



July 11, 2022

IFB # 23-4110-027

**INVITATION FOR BID**

DEPARTMENT OF BUDGET AND FINANCE

**Windsor Library Addition**

Sealed bids subject to the conditions and instructions contained herein, will be received at the office of the Purchasing Agent listed below, until the time and date shown below (local prevailing time), for furnishing the services described herein.

**SCOPE OF WORK:** Isle of Wight County is seeking competitive bids for an interior renovation of the first floor, approximately 2,356 SF. The scope also includes the construction of a two-story addition. The addition is comprised of a new 2,356 SF first floor and a 680 SF second floor. The project is located at 18 Duke Street, Windsor, Virginia 23487.

**Bid Due:** 2:00 PM., July 28, 2022

**Bid Opening:** 2:30 PM., July 28, 2022

**Contract Officer:**

Stephanie Humphries, Chief Financial Officer, [shumphries@isleofwightus.net](mailto:shumphries@isleofwightus.net)

**\*\* ONE COMPLETE ELECTRONIC SUBMITTAL IS REQUESTED \*\***

In compliance with this invitation for bids, and subject to all the conditions thereof, the undersigned offers, if this bid is accepted within ninety (90) calendar days from the date of the opening, to furnish all of the services on which prices are quoted, at the price set opposite each item, to be performed as specified herein. The undersigned certifies he has read, understands, and agrees to all terms, conditions, and requirements of this bid, and is authorized to contract on behalf of firm named below.

Company

Name: \_\_\_\_\_

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

City / State / \_\_\_\_\_

Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_ FAX No.: \_\_\_\_\_

E-mail: \_\_\_\_\_

Print Name: \_\_\_\_\_ Title: \_\_\_\_\_

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

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**INVITATION FOR BIDS**

The County of Isle of Wight, Virginia shall accept sealed bids until 2:00 P.M. local time July, 28, 2022. Bids received prior to the opening time specified below shall be publicly opened and read aloud at the specified opening time at the Isle of Wight County Board Room. Electronic bids will not be accepted at this time.

**BID DOCUMENTS:**

***Bid Documents may be obtained on the Isle of Wight website under Budget and Finance:***

***<http://www.co.isle-of-wight.va.us/budget-and-finance/> and on the State's eVA website:***

***<http://eva.virginia.gov/>, or from the Purchasing office at: Isle of Wight County, Department of Budget and Finance, 17090 Monument Circle, Suite 137, Isle of Wight, Virginia, 23397***

**QUESTIONS:**

Questions concerning this project must be in writing(email preferred) and addressed to [shumphries@isleofwightus.net](mailto:shumphries@isleofwightus.net) and must be received no later than **5:00 p.m., July 22, 2022.**

**BID OPENING:**

Bids shall be publicly opened and read aloud on the date that the bids are accepted. Public opening will be held at 2:30 PM, July 28, 2022. (local prevailing time), or nearly thereafter as possible, in the Department of Budget & Finance, Purchasing Office at: 17090 Monument Circle, Isle of Wight, Virginia 23397. **Tabulations of all opened bids will be posted on our website and eVA as soon thereafter as possible for those who choose not to attend the bid opening.**

IF YOU NEED ANY REASONABLE ACCOMMODATION FOR ANY TYPE OF DISABILITY IN ORDER TO PARTICIPATE IN THIS PROCUREMENT, PLEASE CONTACT THIS DIVISION AS SOON AS POSSIBLE.

**BID SUBMITTALS:**

**Bids may be mailed or hand delivered to the Isle of County Department of Budget & Finance at the address posted below. Isle of Wight County will not be responsible for any bids that are not able to be delivered, for any reason, to the County by/on the closing date and time listed. Bids received by telephone, telegraph, facsimile, or any other means of electronic transfer shall not be accepted. Bids will be received on or before the date and the hour and at the place stipulated in the Invitation to Bid as may be modified by subsequent Addenda.**

**Late bids will NOT be accepted.**

**Department of Budget & Finance  
17090 Monument Circle, Suite 137  
Isle of Wight, VA 23397**

The entire bid must be submitted on the designated Bid Form and Addenda Forms, with Bid Form and Addenda Forms signed by an authorized representative, and delivered as a sealed hard copy. Failure to comply with this instruction may result in the bid being deemed non-responsive. In an effort to reduce the volume of documents to be submitted hard copy, the Bid Specifications provided in bid documents do not have to be reproduced and submitted hard copy with the Bid Documents.

Bidders should carefully examine the specifications and fully inform themselves to all conditions and matters that could any way affect the cost thereof. Should a bidder find discrepancies in or omissions from the specifications or Invitation to Bid, or should be in doubt as to their meanings, he should notify the Acting

Purchasing Agent, Stephanie Humphries, by email at: [shumphries@isleofwightus.net](mailto:shumphries@isleofwightus.net). All questions shall be directed in writing (email) to Acting Purchasing Agent.

The right is reserved to revise or amend these specifications prior to the date set for receipt of bids as may be required by the County. That date may be delayed if deemed necessary by the County. Any revisions and/or amendments will be in the form of an addendum to this document.

The right is reserved to accept or reject any or all bids in whole or in part and to waive any informalities in the IFB, and to enter into any contract deemed to be in the best interest of the County.

Bidder has examined copies of all the Bid Documents including the following Addenda:

| <u>Date</u> | <u>Number</u> |
|-------------|---------------|
| _____       | _____         |
| _____       | _____         |

Bidder has made such independent investigations as Bidder deems necessary to fully inform himself as to the conditions affecting cost and progress of performance of the Work.

***AWARD***

Award shall be given to the lowest responsive and responsible bidder **based upon the Total Lump Sum Bid.**

***WORK DAY***

Daily work may begin at 8:00 AM with work areas secured by 5:00 PM unless otherwise requested and approved by the County in writing.

***LIQUIDATED DAMAGES***

If said work is not completed within the time stated in the Notice to Proceed (the County anticipates all work will be completed in 180 days from the issuance of the Notice to Proceed), the Contractor shall be liable and hereby agrees to pay to the Owner as liquidated damages, and not as a penalty, the amount of five hundred dollars (\$500.00) per calendar day for each and every part of a day thereafter that said work remains substantially incomplete for a location. The County reserves the right, at its sole discretion, to deduct liquidated damages from any outstanding amount due the Contractor.

***PRE-BID MEETING***

The Bidder is required to be familiar with the site conditions prior to submitting a bid. A pre-bid meeting is scheduled for **July 18, 2022 at 10:00 AM** at Windsor Library, 18 Duke Street, Windsor, Va. 23487 . Questions from this meeting should be submitted in writing as described in Questions section of previous page.

IF YOU NEED ANY REASONABLE ACCOMMODATION FOR ANY TYPE OF DISABILITY IN ORDER TO PARTICIPATE IN THIS PROCUREMENT, PLEASE CONTACT THIS DIVISION AS SOON AS POSSIBLE.

***NOTICE OF ESCROW OPTION***

**IF THIS IS A BID FOR CONSTRUCTION, AS DEFINED IN VIRGINIA CODE SECTION 2.2-4334, IN THE AMOUNT OF \$200,000.00 OR MORE, I/WE ELECT TO UTILIZE THE ESCROW ACCOUNT PROCEDURE DESCRIBED IN THE PROVISIONS OF THIS BID IF DETERMINED TO BE THE SUCCESSFUL LOW BIDDER(S).**

**CHECK A BOX:**    **YES**    **NO**

**INTEREST ON RETAINAGE:**

At the time the Contractor submits a bid, the Contractor shall have the option to use the escrow account procedure for utilization of County retained funds by so indicating in the space provided in the bid documents. In the event the Contractor elects to use the escrow account procedure, the "Escrow Agreement" form included in the Bid and Contract shall be executed and submitted to the County within 15 calendar days after notification of award of the bid. If the "Escrow Agreement" form is not submitted as noted herein, the Contractor shall forfeit such rights to the use of the escrow account procedure. To have retained funds paid to an escrow agent, the Contractor, the escrow agent and the surety shall execute an "Escrow Agreement" form and submit same to the County for approval. The Contractor's escrow agent shall be a trust company, bank or savings and loan institution with its principal office located in the Commonwealth of Virginia. The "Escrow Agreement" form shall contain the complete address of the escrow agent and surety, and the executed "Escrow Agreement" will be authority for the County to make payment of retained funds to the escrow agent. After approving the agreement, the County will pay to the escrow agent the funds retained as provided herein except that funds retained for lack of progress or other deficiencies on the part of the Contractor will not be paid to the escrow agent. The escrow agent may, in accordance with the stipulations contained in the "Escrow Agreement", invest the funds paid into the escrow account and pay earnings on such investments to the Contractor or release the funds to the Contractor provided such funds are fully secured by approved securities.

Retained funds invested and securities held as collateral for retainage may be released only as and when directed by the County. When the final payment is released by voucher, the County will direct the escrow agent to settle the escrow account by paying the Contractor or the County monies due them as determined by the County. The County reserves the right to recall retained funds and to release same to the surety upon receipt of written request from the Contractor or in the event of default.

This section shall be applicable only to contracts for \$200,000.00, or more, for the construction of highways, roads, streets, bridges, parking lots, demolition, clearing, grading, excavating, paving, pile driving, miscellaneous drainage structures, and the installation of water, gas, sewer lines, and pumping stations.

This section shall not apply to contracts for construction for railroads, public transit systems, runways, dams, foundations, installation or maintenance of power systems for the generation and primary and secondary distribution of electric current ahead of the customer's meter, the installation or maintenance of telephone, telegraph, or signal systems for public utilities and the construction or maintenance of solid waste or recycling facilities and treatment plants.

If this contract includes payment of interest on retained funds, the contractor, exclusive of reasonable circumstances beyond the control of the contractor stated in the contract, shall pay the specified penalty for each day exceeding the completion date stated in the contract. Any subcontract for such public project, which provides for similar progress payments, shall be subject to the provisions of this section.

**SCOPE OF WORK**

**Site Improvements:** Contractor shall provide all labor, superintendence, tools, equipment, testing, project safety, and other ancillary items necessary as identified to complete the improvements shown on Construction Plans prepared by McPherson Design Group, and dated June 2022. This project is subject to stormwater Construction General Permit Coverage (VAR10) and requires local VSMP Authority permitting for land disturbing and posting of an erosion and sediment control bond. Contractor shall obtain all required permits. Contractor shall provide a warranty on all work for a period of one (1) year after final completion.

All Work shall be completed in accordance with the 2018 edition of the Virginia Statewide Building Code.

The County anticipates all work will be completed in 180 days from the issuance of the Notice to Proceed.

**PRICING – PAY ITEMS**

Project: **Windsor Library Addition**

Bid Submitted By: \_\_\_\_\_

Pay Items prices shall include the furnishing of labor, material, testing and all incidental work called for in the Contract Documents. The prices in the tabulation below are to be used only if conditions result in a substantially higher or lower requirement than the estimated quantity. If progressive payments for overages is required there will be a 5% retainage withheld until the final payment for the project is made.

| Bid Item No.          | Item                               | Unit | Est. Quantity | Unit Price | Extended Total |
|-----------------------|------------------------------------|------|---------------|------------|----------------|
| 1                     | Building Renovation & Addition     |      | 1             | \$         | \$             |
| 2                     | Remove Abandoned Old Septic System |      | 1             | \$         | \$             |
| <b>TOTAL LUMP SUM</b> |                                    |      |               |            | \$             |

**BID FORM**

**Isle of Wight County  
IFB # 23-4110-027**

**Windsor Library Addition**

**Due Date:** July 28, 2022

**Time:** 2:00 p.m. local time

**Total Lump Sum Bid:** \$ \_\_\_\_\_

Bidder has examined the site and locality where the Work is to be performed, the legal requirements (federal, State and local laws, ordinances, rules and regulations) and has made such independent investigations as Bidder deems necessary to fully inform himself as to the conditions affecting cost and progress of performance of the Work.

Bid shall remain valid for a minimum period of sixty (60) days after the day of Bid Opening; Bidder agrees to disposition of Bid Security as specified in the Instruction to Bidders.

Terms of payment on work performed with a good and correct invoice shall be Net 30 days with a 5% retainage.

Not more than fifty percent (50%) of the work shall be subcontracted and the amount of any subcontractors proposed by the bidder in excess of ten percent (10%) of the bid price shall be identified on the Bid Form.

Subcontractor: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

Bidder accepts all terms and conditions of the Contract Documents and has included the following with his BID FORM (please check ):

“Anti-collusion/Nondiscrimination/Drug Free Workplace” clause

Proof of Authority to Transact Business in Virginia form

I certify by my signature below that I have received the documents associated with this Bid and understand that the review for completeness of these documents and the understanding and comprehension of the specifications is solely my responsibility; based on this, by my signature below, I waive all rights to future claims against Isle of Wight County that the documents were incomplete or not understandable.

My signature below certifies that this Bid is not the result of or affected by, any act of collusion with another person or company engaged in the same line of business or commerce, or any act of fraud punishable under Section 18.2-498.1 et. seq. of the Code of Virginia (1950, as amended). Furthermore, I understand that fraudulent bidding is a crime under the Virginia Governmental Frauds Act, the Virginia

Government Bid Rigging Act, the Virginia Anti-Trust Act, and federal law and can result in fines, prison sentences, and civil damage awards.

I certify that the bidder represented herein is eligible to bid with respect to all applicable sections of State and Local Government Conflict of Interest Act, Section 2.2-3100 et. seq. of the Code of Virginia (1950, as amended).

I agree to abide by all conditions of this Bid and certify that I am authorized to sign this Bid.

Virginia Contractor No. \_\_\_\_\_

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

Print \_\_\_\_\_

State Corporation Commission Identification No:

Or

Describe why the bidder or offeror is not required to be authorized by the State Corporation Commission:

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**REFERENCES:**

(Name a minimum of three references)

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**Company Name:** \_\_\_\_\_

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

**Contact Person:** \_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

**(An Individual, Partnership, or Non-Incorporated Organization)**

Type/Print

Name \_\_\_\_\_

Title \_\_\_\_\_

Name of Organization \_\_\_\_\_

Business Address \_\_\_\_\_

Phone Number \_\_\_\_\_ Fax No. \_\_\_\_\_

**(A Corporation)**

Corporation Name \_\_\_\_\_

State of Incorporation \_\_\_\_\_

Person Authorized to Sign \_\_\_\_\_

Title \_\_\_\_\_

(Corporate Seal)

Attest (Secretary) \_\_\_\_\_

Business Address \_\_\_\_\_

Phone Number \_\_\_\_\_ Fax No. \_\_\_\_\_

**(A Joint Venture)**

By (Signature) \_\_\_\_\_

Type/Print Name \_\_\_\_\_

Title \_\_\_\_\_

Virginia Contractor No. \_\_\_\_\_

Business Address \_\_\_\_\_

Phone Number \_\_\_\_\_ Fax No. \_\_\_\_\_

By (Signature) \_\_\_\_\_

Type/PrintName \_\_\_\_\_

Title \_\_\_\_\_

Virginia Contractor No. \_\_\_\_\_

Business Address \_\_\_\_\_

Phone Number \_\_\_\_\_ Fax No. \_\_\_\_\_

(Each joint venturer must sign. The name of signing for each individual, partnership and corporation that is a party to the joint venture shall be in the manner indicated above.)

## **CONDITIONS AND INSTRUCTIONS**

*Rev: 06/1/22*

1. **Use of Form:** All bids shall be submitted in sealed hard copy in accordance with this form. <mailto:proposals@suffolkva.us>The County's published Conditions and Instructions shall supersede any additional writings submitted with the proposal. Such writings shall be clearly marked and noted as an exception. The County requests that the entire document sans reproduced bid specifications provided in bid document be returned. Contractor will be responsible for ensuring the bid specifications are followed as required in the bid documents.
  
2. **Submittals:**  
**Bids may be mailed or hand delivered to the Isle of County Department of Budget & Finance at the address posted below. Isle of Wight County will not be responsible for any bids that are not able to be hand delivered, for any reason, to the County by/on the closing date and time listed. Late bids will NOT be accepted.**  
**Department of Budget & Finance**  
**17090 Monument Circle, Suite 137**  
**Isle of Wight, VA 23397**

The entire bid must be submitted on the designated Bid Form and Addenda Forms, with Bid Form and Addenda Forms signed by an authorized representative, and delivered as a sealed hard copy. Failure to comply with this instruction may result in the bid being deemed non-responsive. In an effort to reduce the volume of documents to be submitted hard copy, the Bid Specifications provided in bid documents do not have to be reproduced and submitted hard copy with the Bid Documents.

Bidders should carefully examine the specifications and fully inform themselves to all conditions and matters that could any way affect the cost thereof. Should a bidder find discrepancies in or omissions from the specifications or Invitation to Bid, or should be in doubt as to their meanings, he should notify the Acting **Purchasing Agent**, Stephanie Humphries, by email at: [shumphries@isleofwightus.net](mailto:shumphries@isleofwightus.net). All questions shall be directed in writing (email) to Acting Purchasing Agent.

The right is reserved to revise or amend these specifications prior to the date set for receipt of bids as may be required by the County. That date may be delayed if deemed necessary by the County. Any revisions and/or amendments will be in the form of an addendum to this document.

