrical Materials and Methods."
- 3.6 Identify each disconnect switch and circuit breaker according to requirements specified in division 16 Section "Electrical Identification."

SECTION 16515

LIGHTING

PART 1 GENERAL

- 1.1 **Submittals:** Submit Product Data describing fixtures, lamps, ballasts, and emergency lighting units according to the Conditions of the Contract and Division 1 Specification Sections.
- 1.2 **Electrical Component Standard:** Provide components that comply with NFPA 70 and that are listed and labeled by UL where available.
- 1.3 **Listing and Labeling:** Provide fixtures for use in damp or wet locations, underwater, and recessed in combustible construction that are specifically listed and labeled for such use. Provide fixtures for use in hazardous (classified) locations that are listed and labeled for the specific hazard.

PART 2 PRODUCTS

- 2.1 **Metal Parts:** Free from burrs, sharp corners, and edges.
- 2.2 **Sheet Metal Components:** Steel, except as indicated. Form and support to prevent warping and sagging.
- 2.3 **Doors, Frames, and Other Internal Access:** Smooth operating, free from light leakage under operating conditions, and arranged to permit relamping without use of tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent accidental falling during relamping and when secured in operating position.
- 2.4 **Reflecting Surfaces:** Minimum reflectance as follows, except as otherwise indicated:
 - A. **White Surfaces:** 85 percent.
 - B. **Specular Surfaces:** 83 percent.
 - C. **Diffusing Specular Surfaces:** 75 percent
 - D. **Laminated Silver Metallized Film:** 90 percent.
- 2.5 **Lenses, Diffuser, Covers, and Globes:** 100 percent virgin acrylic plastic or water white, annealed crystal glass, except as otherwise indicated.

- A. Plastic: High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
- B. Lens Thickness: 0.125 (3mm) minimum; except where greater thickness is indicated.

2.6 Fixture Support Components: Comply with Division 16 Section "Basic Electrical Materials and Methods."

- A. Single-Stem Hangers: 1/2-inch (12mm) steel tubing with swivel ball fitting and ceiling canopy. Finish same as fixture.
- B. Twin-Stem Hangers: Two, 1/2-inch (12mm) steel tubes with single canopy arranged to mount a single fixture. Finish same as fixture.
- C. Rod Hangers: 3/16-inch (5mm) minimum diameter, cadmium-plated, threaded steel rod.
- D. Hook Hanger: Integrated assembly matched to fixture and line voltage and equipped with threaded attachment, cord, and locking-type plug.

2.7 Fluorescent Fixtures: Conform to UL 1570

2.8 Fluorescent Ballasts: Electronic integrated circuit, solid-state, full-light-output, energy-efficient type compatible with lamps and lamp combinations to which connected.

- A. Certification by Electrical Testing Laboratory (ETL)
- B. Labeling by Certified Ballast manufacturers Association (CBM)
- C. Type: Class P, high power factor, except as otherwise indicated.
- D. Sound Rating: "A" rating, except as otherwise indicated.
- E. Voltage: Match connected circuits.
- F. Lamp Flicker: Less than 5 percent
- G. Minimum Power Factor: 90 percent.
- H. Total Harmonic Distortion (THD) of Ballast Current: Less than 10 percent.
- I. Conform to FCC Regulations Part 15, Subpart J for electromagnetic interference.

- J. Conform to IEEE C62.41, Category A, for resistance to voltage surges for normal and common modes.
- K. Multilamp Ballasts: Use 2,3, or 4 lamp ballasts for multilamp fixtures where possible.
- L. Lamp-ballast connection method does not reduce normal rated life of lamps.

2.9 Emergency Fluorescent Power Supply Unit: Conform to UL 924

- A. Internal Type: Self-contained, modular, battery-inverter unit factory mounted within fixture body.
 - 1. Test Switch and LED Indicator Light: Visible and accessible without opening fixture or entering ceiling space.
 - 2. Battery: Sealed, maintenance-free, nickel-cadmium type with minimum 10-year nominal life.
 - 3. Charger: Fully automatic, solid-state, constant-current type.
 - 4. Operation: Relay automatically turns lamp on when supply circuit voltage drops to 80 percent of nominal voltage or below. Relay disconnects lamp and battery and automatically recharges when normal voltage is restored.

2.10 Lamps: Comply with ANSI C78 series that is applicable to each type of lamp.

2.11 Noncompact Fluorescent Lamp Life: Rated average is 20,000 hours at 3 hours per start when used on rapid start circuits.

2.12 Finishes: Manufacturer's standard, except as otherwise indicated, applied over corrosion-resistant treatment or primer, free of streaks, runs, holidays, stains, blisters, and similar defects.

PART 3 EXECUTION

3.1 Set units plumb, square, and level with ceiling and walls, and secure according to manufacturer's written instructions and approved Shop Drawings. Support fixtures according to requirements of Division 16 Section "Basic Electrical Materials and Methods."

3.2 Support for Recessed and Semirecessed Grid-Type Fluorescent Fixtures: Units may be supported from suspended ceiling support system. Install ceiling support system rods or

wires at a minimum of 4 rods or wires for each fixture, located not more than 6 inches (150mm) from fixture corners.

- A. Install support clips for recessed fixtures, securely fastened to ceiling grid members, at or near each fixture corner.
- B. Fixtures Smaller than Ceiling Grid: Install a minimum of 4 rods or wires for each fixture and locate at corner of ceiling grid where fixture is located. Do not support fixtures by ceiling acoustical panels. Center in acoustical panel.

- 3.3 Support for Suspended Fixtures: Brace pendants and rods over 48 inches (1200mm) long to limit swinging. Support stem-mounted, single-unit, suspended fluorescent fixtures with twin-stem hangers. For continuous rows, use tubing or stem for wiring at one point an tubing or rod for suspension for each unit length of chassis, including one at each end.
- 3.4 Air-Handling Fixtures: Install with dampers closed.
- 3.5 Lamping: Where specific lamp designations are not indicated, lamp units according to manufacturer's instructions.
- 3.6 Connections: Ground lighting units. Tighten electrical connectors and terminals, including grounding connections, according to manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.