The right is reserved to accept or reject any or all bids in whole or in part and to waive any informalities in the IFB, and to enter into any contract deemed to be in the best interest of IOWC.
  
3. **Late Bids:** Bids and amendments thereto, sent electronically to Purchasing and received after the date and time specified, will not be considered. It will be the responsibility of the offeror to see that their bid is received before the time specified. There will be no exceptions. Electronic bids sent as an email attachment will show the date and time sent. These must be received prior to the closing date and time as published on the front cover.
  
4. **County Offices Closures:** Should the County's offices be closed, or if its electronic networks connectivity prevents receipt of bids at the time of the scheduled bid closing, the bids will be opened on the next business day of the County, at the original scheduled hour, or as soon as connectivity is restored during normal business hours.

5. **Acceptance of Bid:** Receipt of the bid by the County is not to be construed as an award.
6. **Offer/Acceptance:** Each bid is received with the understanding that the acceptance in writing by the County of the bidder to furnish any or all of the goods and/or services described therein, shall constitute a contract between the bidder and the County, which shall bind the bidder to furnish and deliver the goods and/or services quoted at the prices stated and in accordance with the conditions of the accepted bid; and the County on its part to order from such bidder, except for causes beyond reasonable control; and pay for, at the agreed prices, all goods and/or services specified and delivered.
7. **Withdrawal of Bids:** Bidder has the right to request withdrawal of their bids from consideration due to error by giving notice not later than two business days after the bids are publicly opened. Work papers showing evidence of error(s) may be required.

Bids may be withdrawn any time prior to the bid opening. Withdrawal of bids may be accomplished by submitting such request in writing on the issuing company's letterhead in person, electronically (email) or by certified mail.

8. **Addenda:** If issued, addenda to this solicitation will be posted on the Purchasing website <http://www.co.isle-of-wight.va.us/budget-and-finance/> and on the Commonwealth's website, <http://eva.virginia.gov/>. It is the bidder's responsibility to check one of the websites or to contact the Purchasing division prior to the submittal deadline to ensure that the bidder has a complete, up-to-date package. Acknowledgement of all issued Addenda shall be indicated on the bid form in the appropriate spaces.
9. **Governing Document:** The solicitation document maintained by Purchasing in the bid file, shall be considered the official copy. In the case of any inconsistency between bid documents submitted to the County, but not clearly listed as an exception, the language of the official copy shall prevail. Furthermore, any exception or change to the specifications made by the bidder may be cause to disqualify your bid.
10. **Award:** Award will be made to the lowest responsive and responsible bidder. The quality of the goods and/or services to be supplied, their conformity with the specifications, their suitability to the requirements, the delivery, qualifications and references will be taken into consideration in making the award. The County reserves the right to refuse all bids. Determination of low bid shall be determined by the Total Lump Sum Bid.
11. **Brand Names:** The use of the name of a manufacturer, brand, make or catalog designation in specifying an item shall restrict bidders to the manufacturer, brand, make or catalog designation identified, unless qualified by the provision "or equal." If qualified by the provision "or equal" the Brand Names are used simply to indicate the character, quality and/or performance equivalence of the goods and/or services desired. The goods and/or services on which bids are submitted must be of such character, quality and/or performance equivalence that it will serve as that specified. In submitting bids on goods and/or services other than as specified, bidder shall furnish complete data and identification with respect to the alternate goods and/or services that they propose to furnish. It shall be in the County's sole judgment if a substitute product offered is an approved equal and acceptable.

12. **Samples:** Samples, when requested, must be furnished free of expense, and upon request, if not destroyed, will be returned at the bidder's risk and expense. Once a decision to award has been made, samples may be returned. Those left for more than 60 days may incur storage fees or be disposed of by the County.
13. **Negotiation:** Unless canceled or rejected, a responsive bid from the lowest responsible bidder shall be accepted as submitted; except that if the bid from the lowest responsible bidder exceeds available funds, the County may negotiate with the apparent low bidder to obtain a contract price within the available funds.
14. **Announcements:** Upon the award or the announcement of the decision to award a contract, the County will publicly post such notice on the bulletin board located outside of the Purchasing Division and on the County's web site: <http://www.co.isle-of-wight.va.us/budget-and-finance/>
15. **County's Rights:** The County reserves the right to reject any and all bids, and to waive any informality if it is determined to be in the best interest of the County.
16. **Prices:** Prices shall be stated in units of quantity specified. No additional charges shall be passed to the County, including any applicable taxes, delivery, or surcharges. Prices quoted shall be the final cost to the County. In case of error in the extension of prices, the unit price shall govern.
17. **Corrections:** All prices and notations should be in ink or typewritten. Mistakes may be crossed out and corrections made in ink and must be initialed and dated by the person signing the bid.
18. **Delivery:** The time of performance of work must be as required in the specifications.
19. **Standard equipment:** Any equipment delivered must be standard, new and unused equipment, latest model, except as otherwise specifically stated in the bid. Where any part or the normal accessories of equipment is not described, it shall be understood that all the equipment and accessories that are usually provided in the manufacturer's stock model shall be furnished.
20. **Silence of Specifications:** The apparent silence of these specifications and any supplemental specifications as to any detail or the omission from the specifications of a detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail and correct type, size and design are to be used. All interpretations of these specifications shall be made on the basis of this statement.
21. **Capacity of Bidder:** All bids must be signed by a responsible officer or employee having the authority to bind the firm in contract. The bidder agrees that its contract performance shall be in strict conformance with the contract documents.
22. **Rights to Damages:** By signing this bid, the bidder assigns to the County any and all rights that it may have under the antitrust laws of the United States and the Commonwealth of Virginia in any way arising from or pertaining to this bid. This provision is remedial in nature and is to be liberally construed by any court in favor of the County.
23. **Anti-collusion:** The bidder certifies by signing this Invitation for Bid that this bid is made without prior understanding, agreement, or accord with any other person or firm submitting a bid for the

same goods and/or services and that this bid is in all respects bona fide, fair, and not the result of any act of fraud or collusion with another person or firm engaged in the same line of business or commerce. Any false statement hereunder may constitute a felony and can result in a fine and imprisonment, as well as civil damages.

24. **Indemnification:** The Contractor shall defend, indemnify and hold the County, and the County's employees, agents, and volunteers, harmless, from and against any and all damage claim, liability, cost, or expense (including, without limitation, attorney's fees and court costs) of every kind and nature (including, without limitation, those arising from any injury or damage to any person, property or business) incurred by or claimed against the contractor, its employees, agents, and volunteers, or incurred by or claimed against the County, the County's employees, agents, and volunteers, arising out of, or in connection with, the performance of all services hereunder by the contractor. This indemnification and hold harmless includes, but is not limited to, any financial or other loss including, but not limited to, any adverse regulatory, agency or administrative sanction or civil penalties, incurred by the County due to the negligent, fraudulent or criminal acts of the contractor or any of the Contractor's officers, shareholders, employees, agents, contractors, subcontractors, or any other person or entity acting on behalf of the Contractor. Unless otherwise provided by law, the Contractor indemnification obligations hereunder shall not be limited in any way by the amount or type of damages, compensation, or benefits payable by or for the Contractor under worker's compensation acts, disability benefit acts, other employee benefit acts, or benefits payable under any insurance policy. This paragraph shall survive the termination of the contract including any renewal or extension thereof.

(Isle of Wight has no legal authority to indemnify others. Firms submitting responses agree that they will not require the County to indemnify them in any resulting contract.)

25. **Laws, Regulations:** The Contractor shall keep fully informed of all federal, state, and local laws, ordinances and regulations that in any manner affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances and regulations.
26. **Alien employment:** The Contractor certifies that he does not and shall not during the performance of the contract for goods and services in the Commonwealth, knowingly employ unauthorized aliens as defined in the federal Immigration Reform and Control Act of 1986, as amended.
27. **SCC Authorization:** All bidders or offerors organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50, as amended, shall include the identification number issued to it by the State Corporation Commission. Any bidder or offeror that is not required to be authorized to transact business in the Commonwealth as a foreign business entity under Title 13.1 or Title 50, as amended, or as otherwise required by law shall include in its bid proposal a statement describing why the bidder or offeror is not required to be so authorized.

**SCC Number or Statement:** \_\_\_\_\_

Any business entity that enters into a contract with a public body pursuant to this chapter shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1, or Title 50, as amended, to be revoked or cancelled at any time during the term of the contract. The County may void any contract with a business entity if the business entity fails to remain in compliance with the provisions of this section.

28. **Contractor's License:** If any of the services promulgated under this solicitation consist of construction work, it is required under Title 54.1, Chapter 11, Code of Virginia, for a contractor who performs or manages construction, removal, repair, or improvement when the total value referred to in a single contract or project is:

One hundred twenty thousand dollars (\$120,000) or more, or the total value of all such construction, removal, repair or improvements undertaken by such person within any twelve-month period is seven hundred fifty thousand dollars (\$ 750,000) or more shall show evidence of being licensed as a Class A Contractor.

Ten thousand dollars (\$10,000) or more, but less than one hundred twenty thousand dollars (\$120,000) or the total value of all such construction, removal, repair, or improvement undertaken by such person within any twelve-month period is one hundred and fifty thousand dollars (\$150,000) or more, but less than seven hundred fifty thousand dollars (\$750,000) shall show evidence of being licensed as a Class B Contractor.

Over one thousand (\$1,000) but less than ten thousand (\$10,000), or the total value of all such construction, removal, repair, or improvements undertaken by such person within any twelve-month period is one hundred and fifty thousand dollars (\$150,000) shall show evidence of being licensed as a Class C Contractor.

The County shall require master certification as a condition of licensure or certification of electrical, plumbing and heating, ventilation and air conditions contractors.

A valid business license from the County may be required. The bidder shall complete whichever of the following notations as appropriate:

“Licensed Class ‘A’ Virginia Contractor Number \_\_\_\_\_.”

“Licensed Class ‘B’ Virginia Contractor Number \_\_\_\_\_.”

“Licensed Class ‘C’ Virginia Contractor Number \_\_\_\_\_.”

29. **Payment Terms:** Payment terms shall be ‘Net 30’ days, from the date of Contractor invoice approval by the County.

Payment terms, if offered, shall not be considered in determining the low bidder.

Discount period, if offered, shall be computed from the date of proper receipt of the contractor’s correct invoice, or from the date of acceptable receipt of the goods and/or services, whichever is latest.

The payment terms stated herein must appear on the contractor’s invoice. Failure to comply with this requirement shall result in the invoice being returned to the contractor for correction.

Late payment charges shall not exceed the allowable rate specified by the Commonwealth of Virginia Prompt Payment Act. (1% per month)

Contractor shall submit invoices in duplicate, such statement to include detailed breakdown of all charges, and shall be based on completion of tasks or deliverables.

Individual Contractors shall provide their social security numbers, and proprietorships, partnerships, and corporations shall provide their federal employer identification number on their submittal.

The County prefers to make payment with the County's Purchasing Card. Typically this enables faster payments to the Contractor. Are you willing and able to accept this type of payment?

**Yes**\_\_\_\_\_

**No**\_\_\_\_\_

(See paragraph 62 for links)



30. **Default:** In event of default by the Contractor, the County reserves the right to procure the services from other sources and hold the Contractor liable for any excess cost occasioned thereby. Such actions taken by the County shall not release the contractor from additional remedies that may be allowed by law.
31. **Availability of Funds:** A contract shall be deemed in force only to the extent of appropriations available to each department for the purchase of such goods and/or services. The County's extended obligations on those contracts that envision extended funding through successive fiscal periods shall be contingent upon actual appropriations for the following years.
32. **Appeals Procedure:** Upon your request, administrative appeals information will be provided that shall be used for hearing protests of a decision to award, or an award, appeals from refusal to allow withdrawal of bids, appeals from disqualification, appeals for debarment or suspension, or determination of non-responsibility and appeals from decision or disputes arising during the performance of a contract. To be timely all appeals shall be made within the time periods set forth by the Virginia Public Procurement Act, §2.2-4357, et seq. Contact the buyer at once for assistance.
33. **Faith-based Organizations:** The County of Isle of Wight does not discriminate against faith-based organizations.
34. **Anti-Discrimination:** By submitting their bids, bidders certify to the County that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians with Disabilities Act, the Americans with Disabilities Act and 2.2-4311 of the Virginia Public Procurement Act (VPPA). If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the contract on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (Code of Virginia 2.2.4343.1E).

In every contract over \$10,000 shall include the following provisions:

1. During the performance of this contract, the Contractor agrees as follows:
  - a. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, service disabled veterans or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
  - b. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.
  - c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting these requirements.

2. The Contractor will include the provisions of Section a, b, and c above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

35. **Drug-Free Workplace:** During the performance of this contract, the Contractor agrees to (1) provide a drug-free workplace for the Contractor's employees; (2) post in conspicuous place, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (3) state in all solicitation or advertisement for employees placed by or on behalf of the Contractor that the Contractor maintains a drug-free workplace; and (4) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

36. **Assignment of Contract:** A contract shall not be assignable by the Contractor in whole or in part without the written consent of the County.

37. **Independent Contractor:** The Contractor and any employees, agents, or other persons or entities acting on behalf of the Contractor shall act in an independent capacity and not as officers, employees, or agents of the County.

38. **Scheduling and Delays:** The parties to any contract resultant of this solicitation acknowledge that all or part of the work to be performed hereunder may be delayed and extended at the option of the County. Such delays may be caused by delays, denials and modifications of the various state or federal permits, or for other reasons. The County shall not be required to pay any of the Contractor's direct or indirect costs, or claims for compensation, extended overhead, or other damage or consequential damages arising out of or related to any delays or interruptions required or ordered by the County. If the County delays the project for any reason for a continuous period of ninety (90) days or more, the County and Contractor will negotiate a mutually agreeable adjustment to the Contractor's award amount. Notwithstanding the above, in construction contracts, to the extent that an unreasonable delay is caused by the act or omissions of the County due to causes within the County's control, the above waiver or release shall not apply.

39. **Governing Law:** This Agreement is made, entered into, and shall be performed in the County of Isle of Wight, Virginia, and shall be governed by the applicable laws of the Commonwealth of Virginia without regard to its conflict of law rules. In the event of litigation concerning this Agreement, the parties agree to the exclusive jurisdiction and venue of the Circuit Court of the County of Isle of Wight, Virginia; however, in the event that the federal court has jurisdiction over the matter, then the parties agree to the exclusive jurisdiction and venue of the U.S. District Court for the Eastern District of Virginia, Norfolk Division.

The Contractor shall not cause a delay in services because of the pending or during litigation proceedings, except with the express, written consent of the County or written instruction/order from the Court.

40. **Severability**: If any provision of this contract or the application thereof to any person or circumstances shall to any extent be invalid or unenforceable, the remainder of this contract, or the application of such provision to persons or circumstances other than those which it is invalid or unenforceable, shall not be affected hereby, and each provision of this contract shall be valid and enforced to the full extent permitted by law.

41. **Termination for Convenience**: The County may at any time, and for any reason, terminate this Contract by written notice to Contractor specifying the termination date, which shall be not less than thirty (30) days from the date such notice is mailed.

Notice shall be given to Contractor by certified mail/return receipt requested at the address set forth in Contractor's Bid Proposal or as provided in this Contract. In the event of such termination, Contractor shall be paid such amount as shall compensate Contractor for the work satisfactorily completed, and accepted by the County, at the time of termination. If the County terminates this Contract, Contractor shall withdraw its personnel and equipment, cease performance of any further work under this Contract, and turn over to the County any work completed or in process for which payment has been made.

42. **Termination for Cause**: In the event that Contractor shall for any reason or through any cause be in default of the terms of this Contract, the County may give Contractor written notice of such default by certified mail/return receipt requested at the address set forth in Contractor's Bid/Proposal or as provided in this Contract.

Unless otherwise provided, Contractor shall have ten (10) days from the date such notice is delivered, whether electronic, by mail, or in person, in which to cure the default. Upon failure of Contractor to cure the default, the County may immediately cancel and terminate this Contract as of the delivery date, whether electronic, US Mail, or by hand, of the default notice.

Upon termination, Contractor shall withdraw its personnel and equipment, cease performance of any further work under the Contract, and turn over to the County any work in process for which payment has been made. In the event of violations of law, safety or health standards and regulations, this Contract may be immediately cancelled and terminated by the County and provisions herein with respect to opportunity to cure default shall not be applicable.

43. **Contact Prohibition**: **Direct contact with County departments other than Purchasing, on the subject of this bid, is expressly forbidden except with the foreknowledge and permission of the Contract Officer. Violation may result in a determination that your firm is ineligible for an award.**

All questions shall be in writing to the Contract Officer shown on the title page of the bid. The respondents to this IFB shall not contact, either directly or indirectly, any other employee or agent of the County regarding this IFB. This prohibition shall also extend to the County Board of Supervisors and locally elected officials. Any such unauthorized contact may disqualify the bidder from this procurement.

44. **Additional Conditions**: The Conditions and Instructions in this solicitation are intended to apply to the resulting contract and shall supersede any conflicting terms offered. Any additional conditions a bidder intends be considered must be submitted with the bid and noted as an exception. Such exceptions may result in a finding that the submittal is 'non-responsive' to the

bid, negating possibility of an award to that bidder. Contractual documents submitted by the successful firm after an award will not be accepted.

45. **Contractor Failure to Perform**: Failure of the Contractor to perform the contract by reason of the County's non-acceptance of additional conditions submitted after the award shall result in termination of the contract by the County and may result in debarment of the Contractor for a period of up to three (3) years. Termination and /or debarment of the Contractor shall not constitute a waiver by the County of any other rights or remedies available to the County by law or contract.
46. **Conflict**: In the event of a conflict between the contract documents, including these Conditions and Instructions, and the terms of a purchase order, or related document issued by Purchasing, the contract documents shall control.
47. **Records and Inspection**: The Contractor shall maintain full and accurate records with respect to all matters covered under this contract, including, without limitation, accounting records, written policies, procedures, time records, telephone records, and any other supporting evidence used to memorialize, reflect, and substantiate charges or fees related to this contract. The Contractor's records shall be open to inspection and subject to audit and/or reproduction, during normal working hours, by the County and its employees, agents or authorized representatives after giving at least three (3) days' notice to the Contractor by the County. The County shall have access to such records from the effective date of this contract, for the duration of the contract, and for five (5) years after the date of final payment by the County to the Contractor pursuant to this contract or any renewal or extension of this contract. The County's employees, agents or authorized representatives shall have access to the Contractor's facilities, shall have access to all necessary records and shall be provided adequate and appropriate work space, in order to conduct audits.
48. **Rights and Remedies Not Waived**: In no event shall the making by the County of any payment to the Contractor, or the waiver by the County of any provision under this contract including any obligation of the Contractor, constitute or be construed as a waiver by the County of any other provision, obligation, breach of covenant, or any default which may exist under this contract on the part of the Contractor, and the making of any such payment by the County while any such breach or default exists shall not impair or prejudice any right or remedies available to the County.
49. **Entire Agreement**: This contract and any additional or supplementary documents incorporated herein by reference contain all the terms and conditions agreed upon by the parties hereto, and no other agreements, oral or otherwise, regarding the subject matter of this contract or any part thereof shall have any validity or bind any of the parties hereto. This contract shall not be modified, altered, changed or amended unless in writing and signed by the parties hereto.
50. **Conflicts of Interests**: Contractor shall not accept or receive commissions or other payments from third parties for soliciting, negotiating, procuring, or effecting insurance on behalf of the County.
51. **Responsibility of Contractor**: The Contractor shall, without additional costs or fee to the County, correct or revise any errors or deficiencies in his performance. Neither the County's review, approval or acceptance of, nor payment for any of the services required under this Agreement shall be deemed a waiver of rights by the County, and the Contractor shall remain liable to the County for all costs which are incurred by the County as a result of the Contractor's negligent performance of any of the services furnished under this Agreement.

52. **Changes and Additions:** It shall be the responsibility of the Contractor to notify the County, in writing, of any necessary modifications or additions in the Scope of this Agreement. Compensation for changes or additions in the Scope of this Agreement will be negotiated and approved by the County, in writing.

It is understood and agreed to by both the County and the Contractor that such modifications or additions to this Agreement shall be made only by the full execution of the County's standard Agreement change order form. Furthermore, it is understood and agreed by both parties that any work done by the Contractor on such modification or addition to this Agreement prior to the County's execution of its standard Agreement change order form shall be at the total risk of the Contractor and said work may not be compensated by the County.

53. **Debarment Status:** By submitting a bid, bidders certify that they are not currently debarred by the Commonwealth of Virginia from submitting bids or proposals on contracts for the type of goods and/or services covered by this solicitation, nor are they an agent of any person or entity that is currently so debarred.

54. **Safety:** All Contractors and subcontractors performing services for the County are required and shall comply with all Occupational Safety and Health Administration (OSHA), State and County Safety and Occupational Health Standards and any other applicable rules and regulations. Also, all Contractors and subcontractors shall be held responsible for the safety of their employees and any unsafe acts or conditions that may cause injury or damage to any persons or property within and around the work site area under this contract.

55. **License Requirement:** All firms doing business in the County of Isle of Wight are required to be licensed in accordance with the County of Isle of Wight business license ordinance. Wholesale and retail merchants without a business location in the County of Isle of Wight are exempt from this requirement. Any questions concerning business licenses should be directed to the Commissioner of the Revenue's Office.

56. **Contractor's Form:** In cases where the County may accept the Contractor's form agreement, whereas certain standard clauses that may appear in the Contractor's form agreement cannot be accepted by the County, and in consideration of the convenience of using that form, and this form, without the necessity of negotiating a separate contract document, the parties hereto specifically agree that, notwithstanding any provisions appearing in the attached Contractor's form contract, the County's contract addendum shall prevail over the terms of the Contractor's agreement in the event of a conflict.

57. **Contract Quantities:** The quantities specified in the Invitation for Bid are estimates only unless otherwise clearly noted and are given for the information of bidders and for the purpose of bid evaluation. They may not indicate the actual quantity that will be required, since such volume will depend upon requirements that may develop during the contract period. Quantities shown shall not be construed to represent any amount which the County shall be obligated to purchase under the contract or relieve the Contractor of his obligation to fill all orders placed by the County, except as clearly noted. To make determination of low bid these quantities shall be used.

58. **Bidder Qualifications:** Only bids from established contractors for work similar in scope to work herein shall be considered; the County reserves the right to request specific reference information prior to award. Bidder shall demonstrate that he has adequate and appropriate manpower, tools and equipment to respond and perform in accordance with the provisions herein.

The County may, at its option, disqualify a bidder and reject his bid for cause. Reasons deemed to be sufficient for this action shall include, but not be limited to, the following:

- Evidence of collusion among bidders.
- Receipt of more than one bid on any project from an individual, or from a corporation. This restriction does not apply to subcontractors
- Default on any previous contract.
- For unreasonable failure to complete a previous contract within the specified time or for being in arrears on an existing contract without reasonable cause for being in arrears.
- Inability to perform as revealed by an investigation of the Bidder's financial statement, experience and/or plant and equipment.
- Contractor does not meet project-specific requirements, as identified in the Contract Documents.

59. **Competition Intended**: It is the County's intent that the Invitation for Bid (IFB) permits competition. It shall be the bidder's responsibility to advise the Buyer in writing if any language requirement, specification, etc., or any combination thereof, inadvertently restricts or limits the requirements stated in this IFB to a single source. Such notification must be received by the Contract Officer prior to the date set for bids to close.
60. **Value Engineering**: The purchasing agent may provide for incentive contracting that offers a Contractor whose bid is accepted, the opportunity to share in any cost savings realized by the locality when the projects costs are reduced by such Contractor, without affecting project quality, during the construction of the project. The fee, if any, charged by the project engineer or architect for determining such cost savings shall be paid as a separate cost and shall not be calculated as part of any cost savings. Such provisions, including the percentage of cost sharing, shall be included in the language of the contract or may be added by change order with the agreement of both parties.
61. **Default on Taxes**: The County reserves the right to withhold payment to any contractor that is in arrears, or in default to the County on any debt or Contract, or that has defaulted as a surety, or otherwise on any obligation to the County.
62. **Easter Payments**: The County prefers to make payment with the County's Purchasing Card, or by direct deposit (EFT). If you are willing to use either of these methods for faster turnaround of payments to your firm, please register at one, or both of the following sites:

Pcards: [www.bankofamerica.com/epayablesvendors](http://www.bankofamerica.com/epayablesvendors)

Direct Deposit: [www.paymode.com/isleofwight](http://www.paymode.com/isleofwight)

## *INSURANCE REQUIREMENTS*

The Contractor shall comply with the insurance requirements set forth in the Contract, including the items set forth below:

- A. Neither the Contractor nor any subcontractor shall commence work under this Contract until the Contractor has obtained and provided proof of the required insurance coverages to the County, and such proof has been approved by the County. The Contractor confirms to the County that all subcontractors have provided Contractor with proof of such insurance or will do so prior to commencing any work under this Contract.
  
- B. Contractor, including all subcontractors, shall, at their sole expense, obtain and maintain during the life of this Contract the insurance policies and/or coverages required by this section. The County and its officers, employees, agents, assigns, and volunteers shall be added as an additional insured to the general liability and automobile coverages of any such policies and such insurance coverages shall be primary and noncontributory to any insurance and/or self-insurance such additional insureds may have. The Contractor shall immediately notify in writing the County of any changes, modifications, and/or termination of any insurance coverages and/or policies required by this Contract. The Contractor shall provide to the County with the signed Contract an Acord certificate of insurance which states in the description of operations section one of the two paragraphs below:
  - (1) The County and its officers, employees, agents, assigns, and volunteers are additional insureds as coverage under this policy includes ISO endorsement CG 20 33 which provides that the insured status of such entities is automatic if required by a contract or a written agreement. If additional insured status is automatic under a different coverage form, Contractor must attach a copy of the coverage form to its certificate. Any required insurance policies shall be effective prior to the beginning of any work or other performance by Contractor and any subcontractors under this Contract.

OR

- (2) ISO endorsement CG 20 10 will be issued, prior to the beginning of any work or other performance by Contractor under this Contract, to the County and its officers, employees, agents, assigns, and volunteers naming them as an additional insured under the general liability coverage. A copy of the binder confirming the issuance must be attached to the certificate. Any required insurance policies shall be effective prior to the beginning of any work or other performance by Contractor and any subcontractors under this Contract.

However, if B (1) or (2) cannot be provided, the County's Attorney, in such Attorney's sole discretion, may approve such other certificate of insurance or insurance document(s) that the Attorney deems acceptable.

C. The minimum insurance policies and/or coverages that shall be provided by the Contractor, including its subcontractors, include the following:

(1) Commercial General Liability: \$1,000,000.00

\$1,000,000.00 General Aggregate Limit (other than Products/Completed Operations).

\$1,000,000.00 Products/Completed Operations Aggregate Limit.

\$1,000,000.00 Personal Injury Liability (including liability for slander, libel, and defamation of character).

\$1,000,000.00 each occurrence limit.

(2) Automobile Liability: \$1,000,000.00 combined single limit with applicable endorsement to cover waste cargo.

(3) Workers' Compensation and Employer's Liability:

Workers' Compensation: statutory coverage for Virginia

Employer's Liability:

\$100,000.00 Bodily Injury by Accident each occurrence

\$500,000.00 Bodily Injury by Disease Policy Limit.

\$100,000.00 Bodily Injury by Disease each employee.

(A) Errors and Omissions coverage in an amount of not less than \$1,000,000 per occurrence and in the aggregate. Coverage may be written on an occurrence or claims made coverage form. However, if a claims made coverage form is used, coverage must remain in effect for a minimum of 3 years after the Contractor's work is concluded.

(4) The required limits of insurance for this Contract may be achieved by combining underlying primary coverage with an umbrella liability coverage to apply in excess of the general and automobile liability policies, provided that such umbrella liability policy follows the form of the underlying primary coverage.

(5) Such insurance policies and/or coverages shall provide for coverage against any and all claims and demands made by a person or persons or any other entity for property damages or bodily or personal injury (including death) incurred in connection with the services, work, items, and/or other matters to be provided under this Contract with respect to the commercial general liability coverages and the automobile liability coverages. With respect to the workers' compensation



coverage, Contractor's and its subcontractors' insurance company shall waive rights of subrogation against the County and its officers, employees, agents, assigns, and volunteers.

- (6) Contractor shall provide such other insurance policies and/or coverages that may be required by other parts of this Contract. If required by the Contract, such policies and/or coverages could include, but are not limited to, Errors and Omissions/Professional Liability, Crime/Fidelity, Environmental and/or Pollution, Builder's Risk, Umbrella/Excess.

D. Proof of Insurance Coverage:

- (1) Contractor shall furnish the County with the above required certificates of insurance showing the type, amount, effective dates, and date of expiration of the policies.
- (2) Where waiver of subrogation is required with respect to any policy of insurance required under this Section, such waiver shall be specified on the certificate of insurance.

E. Insurance coverage shall be in a form and with an insurance company approved by the County, which approval shall not be unreasonably withheld. Any insurance company providing coverage under this Contract shall be authorized to do business in the Commonwealth of Virginia.

F. The Contractor's insurance policies and/or coverages shall not contain any exclusions for the Contractor's subcontractors.

G. The continued maintenance of the insurance policies and coverages required by the Contract is a continuing obligation, and the lapse and/or termination of any such policies or coverages without approved replacement policies and/or coverages being obtained shall be grounds for termination of the Contractor for default.

H. Nothing contained in the insurance requirements is to be construed as limiting the liability of the Contractor, and/or its subcontractors, or their insurance carriers. The County does not in any way represent that the coverages or the limits of insurance specified are sufficient or adequate to protect the Contractor's interest or liabilities, but are merely minimums. The obligation of the Contractor, and its subcontractors, to purchase insurance shall not in any way limit the obligations of the Contractor in the event that the County or any of those named above should suffer any injury or loss in excess of the amount actually recoverable through insurance. Furthermore, there is no requirement or obligation for the County to seek any recovery against the Contractor's insurance company before seeking recovery directly from the Contractor.

**ANTICOLLUSION / DRUG FREE WORKPLACE CLAUSES**

**ANTICOLLUSION CLAUSE:**

IN THE PREPARATION AND SUBMISSION OF THIS BID, SAID BIDDER DID NOT EITHER DIRECTLY OR INDIRECTLY ENTER INTO ANY COMBINATION OR ARRANGEMENT WITH ANY PERSON, FIRM OR CORPORATION, OR ENTER INTO ANY AGREEMENT, PARTICIPATE IN ANY COLLUSION, OR OTHERWISE TAKE ANY ACTION IN THE RESTRAINT OF FREE, COMPETITIVE BIDDING IN VIOLATION OF THE SHERMAN ACT (15 U.S.C. SECTION 1), SECTIONS 59.1-9.1 THROUGH 59.1-9.17 OR SECTIONS 59.1-68.6 THROUGH 59.1-68.8 OF THE CODE OF VIRGINIA.

THE UNDERSIGNED BIDDER HEREBY CERTIFIES THAT THIS AGREEMENT, OR ANY CLAIMS RESULTING THEREFROM, IS NOT THE RESULT OF, OR AFFECTED BY, ANY ACT OF COLLUSION WITH, OR ANY ACT OF, ANOTHER PERSON OR PERSONS, FIRM OR CORPORATION ENGAGED IN THE SAME LINE OF BUSINESS OR COMMERCE; AND, THAT NO PERSON ACTING FOR, OR EMPLOYED BY, THE ISLE OF WIGHT COUNTY HAS AN INTEREST IN, OR IS CONCERNED WITH, THIS BID; AND, THAT NO PERSON OR PERSONS, FIRM OR CORPORATION OTHER THAN THE UNDERSIGNED, HAVE, OR ARE, INTERESTED IN THIS BID.

**DRUG-FREE WORKPLACE:**

DURING THE PERFORMANCE OF THIS CONTRACT, THE CONTRACTOR AGREES TO (I) PROVIDE A DRUG-FREE WORKPLACE FOR THE CONTRACTOR'S EMPLOYEES; (II) POST IN CONSPICUOUS PLACES, AVAILABLE TO EMPLOYEES AND APPLICANTS FOR EMPLOYMENT, A STATEMENT NOTIFYING EMPLOYEES THAT THE UNLAWFUL MANUFACTURE, SALE, DISTRIBUTION, DISPENSATION, POSSESSION, OR USE OF A CONTROLLED SUBSTANCE OR MARIJUANA IS PROHIBITED IN THE CONTRACTOR'S WORKPLACE AND SPECIFYING THE ACTIONS THAT WILL BE TAKEN AGAINST EMPLOYEES FOR VIOLATIONS OF SUCH PROHIBITION; (III) STATE IN ALL SOLICITATIONS OR ADVERTISEMENTS FOR EMPLOYEES PLACED BY OR ON BEHALF OF THE CONTRACTOR THAT THE CONTRACTOR MAINTAINS A DRUG-FREE WORKPLACE; AND (IV) INCLUDE THE PROVISIONS OF THE FOREGOING SECTIONS I, II, AND III IN EVERY SUBCONTRACT OR PURCHASE ORDER OF OVER \$10,000, SO THAT THE PROVISIONS WILL BE BINDING UPON EACH SUBCONTRACTOR OR VENDOR.

FOR THE PURPOSE OF THIS SECTION, "DRUG-FREE WORKPLACE" MEANS A SITE FOR THE PERFORMANCE OR WORK DONE IN CONNECTION WITH A SPECIFIC CONTRACT AWARDED TO A CONTRACTOR IN ACCORDANCE WITH THIS CHAPTER, THE EMPLOYEES OF WHOM ARE PROHIBITED FROM ENGAGING IN THE UNLAWFUL MANUFACTURE, SALE, DISTRIBUTION, DISPENSATION, POSSESSION OR USE OF ANY CONTROLLED SUBSTANCE OR MARIJUANA DURING THE PERFORMANCE OF THE CONTRACT.

|                                    |                  |
|------------------------------------|------------------|
| <b>Name and Address of Bidder:</b> | Date:            |
|                                    | By:              |
|                                    | Signature In Ink |
|                                    | Printed Name     |
| Telephone Number: (    )           | Title            |
| Fax Phone Number: (    )           |                  |
| FIN/SSN#:                          |                  |

Is your firm a "minority" business?  Yes  No      If yes, please indicate the "minority" classification below:  
 African American     Hispanic American     American Indian     Eskimo     Asian American     Aleut  
 Other; Please Explain: \_\_\_\_\_

Is your firm Woman Owned?  Yes  No      Is your firm a Small Business?  Yes  No

***PROOF OF AUTHORITY TO TRANSACT BUSINESS IN VIRGINIA***

THIS FORM MUST BE SUBMITTED WITH YOUR PROPOSAL/BID, FAILURE TO INCLUDE THIS FORM  
MAY RESULT IN REJECTION OF YOUR PROPOSAL/BID

Pursuant to Virginia Code §2.2-4311.2 an Offeror/Bidder organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50 of the Code of Virginia shall include in its proposal/bid the identification number issued to it by the State Corporation Commission (“SCC”). Any Offeror/Bidder that is not required to be authorized to transact business in the Commonwealth as a foreign business entity under Title 13.1 or Title 50 of the Code of Virginia or as otherwise required by law shall include in its proposal/bid a statement describing why the Offeror/Bidder is not required to be so authorized. Any Offeror/Bidder described herein that fails to provide the required information shall not receive an award unless a waiver of this requirement and the administrative policies and procedures establish to implement this section is granted by the County Administrator, as applicable.

If this quote for goods or services is accepted by the Isle of Wight County, Virginia the undersigned agrees that the requirements of the Code of Virginia Section §2.2-4311.2 have been met.

Please complete the following by checking the appropriate line that applies and providing the requested information.

A. \_\_\_\_\_ Offeror/Bidder is a Virginia business entity organized and authorized to transact business in Virginia by the SCC and such vendor’s Identification Number issued to it by the SCC is

\_\_\_\_\_.

B. \_\_\_\_\_ Offeror/Bidder is an out-of-state (foreign) business entity that is authorized to transact business in Virginia by the SCC and such vendor’s identification Number issued to it by the SCC is

\_\_\_\_\_.

C. \_\_\_\_\_ Offeror/Bidder does not have an Identification Number issued to it by the SCC such vendor is not required to be authorized to transact business in Virginia by the SCC for the following reason(s):

**Please attach additional sheets if you need to explain why such Offeror/Bidder is not required to be authorized to transact business in Virginia.**

\_\_\_\_\_  
Legal Name of Company (as listed on W-9)

\_\_\_\_\_  
Legal Name of Offeror/Bidder

\_\_\_\_\_  
Date

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Print or Type Name and Title

**RETURN THIS PAGE WITH COPIES OF DOCUMENTATION**

**EXCEPTION PAGE**

Provider must sign the appropriate statement below, as applicable:

- ( ) Provider understands and agrees to all terms, conditions, requirements, and specifications stated herein.

Firm: \_\_\_\_\_

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

- ( ) Provider takes exception to terms, conditions, requirements, or specifications stated herein (Provider must itemize all exceptions below, and return with this bid):

Firm: \_\_\_\_\_

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

Exceptions: \_\_\_\_\_

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Providers should note that any exceptions taken from the stated terms and/or specifications may be cause for their submittal to be deemed "non-responsive", risking the rejection of their submittal.

Bid Bond # \_\_\_\_\_

**BID BOND**

KNOW ALL MEN BY THOSE PRESENT: That we, the undersigned: \_\_\_\_\_ as Principal, and \_\_\_\_\_, as Surety, are hereby held and firmly bound unto Isle of Wight County as Owner in the penal sum of \_\_\_\_\_ for payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors, and assigns. Signed, this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_. The condition of the above obligation is such that whereas the Principal has submitted to Isle of Wight County a certain BID, attached hereto and herby made a part thereof to enter into an Agreement in writing, for the construction of **Windsor Library Addition, IFB #23-4110-027**.

NOW, THEREFORE,

- a) If said BID shall be rejected, or
- b) If said BID shall be accepted and the Principal shall execute and deliver an Agreement in the form attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said Agreement, and from the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all respects perform the Agreement created by the acceptance of said BID, then this obligation shall be void; otherwise the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall , in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year set forth above.

\_\_\_\_\_  
Principal

Surety  
BY: \_\_\_\_\_

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 state where the project is located.

## Section B (*Successful Bidder Submits*)

*The items on the following pages are to be filled out and returned only by successful bidder(s) once a notice of intent to award is issued:*

## PERFORMANCE BOND

(CONTRACT DOCUMENT TO BE COMPLETED AT TIME OF AWARD)

Bond No. \_\_\_\_\_

Amount: \$ \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that

\_\_\_\_\_ of \_\_\_\_\_, hereinafter called the Contractor and \_\_\_\_\_ a corporation duly organized and existing under and by virtue of the laws of the State of \_\_\_\_\_, hereinafter called the Surety, and authorized to transact business within the Commonwealth of Virginia as the Surety, are held and firmly bound unto Isle of Wight County, Virginia as Owner, in the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_), lawful money of the United States of America, for payment of which, well and truly be made to the Owner, the Contractor and the Surety bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the Contractor has executed and entered into a certain Agreement, hereto attached, with the Owner dated \_\_\_\_\_, 20\_\_, for project location(s) \_\_\_\_\_ as described in the bid titled, **Windsor Library Addition, IFB #23-4110-027**, including detailed plans.

NOW THEREFORE, if the Contractor, and its successors and assigns, shall at all times duly, promptly, and faithfully perform the Work and any alteration in or addition to the obligations of the Contractor arising there under, including the matter of infringement, if any, of patents or other proprietary rights, and shall assure all guarantees against defective workmanship and materials, including the guarantee period following final completion by the Contractor and final acceptance by the Owner and comply with all the covenants therein contained in the Specifications, Drawings, and other Contract Documents required to be performed by the Contractor, in the manner and within the times provided in the Agreement, and shall fully indemnify and save harmless the Owner from all costs and damage which it may suffer by reason or failure to do so, and shall fully reimburse and repay it all outlay and expenses which it may incur in making good any default, and reasonable counsel fees incurred in the prosecution of or defense of any action arising out of or in connection with any such default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that the Surety, for value received, for itself and its successors and assigns, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract Documents or to the Work to be performed there under, or payment there under before the time required therein, or waiver of any provision thereof, or assignment, subletting or transfer thereof or any part thereof, shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration, addition to the terms of the Contract Documents or any such payment, waiver, assignment, subcontract or transfer.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied. Whenever Contractor shall be declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations there under, the Owner shall have the right, at its option, to require the Surety to promptly proceed to remedy the default within 30 days of notice by proceeding or procuring others to proceed with completing the Agreement with its terms and conditions; and all reserves, deferred payments, and other funds provided by the Agreement to be paid to Contractor shall be paid to Surety at the same times and under the same conditions as by the terms of that Agreement such fund would have been paid to Contractor had the Agreement been performed by Contractor; and Surety shall be entitled to such funds in preference to any assignee of Principal of any adverse claimant. Notwithstanding the above, the Owner shall have the right, with the approval of the Surety which shall not be unreasonably withheld, to take over and assume

completion of the Agreement and be promptly paid in cash by the Surety for the cost of such completion less the balance of the Contract price.

IN WITNESS WHEREOF, all above parties bounded together have executed this instrument this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

\_\_\_\_\_  
By: \_\_\_\_\_ (Seal)

Name: \_\_\_\_\_

Title: \_\_\_\_\_

\_\_\_\_\_  
Attest

SURETY

\_\_\_\_\_  
By: \_\_\_\_\_ (Seal)

\_\_\_\_\_  
Attest

**APPROVED AS TO FORM:** \_\_\_\_\_, 20\_

\_\_\_\_\_  
**Robert W. Jones, Jr, County Attorney**

NOTE: Date of Bond shall not be prior to the date of the Agreement. If the Contractor is a partnership, all partners shall execute the Bond.

IMPORTANT: The Surety named on this Bond shall be one who is licensed to conduct business in the Commonwealth of Virginia and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent shall be accompanied by a certified copy of the authority to act for the Surety at the time of signing of this Bond.



**PAYMENT BOND**

**(CONTRACT DOCUMENT TO BE COMPLETED AT TIME OF AWARD)**

Bond No. \_\_\_\_\_

Amount: \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that \_\_\_\_\_ of \_\_\_\_\_ hereinafter called the Contractor and \_\_\_\_\_, a Corporation duly organized and existing under and by virtue of the laws of the State \_\_\_\_\_, Virginia as the Surety, are held and firmly bound unto Isle of Wight County, Virginia as Owner, in the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_), lawful money of the United States of America, for payment of which, well and truly be made to the Owner, the Contractor and the Surety bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the Contractor has executed and entered into a certain Agreement, hereto attached, with the Owner dated \_\_\_\_\_, 20\_, for the construction of stormwater improvements as described and awarded to the Contractor for project location(s) \_\_\_\_\_ according to the bid entitled, **Windsor Library Addition, IFB #23-4110-027.**

Detailed drawings are shown and part of the Agreement.

NOW THEREFORE, if the Contractor shall promptly make payments to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in the Agreement, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, repairs on machinery, equipment, and tools consumed, used or rented in connection with the construction of the Work, and all insurance premiums on the Work, and for all labor performed in the Work, whether by Subcontractor or otherwise, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract Documents or to the Work to be performed there under, 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 Contract Documents.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, all above parties bounded together have executed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

\_\_\_\_\_  
By: \_\_\_\_\_ (Seal)

Name: \_\_\_\_\_

Title: \_\_\_\_\_

\_\_\_\_\_  
Attest

SURETY

\_\_\_\_\_  
By: \_\_\_\_\_ (Seal)

\_\_\_\_\_  
Attest

**APPROVED AS TO FORM:** \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
**Robert W. Jones, Jr., County Attorney**

NOTE: Date of Bond shall not be prior to the date of the Agreement. If the Contractor is a partnership, all partners shall execute the Bond.

IMPORTANT: The Surety named on this Bond shall be one who is licensed to conduct business in the Commonwealth of Virginia and named in the current list of Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent shall be accompanied by a certified copy of the authority to act for the Surety at the time of signing of this Bond.

## ***AGREEMENT***

THIS AGREEMENT, made and entered into this day of \_\_\_\_\_, 20\_\_, by and between the COUNTY OF ISLE OF WIGHT, VIRGINIA, whose principal office is 17090 Monument Circle, Suite 137, Isle of Wight, Virginia 23397, hereinafter called "OWNER", party of the first part, and \_\_\_\_\_ hereinafter referred to as "CONTRACTOR", party of the second part.

The CONTRACTOR did, on the \_\_\_\_ day of \_\_\_\_\_, 2022, submit a sealed bid to perform the services at \_\_\_\_\_ stipulated in accordance with plans and specifications prepared by the OWNER entitled for the project location(s) awarded, \_\_\_\_\_ described, **Windsor Library Addition, IFB #23-4110-027**. Details are shown on plans, which by reference is made a part hereof.

It is mutually understood and agreed by the parties hereto that the Invitation to Bid inviting Contractors to bid as published, Instructions to Bidder, Schedule of Unit Prices, Bid Form, Bid Bond, Contract Agreement, Hold Harmless Agreement, Certificate of Insurance, Scope of Services and Drawings, all proceedings by the governing body of the OWNER pertaining to the subject matter of this Contract, all of which documents are hereinafter referred to as Contract Documents and are a part of this Contract by reference the same as if each had been fully set out and attached hereto.

In consideration of the following mutual agreements and covenants to be kept by each party:

- a. The CONTRACTOR agrees to furnish and pay for all labor, permits, tools, equipment, machinery, supplies, facilities, superintendence, insurance, taxes, utilities and services necessary to perform all items set forth in the written Contract Documents hereto attached and made a part hereof in strict compliance with the Contract Documents and Total Bid for a sum of \_\_\_\_\_ (the "Contract Sum"), subject to adjustment as provided in said documents.
- b. Invoice payments for work completed under this contract shall be made in strict accordance with the project specifications and any special conditions attached thereto.
- c. It is understood and agreed that all work shall be accomplished in strict compliance with the provisions of the Contract Documents. It is understood and agreed by both the County and the Contractor that any modifications or additions to this agreement shall be made only by the full execution of the County's standard contract change order form. Furthermore, it is understood and agreed by both parties that any work done by the CONTRACTOR on any such modification or addition to this AGREEMENT prior to the County's execution of its standard Contract Change Order form shall be at the total risk of the CONTRACTOR and said work shall not be compensated by the County.
- d. CONTRACTOR agrees that final completion shall be in accordance with the final completion date on the Notice to Proceed.
- e. The parties agree that damages due to delay in completion of the work are uncertain and not readily capable of ascertainment. Accordingly, if the CONTRACTOR shall fail to complete the work or any part thereof within the time stipulated, or an applicable extension thereof, the CONTRACTOR shall pay to the

OWNER as fixed and agreed, liquidated damages for each calendar day of delay until the delayed work is corrected or accepted, an amount of \$500 per day. The parties agree that this sum is proportionate to the probable loss and is not a penalty.

- a) The CONTRACTOR expressly waives any defense as to the validity of any liquidated damages stated in this Agreement as they may appear on the grounds that such liquidated damages are void aspenalties or are not reasonably related to actual damages.

IN WITNESS WHEREOF, the parties hereto have executed and sealed this Agreement as of the day and year first above written.

OWNER: County of Isle of Wight, Virginia

By: \_\_\_\_\_

Randy Keaton, County Administrator

CONTRACTOR:

By: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Title: \_\_\_\_\_

**Approved as to form:**

\_\_\_\_\_

**Robert W. Jones, Jr., County Attorney**

*\*attach current W9*

*COUNTY OF ISLE OF WIGHT*  
**CONSTRUCTION CONTRACT ESCROW AGREEMENT**

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, by, between and among the County of Isle of Wight (County), a political subdivision of the Commonwealth of Virginia, \_\_\_\_\_ (Contractor), \_\_\_\_\_ (Name of Bank), having its principle place of business at \_\_\_\_\_ (Address of Bank), a trust company, bank, or savings and loan institution (hereinafter referred to collectively as "Bank") and \_\_\_\_\_ (Surety).

The parties hereto agree as follows:

The County and the Contractor have entered into a contract with respect to: **Windsor Library Addition, IFB #23-4110-027** ("the CONTRACT"). This Agreement is pursuant to, but in no way amends or modifies the CONTRACT. Payments made hereunder or the release of funds from escrow shall not be deemed approval or acceptance of performance by the Contractor.

To assure full and satisfactory performance by the Contractor of its obligations under the CONTRACT, the County is required thereby to retain certain amounts otherwise due the Contractor. The Contractor has, with the approval of the County, elected to have these retained amounts held in escrow by the Bank. This Agreement sets forth the terms of the escrow. The Bank shall not be deemed a party to, bound by, or required to inquire into the terms of, the CONTRACT or any other instrument or agreement between the County and the Contractor.

The County shall from time to time, pursuant to the CONTRACT, pay to the Bank amounts retained by it under the CONTRACT. Except as to amounts actually withdrawn from escrow by the County, the Contractor shall look solely to the Bank for the payment of funds retained under the CONTRACT and paid by the County to the Bank. The risk of loss by diminution of the principal of any funds invested under the terms of this Agreement shall be solely upon the Contractor. Funds and securities held by the Bank pursuant to this Escrow Agreement shall not be subject to levy, garnishment, attachment, lien, or other process whatsoever. Contractor agrees not to assign, pledge, discount, sell or otherwise transfer or dispose of his interest in the escrow account or any part thereof, except to the Surety.

Upon receipt of checks drawn by the County and made payable to it as escrow agent, the Bank shall promptly notify the Contractor, negotiate the same and deposit or invest and reinvest the proceeds in approved securities in accordance with the written instructions of the Contractor. In no event shall the Bank invest the escrowed funds in any security not approved.

The following securities, and none other, are approved securities for all purposes of this Agreement:

1. United States Treasury Bonds, United States Treasury Notes, United States Treasury Certificates of Indebtedness or United States Treasury Bills,
2. Bonds, notes and other evidences of indebtedness unconditionally guaranteed as to the payment of principal and interest by the United States,
3. Bonds or notes of the Commonwealth of Virginia,
4. Bonds of any political subdivision of the Commonwealth of Virginia, if such bonds carried, at the time of purchase by the Bank or deposit by the Contractor, a Standard and Poor's or Moody's Investors Service rating of at least "A", and
5. Certificates of deposit issued by commercial banks located within the Commonwealth, including, but not limited to, those insured by the Bank and its affiliates.
6. Any bonds, notes, or other evidences of indebtedness listed in Sections (1) through (3) may be purchased pursuant to a repurchase agreement with a bank, within or without the Commonwealth of Virginia having a combined capital, surplus and undivided profit of not less than \$25,000,000, provided the obligation of the Bank to repurchase is within the time limitations established for investments as set forth herein. The repurchase agreement shall be considered a purchase of such securities even if title, and/or possession of such securities is not transferred to the Escrow Agent, so long as the repurchase obligation of the Bank is collateralized by the securities themselves, and the securities have on the date of the repurchase agreement a fair market value equal to at least

100% of the amount of the repurchase obligation of the Bank, and the securities are held by a third party, and segregated from other securities owned by the Bank.

No security is approved hereunder which matures more than five (5) years after the date of its purchase by the Bank or deposit by the Contractor.

The Contractor may from time to time withdraw the whole or any portion of the escrow funds by depositing with the Bank approved securities in an amount equal to, or in excess of, the amount so withdrawn. Any securities so deposited or withdrawn shall be valued at such time of deposit or withdrawal at the lower of par or market value, the latter as determined by the Bank. Any securities so deposited shall thereupon become a part of the escrowed fund.

Upon receipt of a direction signed by the County Administrator, Director of Budget and Finance, or Director of Engineering, the Bank shall pay the principal of the fund, or any specified amount thereof, to the County. Such payment shall be made in cash as soon as is practicable after receipt of the direction.

Upon receipt of a direction signed by the County Administrator, Director of Finance, or Director of Engineering, the Bank shall pay and deliver the principal of the fund, or any specified amount thereof, to the Contractor, in cash or in kind, as may be specified by the Contractor. Such payment and delivery shall be made as soon as is practicable after receipt of the direction.

For its services hereunder, the Bank shall be entitled to a reasonable fee in accordance with its published schedule of fees or as may be agreed upon by the Bank and the Contractor. Such fee and any other costs of administration of this Agreement shall be paid from the income earned upon the escrowed fund and, if such income is not sufficient to pay the same, by the Contractor.

The net income earned and received upon the principal of the escrowed fund shall be paid over to the Contractor in quarterly or more frequent installments. Until so paid or applied to pay the Bank's fee or any other costs of administration such income shall be deemed a part of the principal of the fund.

The Surety undertakes no obligation hereby but joins in this Agreement for the sole purpose of acknowledging that its obligations as surety for the Contractor's performance of the contract are not affected hereby.

WITNESS the following signatures, all as of the day and year first above written.

**COUNTY OF ISLE OF WIGHT**

BY \_\_\_\_\_  
COUNTY ADMINISTRATOR

ATTEST:

\_\_\_\_\_  
COUNTY CLERK

\_\_\_\_\_  
**CONTRACTOR**

BY \_\_\_\_\_  
OFFICER, PARTNER OR OWNER

\_\_\_\_\_  
**BANK**

BY \_\_\_\_\_  
PRESIDENT/VICE-PRESIDENT

\_\_\_\_\_  
**SURETY**

BY \_\_\_\_\_  
ATTORNEY-IN-FACT

APPROVED AS TO FORM: \_\_\_\_\_  
COUNTY ATTORNEY

**Section C (*General Conditions*)**  
**GENERAL CONDITIONS**

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*GENERAL CONDITIONS*

**ARTICLE 1. DEFINITION OF TERMS**

- A. THE "**CONTRACT DOCUMENTS**" SHALL CONSIST OF INVITATION TO BID, INSTRUCTIONS TO BIDDERS, BID CONTRACT AGREEMENT, PERFORMANCE BOND, PAYMENT BOND, CONTRACTOR'S CERTIFICATE OF INSURANCE AND ENDORSEMENTS, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, SPECIFICATION SECTIONS, CONSTRUCTION DETAILS, ADDENDA, THE DRAWINGS, NOTICE OF AWARD, NOTICE TO PROCEED, INCLUDING ALL MODIFICATIONS THERETO INCORPORATED IN ANY OF THE DOCUMENTS BEFORE AND AFTER EXECUTION OF THE AGREEMENT.
  
- B. THE WORD "**OWNER**" IS USED TO DESIGNATE THE DULY CONSTITUTED GOVERNMENT OF ISLE OF WIGHT COUNTY, VIRGINIA, ACTING THROUGH THE PROPERLY AUTHORIZED REPRESENTATIVES.
  
- C. THE WORD "**ENGINEER**" SHALL MEAN THE ENGINEER DESIGNATED BY THE OWNER, WHETHER ACTING DIRECTLY OR THROUGH PROPERLY AUTHORIZED AGENTS, INSPECTORS OR REPRESENTATIVES OF THE ENGINEER, ACTING WITHIN THE SCOPE OF DUTIES ENTRUSTED TO THEM. IN THE EVENT THE OWNER SHOULD NOT REQUIRE THE SERVICES OF THE ENGINEER FOR CONTRACT ADMINISTRATION OR INSPECTIONS, THEN THE POWERS, DUTIES, AND RESPONSIBILITIES CONFERRED HEREIN TO THE ENGINEER SHALL BE CONSTRUED TO BE THOSE OF THE OWNER.
  
- D. THE WORD "**BIDDER**" SHALL BE USED TO DESIGNATE ANY PARTY OR PARTIES SUBMITTING IN PROPER FORM A BID TO PERFORM THE WORK HEREINAFTER SPECIFIED. THE SUCCESSFUL BIDDER, SELECTED BY THE OWNER TO PERFORM THE WORK SPECIFIED, WILL THEREAFTER BE KNOWN AS THE CONTRACTOR.
  
- E. THE WORD "**CONTRACTOR**" IS USED TO DESIGNATE THE PARTY OR PARTIES CONTRACTING TO PERFORM THE WORK OR HIS OR THEIR HEIRS, EXECUTORS, ADMINISTRATORS, SUCCESSORS, OR ASSIGNS.
  
- F. THE WORD "**SUPERINTENDENT**" SHALL BE USED TO DESIGNATE THE PERSON APPOINTED BY THE CONTRACTOR, ACTING UNDER HIS INSTRUCTIONS AND IN DIRECT CHARGE OF THE WORK FOR THE CONTRACTOR.
  
- G. THE TERM "**SUBCONTRACTOR**" SHALL MEAN ANY INDIVIDUAL, FIRM OR CORPORATION HAVING A DIRECT CONTRACT, WITH THE CONTRACTOR OR WITH ANY OTHER SUBCONTRACTOR FOR PERFORMANCE OF ANY PART OF THE WORK.
  
- H. THE TERM "**WORK**" SHALL INCLUDE LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, SUPERVISION, OR OTHER FACILITIES, DUTIES, OR INCIDENTALS NECESSARY TO COMPLETE THE PROJECT IN COMPLIANCE WITH THE TERMS OF THE CONTRACT DOCUMENTS.
  
- I. THE WORD "**PROJECT**" SHALL MEAN THE ENTIRE CONSTRUCTION TO BE PERFORMED AS PROVIDED IN THE CONTRACT DOCUMENTS.

- J. **"PROJECT AREA"** SHALL MEAN THE AREA WHERE WORK IS BEING PERFORMED FOR ISLE OF WIGHT COUNTY, VIRGINIA.
- K. **"WRITTEN NOTICE"** SHALL BE DEEMED TO HAVE BEEN DULY SERVED IF DELIVERED IN PERSON TO THE INDIVIDUAL OR TO A MEMBER OF THE FIRM OR TO AN OFFICER OF THE CORPORATION FOR WHOM IT IS INTENDED, OR IF DELIVERED AT OR SENT BY REGISTERED MAIL TO THE LAST BUSINESS ADDRESS KNOWN TO HIM WHO GIVES THE NOTICE.
- L. THE WORDS **"AS DIRECTED," "AS REQUIRED," "AS PERMITTED," "AS ALLOWED,"** OR PHRASES OF LIKE EFFECT OR IMPORT AS USED HEREIN SHALL MEAN THAT THE DIRECTION, REQUIREMENT, PERMISSION OR ALLOWANCE OF THE ENGINEER OR OWNER IS INTENDED, AND SIMILARLY THE WORDS **"ACCEPTED," "APPROVED," "REASONABLE," "SUITABLE," "PROPERLY," "SATISFACTORY,"** OR WORDS OF LIKE EFFECT OR IMPORT, UNLESS OTHERWISE PARTICULARLY SPECIFIED HERE, SHALL MEAN ACCEPTABLE, APPROVED, REASONABLE, SUITABLE, PROPERLY OR SATISFACTORY IN THE JUDGMENT OF THE ENGINEER OR OWNER.
- M. THE WORD **"ADDENDUM"** SHALL MEAN A MODIFICATION OF THE CONTRACT DOCUMENTS ISSUED IN WRITING BY THE ENGINEER OR OWNER PRIOR TO THE OPENING OF THE BIDS.
- N. THE TERM **"FIELD ORDER"** SHALL MEAN A WRITTEN ORDER ISSUED BY THE OWNER SUBSEQUENT TO THE FORMAL EXECUTION OF THE CONTRACT DOCUMENTS. WHICH ORDERS MINOR CHANGES IN THE WORK WHICH ARE COMPATIBLE WITH THE DESIGN CONCEPT OF THE COMPLETED PROJECT AS A FUNCTIONING WHOLE AS INDICATED BY THE CONTRACT DOCUMENTS BUT WHICH DOES NOT INVOLVE A CHANGE IN CONTRACT PRICE OR THE CONTRACT TIMES.
- O. THE TERM **"CHANGE ORDER"** SHALL MEAN A MODIFICATION OF THE CONTRACT REQUIREMENTS ISSUED IN WRITING BY THE OWNER SUBSEQUENT TO THE FORMAL EXECUTION OF THE CONTRACT DOCUMENTS WHICH INVOLVES A CHANGE IN CONTRACT PRICE OR THE CONTRACT TIMES.
- P. ALL TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THE CONTRACT. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL "DAYS" SHALL BE CONSTRUED TO MEAN CALENDAR DAYS.
- Q. THE WORDS **"SUBSTANTIAL COMPLETION"** SHALL MEAN THE WORK (OR A SPECIFIED PORTION THEREOF) HAS PROGRESSED TO THE POINT WHERE, IN THE OPINION OF THE ENGINEER, IT IS SUFFICIENTLY COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, SO THAT THE WORK CAN BE UTILIZED FOR THE PURPOSES FOR WHICH IT WAS INTENDED.
- R. THE TERM **"OR APPROVED EQUAL"** PERTAINS TO THE USE OF MATERIALS CURRENTLY ACCEPTED BY THE DEPARTMENT OF PUBLIC UTILITIES. ITEMS NOT CURRENTLY ACCEPTED MUST BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO INCORPORATION IN THE WORK.

- S. THE TERM "**FORCE ACCOUNT**" SHALL MEAN WORK NOT SHOWN ON THE PLANS OR REQUIRED BY THE CONTRACT DOCUMENTS THAT IS NECESSARY FOR THE COMPLETION OF THE CONTRACT, WHICH SHALL BE CONSIDERED ADDITIONAL WORK AND WILL BE PAID FOR IN THE MANNER SET FORTH HEREINAFTER.

**ARTICLE 2. EXECUTION, CORRELATION, AND INTENT OF CONTRACT DOCUMENTS.**

THE CONTRACT DOCUMENTS SHALL BE EXECUTED BY THE OWNER AND THE CONTRACTOR IN SUCH NUMBERS AS REQUIRED BY THE OWNER.

THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS CALLED FOR BY ANY ONE SHALL BE AS BINDING AS IF CALLED FOR BY ALL. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS, EQUIPMENT, AND SUPPLIES NECESSARY FOR THE PROPER EXECUTION OF THE WORK. IT IS NOT INTENDED, HOWEVER, THAT MATERIALS OR WORK NOT COVERED BY OR PROPERLY INFERABLE FROM ANY HEADING, BRANCH, CLASS, OR TRADE OF THE SPECIFICATIONS SHALL BE SUPPLIED UNLESS DISTINCTLY SO NOTED ON THE DRAWINGS. MATERIALS OR WORK DESCRIBED IN WORDS WHICH SO APPLIED HAVE A WELL-KNOWN TECHNICAL OR TRADE MEANING SHALL BE HELD TO REFER TO SUCH RECOGNIZED STANDARDS. THE DESIGNATION "ARCHITECTURAL," "STRUCTURAL," "ELECTRICAL," AND THE LIKE, IN THE DRAWING TITLES ARE PROVIDED FOR CONVENIENCE ONLY, AND ARE NOT INTENDED TO DEFINE THE WORK TO BE DONE BY ANY TRADES OR SUBCONTRACTORS.

**ARTICLE 3. CONTRACTOR'S UNDERSTANDING.**

IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR HAS, BY CAREFUL EXAMINATION, SATISFIED HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK, THE CONFORMATION OF THE GROUND, THE CHARACTER, EQUIPMENT AND FACILITIES NEEDED PRELIMINARY TO AND DURING THE PROSECUTION OF THE WORK, THE GENERAL AND LOCAL CONDITIONS, AND ALL OTHER MATTERS WHICH CAN IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT. NO VERBAL AGREEMENT OR CONVERSATION WITH ANY OFFICER, AGENT OR EMPLOYEE OF THE OWNER, EITHER BEFORE OR AFTER THE EXECUTION OF THIS CONTRACT, SHALL AFFECT OR MODIFY ANY OF THE TERMS OR OBLIGATIONS HEREIN CONTAINED.

THE SUBMISSION OF A BID SHALL BE PRIMA FACIE EVIDENCE THAT THE BIDDER THOROUGHLY UNDERSTANDS THE DRAWINGS, TERMS OF THE SPECIFICATIONS, AND HAS MADE HIMSELF FAMILIAR WITH ALL FEDERAL AND STATE LAWS, LOCAL LAWS, ORDINANCES, AND REGULATIONS WHICH IN ANY MANNER AFFECT THE WORK OR ITS PROSECUTION.

**ARTICLE 4. CONSTRUCTION STANDARDS.**

THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH THE CURRENT VERSION OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS. THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, AND ALL STANDARDS REFERENCED IN THE CONTRACT DOCUMENTS. WHERE CONFLICTS OCCUR WITH THE STANDARDS AND THE REQUIREMENTS SET FORTH HEREIN, THE STANDARDS SHALL GOVERN. WAIVER OF ANY REQUIREMENTS SET FORTH BY THE STANDARDS IS AT THE DISCRETION OF THE OWNER.

**ARTICLE 5. DETAILED DRAWINGS AND INSTRUCTIONS.**

THE ENGINEER SHALL FURNISH WITH REASONABLE PROMPTNESS, ADDITIONAL INSTRUCTION, BY MEANS OF DRAWINGS OR OTHERWISE, NECESSARY FOR THE PROPER EXECUTION OF THE WORK. ALL SUCH DRAWINGS AND INSTRUCTIONS SHALL BE CONSISTENT WITH THE CONTRACT DOCUMENTS. WHERE SIZES ARE NOT MARKED PLAINLY ON THE DRAWINGS, THE SIZE OF

CORRESPONDING PARTS MAY BE FOLLOWED, OR THE ENGINEER WILL DETERMINE THE SIZES WHEN DIMENSIONS ARE ENTIRELY OMITTED.

THE CONTRACTOR SHALL VERIFY ALL FIGURES ON THE PLANS AND WILL BE RESPONSIBLE FOR THE PROPER COORDINATION OF ALL DIMENSIONS AS WELL AS THE DIFFERENT PARTS OF THE WORK.

**ARTICLE 6. SHOP DRAWINGS.**

- A. THE TERM "SHOP DRAWINGS," AS USED HEREIN SHALL INCLUDE FABRICATION, ERECTION AND SETTING DRAWINGS, MANUFACTURERS' STANDARD DRAWINGS, SCHEDULES, DESCRIPTIVE LITERATURE, CATALOGS, BROCHURES, PERFORMANCE AND TEST DATA, WIRING AND CONTROL DIAGRAMS AND ALL OTHER DESCRIPTIVE DATA PERTAINING TO THE MATERIALS AND EQUIPMENT AS REQUIRED TO DEMONSTRATE COMPLIANCE WITH THE CONTRACT REQUIREMENTS.
- B. THE CONTRACTOR SHALL SUBMIT FOR THE APPROVAL OF THE OWNER ALL SHOP DRAWINGS REQUIRED BY THE SPECIFICATIONS OR REQUESTED BY THE OWNER. ALL SUCH SUBMISSIONS SHALL BE MADE WITH SUCH PROMPTNESS AS TO CAUSE NO DELAY IN THIS OR ANY OTHER CONTRACTOR ON THE PROJECT, AND TO ALLOW REASONABLE TIME FOR REVIEW.
- C. SHOP DRAWINGS SHALL BE SUBMITTED IN SUCH NUMBER OF COPIES THAT THREE (3) COPIES MAY BE RETAINED BY THE OWNER. EACH SUBMISSION SHALL BE ACCOMPANIED BY A LETTER OF TRANSMITTAL IN DUPLICATE, LISTING THE CONTENTS OF THE SUBMISSION AND IDENTIFYING EACH ITEM BY REFERENCE TO SPECIFICATION SECTION OR DRAWING. ALL SHOP DRAWINGS SHALL BE CLEARLY LABELED WITH THE NAME OF THE PROJECT AND OTHER NECESSARY INFORMATION. CATALOG PLATES AND OTHER SIMILAR MATERIAL THAT CANNOT BE SO LABELED CONVENIENTLY, SHALL BE BOUND IN SUITABLE COVERS BEARING THE IDENTIFYING DATA.
- D. SHOP DRAWINGS SHALL BE ACCOMPANIED BY ALL REQUIRED CERTIFICATIONS AND OTHER SUCH SUPPORTING MATERIAL AND SHALL BE SUBMITTED IN SUCH SEQUENCE OR IN SUCH GROUPS THAT ALL RELATED ITEMS MAY BE REVIEWED TOGETHER. WHEN SHOP DRAWINGS CANNOT BE REVIEWED BECAUSE THE SUBMISSION IS NOT COMPLETE, OR BECAUSE SHOP DRAWINGS ON RELATED ITEMS HAVE NOT BEEN RECEIVED, THEN SUCH SHOP DRAWINGS WILL BE RETURNED WITHOUT ACTION OR WILL BE HELD, AND NOT REVIEWED, UNTIL THE LACKING MATERIAL IS RECEIVED.
- E. SHOP DRAWINGS SHALL HAVE BEEN CHECKED BY THE CONTRACTOR AND COORDINATED WITH ALL OTHER RELATED OR AFFECTED WORK BEFORE THEY ARE SUBMITTED FOR APPROVAL AND SHALL BEAR THE CONTRACTOR'S CERTIFICATION THAT HE HAS CHECKED AND APPROVED THEM AS COMPLYING WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. SHOP DRAWINGS SUBMITTED WITHOUT SUCH CERTIFICATION AND COORDINATION WILL BE RETURNED TO THE CONTRACTOR WITHOUT ACTION AND WILL NOT BE CONSIDERED A FORMAL SUBMISSION.
- F. IF THE SHOP DRAWINGS SHOW VARIATIONS FROM THE DRAWINGS AND SPECIFICATIONS BECAUSE OF STANDARD SHOP PRACTICE OR OTHER REASONS, THE CONTRACTOR SHALL MAKE SPECIFIC MENTION OF SUCH VARIATION IN HIS LETTER OF TRANSMITTAL IN

ORDER THAT, IF ACCEPTABLE, SUITABLE ACTION MAY BE TAKEN FOR PROPER ADJUSTMENT; OTHERWISE, THE CONTRACTOR WILL NOT BE RELIEVED OF THE RESPONSIBILITY FOR EXECUTING THE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS EVEN THOUGH SUCH SHOP DRAWINGS HAVE BEEN APPROVED.

- G. THE OWNER SHALL PASS UPON THE SHOP DRAWINGS WITH REASONABLE PROMPTNESS. REVIEWING AND/OR APPROVAL OF SHOP DRAWINGS WILL BE GENERAL, FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS, AND WILL NOT INCLUDE QUANTITIES, DETAIL DIMENSIONS, NOR ADJUSTMENTS OF DIMENSIONS TO ACTUAL FIELD CONDITIONS. APPROVAL SHALL NOT BE CONSTRUED AS PERMITTING ANY DEPARTURE FROM CONTRACT REQUIREMENTS, AUTHORIZATION OF ANY INCREASE IN PRICE NOR AS RELIEVING THE CONTRACTOR OF THE RESPONSIBILITY FOR ANY ERROR IN DETAILS, DIMENSIONS OR OTHERWISE THAT MAY EXIST.

**ARTICLE 7. DISCREPANCIES.**

ANY DISCREPANCIES FOUND BETWEEN THE PLANS AND SPECIFICATIONS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN THE PLANS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY CORRECT SUCH INCONSISTENCIES OR AMBIGUITIES IN WRITING. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK. IF THE CONTRACTOR, IN THE COURSE OF THE WORK, FINDS ANY DISCREPANCY BETWEEN THE DRAWINGS AND THE PHYSICAL CONDITIONS OF THE LOCALITY, OR ANY ERRORS, OR OMISSIONS IN DRAWINGS OR IN THE LAYOUT AS GIVEN BY POINTS AND INSTRUCTIONS, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER AND THE OWNER IN WRITING, AND THE ENGINEER AND OWNER SHALL PROMPTLY VERIFY THE SAME. ANY WORK DONE AFTER SUCH DISCOVERY, UNTIL AUTHORIZED, WILL BE DONE AT THE CONTRACTOR'S RISK AND EXPENSE.

**ARTICLE 8. COPIES OF DRAWINGS: ATTACHED.**

**ARTICLE 9. OWNERSHIP OF DRAWINGS.**

ALL DRAWINGS AND SPECIFICATIONS FURNISHED BY THE ENGINEER ARE PROPERTY OF THE OWNER. THEY ARE NOT TO BE USED ON OTHER WORK AND, WITH THE EXCEPTION OF THE SIGNED CONTRACT SET, ARE TO BE RETURNED TO THE OWNER ON REQUEST, AT THE COMPLETION OF THE WORK. ALL MODELS ARE THE PROPERTY OF THE OWNER.

**ARTICLE 10. DRAWINGS AND SPECIFICATIONS ON THE WORK.**

THE CONTRACTOR SHALL KEEP ONE (1) COPY OF ALL DRAWINGS AND THE SPECIFICATIONS AT THE JOB SITE, IN GOOD ORDER, AVAILABLE TO THE OWNER.

**ARTICLE 11. PROGRESS OF THE WORK.**

IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR WILL EXECUTE THE AGREEMENT WITHIN TEN (10) DAYS AFTER WRITTEN NOTICE OF AWARD. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE FORCE OF LABOR AND EQUIPMENT TO PROSECUTE THE WORK AT AS MANY DIFFERENT POINTS AS MAY BE NECESSARY TO ENSURE THE COMPLETION OF SAME WITHIN THE TIME LIMIT FOR THE COMPLETION AS SET FORTH IN THIS AGREEMENT.

THE CONTRACTOR SHALL FURNISH A PROGRESS SCHEDULE FOR APPROVAL BY THE OWNER AND THE ENGINEER. IT SHALL BE INCUMBENT UPON THE CONTRACTOR TO PROVIDE THE MANPOWER AND EQUIPMENT TO MAINTAIN THIS SCHEDULE. IN THE EVENT PERIODIC ESTIMATES INDICATE THE SCHEDULE IS NOT BEING MET, THE CONTRACTOR MAY BE REQUIRED TO FURNISH IN WRITING TO THE ENGINEER THE METHOD HE PROPOSES TO EMPLOY TO RETURN THE PROJECT TO THE ORIGINAL SCHEDULE. THE OWNER MAY WITHHOLD PAYMENTS IF THE WORK IS NOT PROCEEDING IN ACCORDANCE WITH TERMS OF THIS AGREEMENT. ALL WORK SHALL BE FAITHFULLY UNDERTAKEN, PERFORMED AND COMPLETED WITHIN THE TIME DESIGNATED IN THE CONTRACT, AS TIME IS UNDERSTOOD TO BE THE ESSENCE OF THE CONTRACT.

**ARTICLE 12. ORDER OF COMPLETION.**

THE CONTRACTOR SHALL SUBMIT AT SUCH TIME AS MAY BE REQUESTED BY THE OWNER, SCHEDULES WHICH SHALL SHOW THE ORDER IN WHICH THE CONTRACTOR WILL START THE SEVERAL PARTS OF THE WORK AND ESTIMATED DATES OF COMPLETION OF THE SEVERAL PARTS. WHEN APPROVED, SUCH SCHEDULE SHALL GOVERN THE WORK. THE OWNER RESERVES THE RIGHT TO ESTABLISH AN ORDER OF PRECEDENCE FOR THE COMPLETION OF THE WORK.

**ARTICLE 13. SUPERINTENDENCE, SUPERVISION.**

THE CONTRACTOR SHALL KEEP ON HIS WORK DURING ITS PROGRESS A COMPETENT SUPERINTENDENT AND ANY NECESSARY ASSISTANTS, ALL SATISFACTORY TO THE OWNER. THE SUPERINTENDENT SHALL NOT BE CHANGED EXCEPT WITH THE CONSENT OF THE OWNER, UNLESS THE SUPERINTENDENT PROVES TO BE UNSATISFACTORY TO THE CONTRACTOR AND CEASES TO BE IN HIS EMPLOY. THE SUPERINTENDENT SHALL REPRESENT THE CONTRACTOR IN HIS ABSENCE AND ALL DIRECTIONS GIVEN TO HIM SHALL BE AS BINDING AS IF GIVEN TO THE CONTRACTOR. IMPORTANT DIRECTIONS SHALL BE CONFIRMED UPON WRITTEN REQUEST IN EACH CASE. THE CONTRACTOR SHALL GIVE EFFICIENT SUPERVISION TO THE WORK, USING HIS BEST SKILL AND ATTENTION.

**ARTICLE 14. MATERIALS, APPLIANCES, EMPLOYEES.**

UNLESS OTHERWISE STIPULATED, THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL MATERIALS, LABOR, WATER, TOOLS, EQUIPMENT, LIGHT, POWER, TRANSPORTATION, SANITARY FACILITIES, AND OTHER FACILITIES NECESSARY FOR THE EXECUTION AND COMPLETION OF THE WORK.

UNLESS OTHERWISE SPECIFIED, ALL MATERIALS SHALL BE NEW AND BOTH WORKMANSHIP AND MATERIALS SHALL BE OF GOOD QUALITY. THE CONTRACTOR SHALL, IF REQUIRED, FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS.

THE CHARACTER, CONDITIONS, ADAPTABILITY, AND QUANTITY OF EQUIPMENT USED BY THE CONTRACTOR SHALL BE SUCH AS MAY BE NECESSARY FOR THE PROPER EXECUTION OF THE WORK WITHIN THE SPECIFIED WORKING TIME. THE EQUIPMENT USED SHALL BE MAINTAINED IN GOOD CONDITION AND SHALL BE SUBJECT TO APPROVAL OF THE OWNER PRIOR TO AND DURING ITS USE IN CONNECTION WITH THE WORK TO BE PERFORMED UNDER THIS CONTRACT.

THE CONTRACTOR SHALL AT ALL TIMES ENFORCE STRICT DISCIPLINE AND GOOD ORDER AMONG HIS EMPLOYEES. NO PERSON UNDER THE AGE OF SIXTEEN (16) YEARS, NO PERSON WHO, AT THE TIME, IS SERVING A SENTENCE IN A PENAL OR CORRECTIONAL INSTITUTION, AND NO PERSON WHO HAS BEEN CONVICTED OF COMMISSION OF FRAUD OR A CRIMINAL OFFENSE IN



CONNECTION WITH OBTAINING, ATTEMPTING TO OBTAIN, OR PERFORMING A PUBLIC CONTRACT OR SUBCONTRACT, SHALL BE EMPLOYED ON THE WORK COVERED BY THIS CONTRACT.

NEITHER PARTY SHALL EMPLOY OR HIRE ANY EMPLOYEES OF THE OTHER PARTY WITHOUT HIS CONSENT. THE CONTRACTOR SHALL AT ALL TIMES ENFORCE STRICT DISCIPLINE AND GOOD ORDER AMONG HIS EMPLOYEES. IF THE CONTRACTOR OR ANY OF HIS EMPLOYEES AT ANY TIME IN ANY WAY ABUSES PHYSICALLY OR VERBALLY ANY COUNTY EMPLOYEE ENGAGED IN PERFORMANCE OF HIS DUTIES WITH REFERENCE TO SUPERVISION OR INSPECTION OF THE PROJECT OR PERFORMANCE OF ANY OTHER DUTIES RELATED TO THE COUNTY, THE CONTRACTOR MAY BE ORDERED BY THE COUNTY TO REMOVE HIS PERSON AND/OR ANY OF HIS EMPLOYEES ENGAGING IN SUCH CONDUCT FROM THE JOB SITE FOR THE DURATION OF THE CONTRACT. SHOULD THE CONTRACTOR REFUSE TO DO SO, THE CONTRACT MAY IMMEDIATELY AND WITHOUT ADVANCE NOTICE TO SURETIES BE TERMINATED BY THE COUNTY.

**ARTICLE 15. ROYALTIES AND PATENTS.**

THE CONTRACTOR SHALL PAY ROYALTIES AND LICENSE FEES. HE SHALL DEFEND ALL SUITS OR CLAIMS FOR THE INFRINGEMENT OF ANY PATENT RIGHTS AND SHALL SAVE THE OWNER HARMLESS FROM LOSS ON ACCOUNT THEREOF, EXCEPT THAT THE OWNER SHALL BE RESPONSIBLE FOR ALL SUCH LOSS WHEN A PARTICULAR PROCESS OR THE PRODUCT OF A PARTICULAR MANUFACTURER OR MANUFACTURERS IS SPECIFIED, BUT IF THE CONTRACTOR HAS INFORMATION THAT THE PROCESS OR ARTICLE SPECIFIED IS INFRINGEMENT OF A PATENT, HE SHALL BE RESPONSIBLE FOR SUCH LOSS UNLESS HE PROMPTLY GIVES SUCH INFORMATION IN WRITING TO THE ENGINEER AND OWNER.

**ARTICLE 16. SURVEYS, PERMITS, AND REGULATIONS.**

PERMITS AND LICENSES NECESSARY FOR THE PROSECUTION OF THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR. EASEMENTS AND RIGHT-OF-WAY FOR PERMANENT STRUCTURES OR PERMANENT CHANGES IN EXISTING FACILITIES SHALL BE SECURED AND PAID FOR BY THE OWNER, UNLESS OTHERWISE SPECIFIED.

THE CONTRACTOR WILL HAVE IN HAND, ON SITE, AN APPROVED TRAFFIC CONTROL PLAN AND AN APPROVED HIGHWAY PERMIT PRIOR TO COMMENCEMENT OF CONSTRUCTION. NO CONSTRUCTION WILL BE PERFORMED UNTIL THESE REQUIREMENTS ARE MET.

THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, AND REGULATIONS BEARING ON THE CONDUCT OF THE WORK AS DRAWN AND SPECIFIED. IF THE CONTRACTOR OBSERVES THAT THE DRAWINGS AND SPECIFICATIONS ARE AT VARIANCE THEREWITH, HE SHALL PROMPTLY NOTIFY THE ENGINEER AND OWNER IN WRITING, AND ANY NECESSARY CHANGES SHALL BE ADJUSTED AS PROVIDED IN THE CONTRACT FOR CHANGES IN THE WORK. IF THE CONTRACTOR PERFORMS ANY WORK KNOWING IT TO BE CONTRARY TO SUCH LAWS, ORDINANCES, RULES AND REGULATIONS AND WITHOUT SUCH NOTICE TO THE ENGINEER AND OWNER, HE AGREES TO BEAR ALL COSTS AND PENALTIES ARISING THEREFROM.

UNLESS OTHERWISE SPECIFIED, THE OWNER SHALL FURNISH ALL LAND SURVEYS AND ESTABLISH ALL BASE LINES FOR LOCATING THE PRINCIPAL COMPONENT PARTS OF THE WORK TOGETHER WITH A SUITABLE NUMBER OF BENCH MARKS ADJACENT TO THE WORK. FROM THE INFORMATION PROVIDED BY THE OWNER, THE CONTRACTOR SHALL DEVELOP AND MAKE ALL DETAIL SURVEYS NEEDED FOR CONSTRUCTION.

**ARTICLE 17. POINTS AND INSTRUCTIONS.**

THE CONTRACTOR SHALL PROVIDE REASONABLE AND NECESSARY OPPORTUNITIES AND FACILITIES FOR SETTING POINTS AND MAKING MEASUREMENTS. HE SHALL NOT PROCEED UNTIL HE HAS MADE TIMELY DEMAND UPON THE OWNER FOR, AND HAS RECEIVED FROM HIM, SUCH POINTS AND INSTRUCTIONS AS MAY BE NECESSARY AS THE WORK PROGRESSES. THE WORK SHALL BE DONE IN STRICT CONFORMITY WITH SUCH POINTS AND INSTRUCTIONS.

**ARTICLE 18. EXISTING STRUCTURES.**

THE LOCATION OF EXISTING SEWERS, WATER AND GAS PIPES, CONDUITS AND OTHER STRUCTURES ACROSS OR ALONG THE LINE OF THE PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN, THE LOCATION, DEPTH AND DIMENSION OF SUCH STRUCTURE ARE ONLY APPROXIMATELY CORRECT.THE CONTRACTOR SHALL HAVE A WORKING PIPE LOCATOR ON THE JOB AT ALL TIMES.

THE CONTRACTOR SHALL DIG THE NECESSARY TEST HOLES FOR THE PURPOSE OF LOCATING EXISTING UNDERGROUND STRUCTURES. SUCH EXCAVATION SHALL NOT BE UNDERTAKEN WITHOUT FORTY-EIGHT (48) HOURS PRIOR NOTICE TO THE OWNER.

NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPE OR OTHER OBSTRUCTION OR FROM ANY DELAY DUE TO REMOVAL OR REARRANGEMENT OF SAME.

**ARTICLE 19. CARE OF EXISTING STRUCTURES.**

THE CONTRACTOR SHALL BE LIABLE FOR ALL DAMAGE DONE TO ANY STRUCTURES OR PROPERTY ARISING THROUGH HIS NEGLIGENCE OR CARELESSNESS. HE SHALL TAKE CARE OF AND MAINTAIN ALL UNDERGROUND, OVERHEAD OR SURFACE UTILITIES ENCOUNTERED IN THE PERFORMANCE OF THE WORK. PRIOR TO COMMENCING WORK, CONTRACTOR SHALL CONTACT THE UTILITY INFORMATION CENTER ("MISS UTILITY"), TELEPHONE 1-800-552-7001 FOR ASSISTANCE IN LOCATING EXISTING UNDERGROUND UTILITIES.

THE CONTRACTOR SHALL OBSERVE ALL PRECAUTIONS WITH RESPECT TO FIRE AND AVOID THE INDISCRIMINATE MUTILATION, OR CUTTING DOWN OF TREES, WITHIN AND OUTSIDE OF PROJECT WORK AREAS OR EASEMENTS. ANY DAMAGE TO PROPERTY OR EASEMENTS NOT IN THE WORK AREA ARISING FROM THE CONTRACTOR'S NEGLIGENCE OR CARELESSNESS IN PERFORMANCE OF THE WORK WILL BE THE CONTRACTOR'S RESPONSIBILITY.

THE CONTRACTOR SHALL NOT USE PRIVATE PROPERTY IN CONNECTION WITH THE WORK UNLESS PRIOR WRITTEN PERMISSION IS OBTAINED FROM THE PROPERTY OWNER. A COPY OF THE WRITTEN PERMISSION SHALL BE FURNISHED TO THE COUNTY ENGINEERING DIVISION. THE WRITTEN STATEMENT OF PERMISSION SHALL ALSO INDICATE THE NAME, ADDRESS, AND PHONE NUMBER OF THE PROPERTY OWNER. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE PHOTOGRAPHS OF THE PROPERTY PRIOR TO ITS USE IN CASE OF DISPUTES ARISING FROM THE USE OF THE PROPERTY. VERIFICATION OF OWNERSHIP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

**ARTICLE 20. PROTECTION OF WORK AND PROPERTY.**

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY WATCHMEN, BARRICADES, LIGHTS AND WARNING SIGNS, AND TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION AND SAFETY OF THE PUBLIC. HE SHALL CONTINUOUSLY MAINTAIN ADEQUATE PROTECTION OF ALL WORK FROM DAMAGE AND SHALL TAKE ALL REASONABLE PRECAUTIONS TO PROTECT THE OWNER'S PROPERTY FROM INJURY OR LOSS ARISING IN CONNECTION WITH THIS CONTRACT. HE SHALL MAKE GOOD ANY DAMAGE, INJURY OR LOSS TO HIS WORK AND TO THE PROPERTY OF

THE OWNER RESULTING FROM LACK OF REASONABLE PROTECTIVE PRECAUTIONS, EXCEPT SUCH AS MAY BE DUE TO ERRORS IN THE CONTRACT DOCUMENTS, OR CAUSED BY AGENT OR EMPLOYEES OF THE OWNER. HE SHALL ADEQUATELY PROTECT ADJACENT PRIVATE AND PUBLIC PROPERTY, AS PROVIDED BY LAW AND THE CONTRACT DOCUMENTS.

IN AN EMERGENCY AFFECTING THE SAFETY OF LIFE OR LOSS OR DAMAGE TO THE WORK OR TO THE ADJOINING PROPERTY, THE CONTRACTOR WITHOUT SPECIAL INSTRUCTION OR AUTHORIZATION FROM THE ENGINEER OR OWNER, IS HEREBY PERMITTED TO ACT, AT HIS DISCRETION, TO PREVENT SUCH THREATENED LOSS OR INJURY, AND HE SHALL SO ACT, WITHOUT APPEAL AS IF INSTRUCTED OR AUTHORIZED. THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION CONCERNING THE CIRCUMSTANCES OF THE EMERGENCY TO THE OWNER AS SOON AS PRACTICAL. ANY COMPENSATION, CLAIMED BY THE CONTRACTOR ON ACCOUNT OF EMERGENCY WORK, SHALL BE DETERMINED BY AGREEMENT OR LITIGATION AS PROVIDED FOR IN ARTICLE 59 HEREIN.

THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCH MARKS, REFERENCE POINTS AND STAKES, AND IN CASE OF WILLFUL OR CARELESS DESTRUCTION, HE SHALL BE CHARGED WITH THE RESULTING EXPENSE AND SHALL BE RESPONSIBLE FOR ANY MISTAKES THAT MAY BE CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.

**ARTICLE 21. PROJECT COORDINATION.**

WHERE REQUIRED BY STATE, FEDERAL, OR LOCAL REGULATIONS, THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION PLAN WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION AND WILL OBTAIN THEIR APPROVALS TO DATE OF WORK, PERMITS, TYPE OF TEMPORARY PATCHING, TRAFFIC CONTROL, TYPE AND PLACEMENT OF TRAFFIC CONTROLS, SAFETY DEVICES, AND FLAGMEN. EXISTING COUNTY WATER AND SEWER VALVES MAY ONLY BE OPENED AND CLOSED BY OR UNDER THE DIRECT SUPERVISION OF DEPARTMENT OF PUBLIC UTILITIES PERSONNEL. THE ONLY EXCEPTION IS AN EMERGENCY SITUATION AFFECTING PUBLIC HEALTH OR SAFETY IN WHICH CASE THE CONTRACTOR WOULD ACT IN ACCORDANCE WITH ARTICLE 20.

ANY CONTRACTOR FOUND VIOLATING THIS PROVISION MAY BE SUBJECT TO PROSECUTION FOR TAMPERING WITH COUNTY PROPERTY.

WHEN THE CONTRACTOR REQUIRES VALVE OPERATING SERVICES, HE SHALL VERBALLY INFORM THE DEPARTMENT OF PUBLIC UTILITIES AND GIVE WRITTEN NOTICE OF THE REQUIREMENT TO THE PROJECT ENGINEER. THE WRITTEN AND DATED REQUEST SHALL BE DELIVERED TO THE OFFICE OF THE PROJECT ENGINEER AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF THE SERVICE.

**ARTICLE 22. INSPECTION OF SITE AND WORK.**

THE OWNER AND HIS REPRESENTATIVES SHALL AT ALL TIMES HAVE ACCESS TO THE WORK WHEREVER AND WHENEVER IT IS, IN PREPARATION OR PROGRESS, AND THE CONTRACTOR SHALL PROVIDE FOR SUCH ACCESS AND FOR INSPECTION.

THE OWNER WILL APPOINT SUCH PERSON OR PERSONS AS HE MAY DEEM NECESSARY TO PROPERLY INSPECT THE MATERIALS FURNISHED AND WORK DONE UNDER THE CONTRACT, AND TO SEE THAT THE SAME STRICTLY CORRESPONDS WITH THE DRAWINGS AND SPECIFICATIONS. WORK AND MATERIALS WILL BE INSPECTED PROMPTLY, BUT IF, FOR ANY REASON DELAY SHOULD OCCUR, THE CONTRACTOR SHALL HAVE NO CLAIM FOR DAMAGES OR EXTRA COMPENSATION.

THE FAILURE OF THE INSPECTOR TO REJECT OR CONDEMN IMPROPER MATERIALS AND WORKMANSHIP SHALL NOT PREVENT THE OWNER FROM REJECTING MATERIALS AND WORKMANSHIP FOUND DEFECTIVE AT ANY TIME PRIOR TO THE FINAL ACCEPTANCE OF THE COMPLETED WORK, NOR SHALL IT BE CONSIDERED AS A WAIVER OF ANY DEFECTS WHICH MAY BE DISCOVERED LATER, OR AS PREVENTING THE COUNTY AT ANY TIME PRIOR TO THE EXPIRATION OF THE GUARANTEE PERIOD FROM RECOVERING DAMAGES FOR WORK ACTUALLY DEFECTIVE.

IF THE SPECIFICATIONS, OWNER'S INSTRUCTIONS, LAWS, ORDINANCES, OR ANY PUBLIC AUTHORITY REQUIRE ANY WORK TO BE SPECIFICALLY TESTED OR APPROVED, THE CONTRACTOR SHALL GIVE THE OWNER TIMELY NOTICE OF ITS READINESS FOR INSPECTION AND, IF THE INSPECTION IS BY ANOTHER AUTHORITY THAN THE OWNER, OF THE DATE FIXED FOR SUCH INSPECTION. INSPECTIONS BY THE OWNER SHALL BE PROMPTLY MADE, AND WHERE PRACTICABLE AT THE SOURCE OF SUPPLY. IF ANY WORK SHOULD BE COVERED UP WITHOUT APPROVAL OR CONSENT OF THE OWNER, IT MUST, IF REQUIRED BY THE OWNER, BE UNCOVERED FOR EXAMINATION.

REEXAMINATION OF QUESTIONED WORK MAY BE ORDERED BY THE OWNER AND IF SO ORDERED, THE WORK MUST BE UNCOVERED BY THE CONTRACTOR. IF SUCH WORK BE FOUND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE OWNER SHALL PAY THE COST OF REEXAMINATION AND REPLACEMENT. IF SUCH WORK BE FOUND NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PAY SUCH COST, UNLESS HE SHALL SHOW THAT THE DEFECT IN THE WORK WAS CAUSED BY ANOTHER CONTRACTOR, AND IN THAT EVENT THE OWNER SHALL SEEK CORRECTIVE ACTION FROM THE OTHER CONTRACTOR.

**ARTICLE 23. ENGINEER'S/OWNER'S STATUS.**

THE ENGINEER AND/OR OWNER SHALL MAKE PERIODIC VISITS TO THE JOB TO FAMILIARIZE HIMSELF GENERALLY WITH THE PROGRESS AND QUALITY OF THE WORK BEING CONSTRUCTED. HE WILL CARRY OUT REASONABLE INSPECTIONS OF THE WORK TO DETERMINE IF, IN GENERAL, THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE OWNER MAY STOP THE PROCEEDING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE OWNER MAY STOP THE WORK WHENEVER SUCH STOPPAGE MAY BE NECESSARY TO INSURE THE PROPER EXECUTION OF THE CONTRACT. HE SHALL ALSO HAVE AUTHORITY TO REJECT ALL WORK AND MATERIALS WHICH DO NOT CONFORM TO THE CONTRACT, TO REQUIRE THE APPLICATION OF FORCES TO ANY PORTION OF THE WORK AS IN HIS JUDGEMENT IS NECESSARY, AND TO DECIDE QUESTIONS WHICH ARISE IN THE EXECUTION OF THE WORK.

**ARTICLE 24. CORRECTION OF WORK BEFORE FINAL PAYMENT.**

THE CONTRACTOR SHALL PROMPTLY REMOVE FROM THE PREMISES ALL MATERIALS CONDEMNED BY THE OWNER AS FAILING TO CONFORM TO THE CONTRACT, WHETHER INCORPORATED IN THE WORK OR NOT, AND THE CONTRACTOR SHALL PROMPTLY REPLACE AND RE-EXECUTE HIS OWN WORK IN ACCORDANCE WITH THE CONTRACT AND WITHOUT EXPENSE TO THE OWNER AND SHALL BEAR THE EXPENSE OF MAKING GOOD ALL WORK OF OTHERS DESTROYED OR DAMAGED BY SUCH REMOVAL OR REPLACEMENT.

IF THE CONTRACTOR DOES NOT REMOVE SUCH CONDEMNED WORK AND MATERIALS WITHIN A REASONABLE TIME, FIXED BY WRITTEN NOTICE, THE OWNER MAY REMOVE AND THEN MAY STORE THE MATERIALS AT THE EXPENSE OF THE CONTRACTOR. IF THE CONTRACTOR DOES NOT PAY THE EXPENSE OF SUCH REMOVAL AND STORAGE WITHIN TEN (10) DAYS TIME THEREAFTER, THE OWNER MAY UPON TEN (10) DAYS WRITTEN NOTICE, SELL SUCH MATERIALS AT AUCTION

OR AT PRIVATE SALE AND SHALL ACCOUNT FOR THE NET PROCEEDS THEREOF AFTER DEDUCTING ALL THE COSTS AND EXPENSES THAT SHOULD HAVE BEEN BORNE BY THE CONTRACTOR.

**ARTICLE 25. SUSPENSION OF WORK.**

THE OWNER MAY AT ANY TIME SUSPEND THE WORK, OR ANY PART THEREOF BY GIVING TEN (10) DAYS NOTICE TO THE CONTRACTOR IN WRITING. THE WORK SHALL BE RESUMED BY THE CONTRACTOR WITHIN TEN (10) DAYS AFTER THE DATE FIXED IN THE WRITTEN NOTICE FROM THE OWNER TO THE CONTRACTOR TO DO SO. THE OWNER SHALL REIMBURSE THE CONTRACTOR FOR EXPENSES INCURRED BY THE CONTRACTOR IN CONNECTION WITH THE WORK UNDER HIS CONTRACT AS A RESULT OF SUCH SUSPENSION.

BUT IF THE WORK OR ANY PART THEREOF SHALL BE STOPPED BY THE NOTICE IN WRITING AFORESAID, AND IF THE OWNER DOES NOT GIVE NOTICE IN WRITING TO THE CONTRACTOR TO RESUME WORK AT A DATE WITHIN NINETY (90) DAYS OF THE DATE FIXED IN THE WRITTEN NOTICE TO SUSPEND, THE CONTRACTOR MAY ABANDON THAT PORTION OF THE WORK SO SUSPENDED AND HE WILL BE ENTITLED TO PAYMENT FOR ALL WORK COMPLETED UP TO THE DATE OF NOTICE TO SUSPEND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

**ARTICLE 26. CHANGED CONDITIONS.**

NOTWITHSTANDING ANY OTHER PROVISION OR CONDITION SET FORTH IN THE CONTRACT DOCUMENTS AS HEREIN DEFINED, IT IS UNDERSTOOD AND AGREED THAT SHOULD THE CONTRACTOR ENCOUNTER OR THE OWNER DISCOVER, DURING THE PROGRESS OF THE WORK, SUBSURFACE AND/OR LATENT CONDITIONS AT THE SITE MATERIALLY DIFFERING FROM THOSE SHOWN ON THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS, OR UNKNOWN CONDITIONS OF AN UNUSUAL NATURE DIFFERING MATERIALLY FROM THOSE ORDINARILY ENCOUNTERED AND GENERALLY RECOGNIZED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE PROJECT ENGINEER VERBALLY AND SHALL THEN FOLLOW UP IN WRITING WITHIN TEN (10) DAYS OF THE FIRST OBSERVATION OF ANY SUCH CONDITION. IF THE CONTRACTOR SHOULD FAIL TO NOTIFY THE PROJECT ENGINEER AS REQUIRED ABOVE, THEN ANY WORK PERFORMED SHALL BE DONE AT THE CONTRACTOR'S RISK AND EXPENSE. IF IT IS FOUND CONDITIONS DO MATERIALLY DIFFER, THE CONTRACT SHALL BE MODIFIED VIA WRITTEN CHANGE ORDER TO PROVIDE ANY INCREASE OR DECREASE OF COST AND/OR DIFFERENCE IN TIME RESULTING FROM SUCH CONDITION; THE OWNER MAY TERMINATE THE CONTRACT DUE TO CHANGED CONDITIONS BY DELIVERY OF WRITTEN NOTICE TO THE CONTRACTOR AND THE CONTRACTOR WILL BE ENTITLED ONLY TO PAYMENT FOR WORK COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AS OF THE RECEIPT OF SUCH NOTICE.

**ARTICLE 27. CHANGE OF PLANS.**

IT IS AGREED THAT THE ENGINEER, WITH THE APPROVAL OF THE OWNER, MAY MAKE ALTERATIONS FOR LINE, GRADE, PLAN POSITIONS, DIMENSIONS OR MATERIALS OF WORK HEREIN CONTEMPLATED OR ANY PART THEREOF, EITHER BEFORE OR AFTER COMMENCEMENT OF THE CONSTRUCTION UNDER THIS AGREEMENT SO LONG AS SUCH CHANGES DO NOT RENDER THE TERMS OF THE AGREEMENT INAPPLICABLE.

**ARTICLE 28. ENGINEER'S/OWNER DECISIONS.**

THE OWNER SHALL WITHIN FIFTEEN (15) DAYS TIME AFTER PRESENTATION TO HIM IN WRITING, RENDER DECISIONS, IN WRITING, ON ALL CLAIMS OF THE CONTRACTOR, OR OTHER MATTERS RELATING TO THE EXECUTION AND PROGRESS OF THE WORK.

QUESTIONS WHICH ARISE AND PERTAIN TO THE INTERPRETATION OF THE CONTRACT DOCUMENTS SHALL BE SUBMITTED IN WRITING TO THE ENGINEER. THE ENGINEER SHALL WITHIN FIFTEEN (15) DAYS TIME RENDER A DECISION AS TO THE INTERPRETATION OF THE CONTRACT DOCUMENTS.

**ARTICLE 29. CLEANING UP AND RESTORATION OF SITE.**

THE CONTRACTOR SHALL, DURING THE PROGRESS OF THE WORK AND AS DIRECTED BY THE OWNER, REMOVE FROM THE OWNER'S PROPERTY AND FROM ALL PUBLIC AND PRIVATE PROPERTY AND RIGHTS-OF-WAY, AT HIS OWN EXPENSE, ALL TEMPORARY STRUCTURES, RUBBISH, DEBRIS, PILES OF EARTH, FOREIGN MATTER, AND WASTE MATERIALS RESULTING FROM HIS OPERATIONS. THE SITE OF THE WORK SHALL BE RESTORED TO THE CONDITIONS EXISTING BEFORE THE WORK WAS STARTED, TO THE SATISFACTION OF THE OWNER. LAWNS, PAVEMENTS, SIDEWALKS, AND OTHER SURFACES SHALL BE PRESERVED WHERE PRACTICABLE BUT IF DAMAGED SHALL BE FULLY RESTORED.

IF THE CONTRACTOR FAILS TO PERFORM CLEANUP AND RESTORATION IN AN ORDERLY, CONTINUOUS, AND EXPEDITIOUS MANNER, THE OWNER MAY TAKE CORRECTIVE ACTION THREE (3) DAYS AFTER DELIVERY OF NOTICE TO DO SO TO THE CONTRACTOR; ANY EXPENSE RESULTING FROM CORRECTIVE ACTION TAKEN BY THE OWNER FOR CLEANUP OR RESTORATION SHALL BE DEDUCTED FROM PAYMENTS DUE TO THE CONTRACTOR.

**ARTICLE 30. FINAL INSPECTION.**

THE OWNER SHALL SCHEDULE A FINAL INSPECTION OF THE WORK INCLUDED IN THE CONTRACT WITHIN TEN (10) DAYS AFTER RECEIPT OF WRITTEN NOTIFICATION FROM THE CONTRACTOR THAT THE WORK IS COMPLETED. IF THE WORK IS NOT ACCEPTABLE TO THE ENGINEER OR OWNER, THE CONTRACTOR SHALL BE ADVISED AS TO THE PARTICULAR DEFECTS TO BE REMEDIED BEFORE FINAL ACCEPTANCE CAN BE MADE.

FAILURE OF THE OWNER TO MAKE THIS INSPECTION WITHIN THE TIME SPECIFIED IN NO WAY RELIEVES THE CONTRACTOR OF ANY OF HIS OBLIGATIONS UNDER THE CONTRACT.

ONLY WRITTEN NOTIFICATION FROM THE OWNER WILL CONSTITUTE FINAL ACCEPTANCE OF ANY PART OF THE WORK UNDER THIS CONTRACT.

**ARTICLE 31. GUARANTEE OF WORK.**

CONTRACTOR WARRANTS AND GUARANTEES TO THE OWNER AND TO THE ENGINEER THAT ALL WORK WILL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND WILL BE WITHOUT DEFECT. THE GUARANTEE PERIOD SHALL BE NOT LESS THAN ONE YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION. SHOULD ANY MANUFACTURER'S WARRANTY BE GREATER THAN ONE YEAR OR SHOULD ANY PERMIT, SPECIFICATION, OR REGULATORY WARRANTY REQUIREMENT BE GREATER THAN ONE YEAR, THE CONTRACTOR SHALL GUARANTEE THE WORK FOR THE LONGER PERIOD. IF DURING THE GUARANTEE PERIOD ANY WORK IS FOUND TO BE DEFECTIVE, CONTRACTOR SHALL PROMPTLY, WITHOUT COST TO OWNER, AND IN ACCORDANCE WITH OWNER'S WRITTEN INSTRUCTION, EITHER CORRECT SUCH DEFECTIVE WORK OR REMOVE IT FROM THE SITE AND REPLACE IT WITH NON-DEFECTIVE WORK. IF CONTRACTOR DOES NOT PROMPTLY COMPLY WITH THE TERM OF SUCH INSTRUCTION, OR IN AN EMERGENCY WHERE DELAY WOULD CAUSE SERIOUS RISK OF LOSS OR DAMAGE, OWNER MAY HAVE THE DEFECTIVE WORK CORRECTED OR THE REJECTED WORK REMOVED AND REPLACED, AND ALL DIRECT AND INDIRECT COSTS OF SUCH REMOVAL AND REPLACEMENT, INCLUDING COMPENSATION FOR ADDITIONAL PROFESSIONAL SERVICES, SHALL BE PAID BY CONTRACTOR.

**ARTICLE 32. STATUTE OF LIMITATIONS; WARRANTIES;**

AS BETWEEN THE OWNER AND THE CONTRACTOR:

- A. ANY APPLICABLE STATUTE OF LIMITATIONS SHALL COMMENCE TO RUN AND ANY ALLEGED CAUSE OF ACTION SHALL BE DEEMED TO HAVE ACCRUED IN ANY AND ALL EVENTS NO EARLIER THAN THE DATE OF FINAL PAYMENT.
  
- B. AS TO ACTS OR FAILURES TO ACT OCCURRING AFTER THE DATE OF FINAL PAYMENT, ANY APPLICABLE STATUTE OF LIMITATIONS SHALL COMMENCE TO RUN AND ANY ALLEGED CAUSE OF ACTION SHALL BE DEEMED TO HAVE ACCRUED IN ANY AND ALL EVENTS NO EARLIER THAN THE DATE OF ANY ACT OR FAILURE TO ACT BY THE CONTRACTOR PURSUANT TO ANY REQUIRED OR OTHERWISE PROVIDED WARRANTY, THE DATE OF ANY CORRECTION OF THE WORK OR FAILURE TO CORRECT THE WORK BY THE CONTRACTOR, OR THE DATE OF ACTUAL COMMISSION OF ANY OTHER ACT OR FAILURE TO PERFORM ANY DUTY OR OBLIGATION BY THE CONTRACTOR OR OWNER, WHICHEVER OCCURS LAST.

**ARTICLE 33. USE OF COMPLETED PORTIONS.**

THE OWNER SHALL HAVE THE RIGHT TO TAKE POSSESSION OF AND USE ANY COMPLETED OR PARTIALLY COMPLETED PORTIONS OF THE WORK, NOTWITHSTANDING THAT THE TIME FOR COMPLETING THE ENTIRE WORK OR SUCH PORTIONS MAY NOT HAVE EXPIRED, BUT SUCH TAKING POSSESSION AND USE SHALL NOT BE DEEMED AN ACCEPTANCE OF ANY WORK NOT COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IF SUCH PRIOR USE INCREASES THE COST OF OR DELAYS THE WORK, THE CONTRACTOR SHALL BE ENTITLED TO SUCH EXTRA COMPENSATION OR EXTENSION OF TIME OR BOTH AS THE OWNER MAY DETERMINE.

**ARTICLE 34. SUBMISSION OF DAILY PERFORMANCE RECORDS.**

THE CONTRACTOR SHALL AT THE START OF EACH WORK DAY PROVIDE THE PROJECT INSPECTOR A COPY OF HIS DAILY PERFORMANCE RECORD FOR WORK PERFORMED ON THE PRECEDING WORK DAY. THE PERFORMANCE RECORD SHALL BE SUBMITTED IN FORMAT AS PRESCRIBED BY THE COUNTY ENGINEERING DIVISION.

A COPY OF THE PRESCRIBED FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY THE OWNER.

THE SUBMISSION OF THE DAILY RECORD DOES NOT PRECLUDE THE SUBMISSION OF ADDITIONAL DOCUMENTATION, REPORTS, AND INFORMATION WHEN REQUESTED BY THE OWNER; OR AS SPECIFICALLY PROVIDED FOR OR REQUIRED BY THE CONTRACT DOCUMENTS.

**ARTICLE 35. RECORD DOCUMENTS.**

THE CONTRACTOR SHALL AT THE END OF CONSTRUCTION PROVIDE THE OWNER WITH ONE COMPLETE SET OF DRAWINGS RECORDING THE INSTALLATION OF THE PROJECT. DURING THE COURSE OF THE CONSTRUCTION THE AS-BUILTS SHALL BE UPDATED DAILY BY THE END OF EACH WORKING DAY. UNDER ARTICLE 47, PARTIAL PAYMENTS MAY BE WITHHELD FOR FAILURE TO KEEP NEAT, ACCURATE AND COMPLETE AS-BUILTS. UNDER ARTICLE 43, THE OWNER MAY ELECT TO PREPARE THE AS-BUILTS AT THE EXPENSE OF THE CONTRACTOR SHOULD THE CONTRACTOR FAIL TO PERFORM UNDER THIS PROVISION OF THE CONTRACT. AS-BUILT INFORMATION SHALL INCLUDE THE FOLLOWING AS A MINIMUM, WHERE APPLICABLE:

- A. STORMWATER FACILITY AND OUTLET STRUCTURE AS-BUILT SURVEY DOCUMENTING THE FACILITY'S STORAGE VOLUME AND CROSS-SECTION IS AS REQUIRED TO MEET THE CORRESPONDING VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY TECHNICAL SPECIFICATIONS AND TO DEMONSTRATE THE VOLUMES, LINES, GRADES, AND IMPROVEMENTS SHOWN ON THE CONSTRUCTION PLANS ARE SUFFICIENT TO MEET THE DESIGN INTENT. RECORD DRAWINGS SHALL INCLUDE AS-CONSTRUCTED ELEVATIONS AND OUTLET STRUCTURE RIM AND INVERTS.
- B. ANY CHANGES WILL BE COMPILED IN A SEALED RECORD DRAWING SET TO DOCUMENT THE AS CONSTRUCTED LOCATION OF ALL PHYSICAL FEATURES AND PROVIDED TO THE COUNTY BY ELECTRONIC AND HARD COPY FORMAT.

THESE RECORDS ARE A SPECIFIC CONTRACT REQUIREMENT OF THE CONTRACTOR. FINAL PAYMENT WILL NOT BE ISSUED UNTIL SAID DOCUMENTS HAVE BEEN SUBMITTED IN AN ACCEPTABLE FORM.

**ARTICLE 36. PARTIAL PAYMENTS.**

PARTIAL PAYMENTS WILL BE MADE EACH MONTH FOR THE QUANTITY OF WORK PERFORMED IN THE PRECEDING MONTH LESS FIVE PERCENT (5%) TO BE RETAINED UNTIL FINAL COMPLETION OF THE WORK. REQUESTS FOR PAYMENTS SHALL BE SUBMITTED TO THE OWNER BY THE 1ST OF THE MONTH FOR PAYMENT BY MID-MONTH. REQUESTS FOR PAYMENTS SHALL BE SUBMITTED USING THE APPLICATION FOR PAYMENT AND SUBMITTED TO THE COUNTY PROJECT LEADER FOR REVIEW AND SIGNATURE APPROVALS; ADDITIONAL INFORMATION MAY BE REQUESTED DEPENDING ON PROJECT:

**ARTICLE 37. ESCROW ACCOUNT PROCEDURE.**

IN ACCORDANCE WITH SECTION 2.2-4334 OF THE CODE OF VIRGINIA (1950) AS AMENDED, ON PUBLIC CONTRACTS OF \$200,000 OR MORE, THE CONTRACTOR WILL HAVE THE OPTION TO USE AN ESCROW ACCOUNT PROCEDURE FOR UTILIZATION OF RETAINAGE FUNDS. IN THE EVENT THE CONTRACTOR ELECTS TO USE THE ESCROW ACCOUNT PROCEDURE, THE "ESCROW AGREEMENT" FORM SHALL BE EXECUTED AND SUBMITTED TO THE OWNER WITHIN FIFTEEN CALENDAR DAYS AFTER NOTIFICATION OF INTENT TO AWARD. IF THE "ESCROW AGREEMENT" FORM IS NOT SUBMITTED WITHIN THE FIFTEEN-DAY PERIOD, THE CONTRACTOR SHALL FORFEIT HIS RIGHTS TO USE OF THE ESCROW ACCOUNT PROCEDURE. THE "ESCROW AGREEMENT" AND ALL REGULATIONS PERTAINING THERETO SHALL BE IN SUBSTANTIAL ACCORDANCE WITH THE AGREEMENT USED BY COMMONWEALTH OF VIRGINIA, DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR'S ESCROW AGENT SHALL BE A TRUST COMPANY, BANK OR A SAVINGS INSTITUTION WITH ITS PRINCIPAL OFFICE LOCATED IN THE COMMONWEALTH.

**ARTICLE 38. METHOD OF MEASUREMENT.**

EXCEPT WHEN STIPULATED OTHERWISE, ALL QUANTITIES OF WORK PERFORMED AND TO BE PAID FOR UNDER THIS CONTRACT SHALL BE CONSTRUED AS THOSE MEASURED IN PLACE BY THE OWNER.

**ARTICLE 39. BASIS OF PAYMENT.**

THE PRICES TO BE PAID FOR THE WORK PERFORMED UNDER THIS CONTRACT SHALL BE THE PRICES STIPULATED IN THE CONTRACTOR'S BID.



**ARTICLE 40. INCREASED OR DECREASED QUANTITIES AND METHOD OF PAYMENT - UNIT PRICES.**

THE OWNER RESERVES THE RIGHT TO INCREASE OR DECREASE THE ESTIMATED VALUE OF THE CONTRACT IN AN AMOUNT NOT TO EXCEED TWENTY-FIVE PERCENT (25%). SUCH INCREASE OR DECREASE MAY BE BROUGHT ABOUT EITHER BY VARYING QUANTITIES WITHIN THE ORIGINAL UNITS OF THE CONTRACT OR BY AN EXTENSION OR REDUCTION IN THE ORIGINAL LIMITS OF THE PROJECT.

NO CLAIM FOR EXTRA COMPENSATION WILL BE ALLOWED FOR SUCH INCREASE OR DECREASE IN THE VALUE OF THE CONTRACT NOT EXCEEDING TWENTY-FIVE PERCENT (25%).

CHANGES IN THE ESTIMATED VALUE OF ANY MAJOR OR MINOR ITEM OF MORE THAN TWENTY-FIVE PERCENT (25%) NOT CONSISTENT WITH THE ABOVE, OR CHANGES IN EITHER TOTAL COST OR THE AMOUNT OF ANY ITEM MAJOR OR MINOR WHICH ARE THE RESULTS OF MORE ACCURATE MEASUREMENTS AND ARE NOT DUE TO ANY CHANGE IN PLAN OR IN CHARACTER OF THE WORK SHALL NOT BE CONSIDERED A BASIS OF DEMAND FOR REVISION IN CONTRACT PRICE BY EITHER PARTY TO THE CONTRACT.

FOR ANY INCREASED OR DECREASED QUANTITIES, SETTLEMENT SHALL BE MADE FOR THE ACTUAL AMOUNT OF WORK PERFORMED AT THE UNIT PRICES SHOWN IN THE PROPOSAL FOR THE WORK UNDER CONSIDERATION.

**ARTICLE 41. EXTRA WORK AND METHOD OF PAYMENT.**

THE OWNER MAY AT ANY TIME BY A WRITTEN ORDER, AND WITHOUT NOTICE TO SURETIES, MAKE CHANGES IN DRAWINGS OR SPECIFICATIONS, WITHIN THE GENERAL SCOPE THEREOF. ANY EXTRA WORK DONE PRIOR TO THE EXECUTION OF THE COUNTY'S STANDARD CHANGE ORDER FORM IS DONE AT THE CONTRACTOR'S TOTAL RISK AND WITH NO OBLIGATION ON THE PART OF THE COUNTY TO PAY FOR THE WORK.

THE CONTRACTOR SHALL PERFORM UNFORESEEN WORK OR WORK WHICH MAY EXCEED THE TWENTY-FIVE PERCENT (25%) STATED IN ARTICLE 40 OR WORK FOR WHICH THERE IS NO PRICE INCLUDED IN THE CONTRACT, WHENEVER IT IS DEEMED NECESSARY OR DESIRABLE IN ORDER TO COMPLETE FULLY THE WORK AS CONTEMPLATED. SUCH WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS DIRECTED BY THE OWNER, AND WILL BE PAID FOR AS STIPULATED HEREINAFTER.

EXTRA WORK SHALL BE PAID FOR AT THE UNIT PRICES OR LUMP SUM AS AGREED TO BY THE CONTRACTOR AND THE OWNER, OR IN LIEU OF SUCH AGREEMENT, THE OWNER MAY REQUIRE THE CONTRACTOR TO DO SUCH WORK ON A FORCE ACCOUNT BASIS TO BE COMPENSATED FOR IN THE FOLLOWING MANNER.

- A. LABOR. FOR ALL LABOR AND FOREMEN IN DIRECT CHARGE OF THE SPECIFIC OPERATIONS, THE CONTRACTOR SHALL RECEIVE THE RATE OF WAGE (OR SCALE) AS SET FORTH IN HIS MOST RECENT PAYROLL ON WHICH THE APPLICABLE CLASS OF LABOR AND FOREMEN WERE USED FOR EACH HOUR OF REGULAR TIMES AND 1-1/2 TIMES SUCH RATES FOR OVERTIME WHEN SUCH OVERTIME WORK IS AUTHORIZED, THAT SAID LABOR AND FOREMEN ARE ACTUALLY ENGAGED IN SUCH WORK. IN THE EVENT THE CLASS OF LABOR NEEDED HAS NOT BEEN EMPLOYED ON THE PROJECT, MUTUALLY AGREED UPON RATES WILL BE ESTABLISHED, PROVIDED, HOWEVER, THAT THE RATES SHALL CONFORM TO PREDETERMINED RATES AUTHORIZED FOR THE PROJECT. AN AMOUNT EQUAL TO TEN PERCENT (10%) OF THE SUM THEREFORE SHALL BE ADDED TO THESE RATES.
- B. BOND, INSURANCE, AND TAX, FOR PROPERTY DAMAGE, LIABILITY, AND WORKMEN'S COMPENSATION INSURANCE PREMIUMS, UNEMPLOYMENT INSURANCE CONTRIBUTIONS

AND SOCIAL SECURITY TAXES ON FORCE ACCOUNT WORK, THE CONTRACTOR SHALL RECEIVE AN AMOUNT EQUAL TO TWENTY PERCENT (20%) THE BASE COST FOR LABOR.

C. MATERIALS. FOR MATERIALS ACCEPTED BY THE OWNER AND USED, THE CONTRACTOR SHALL RECEIVE THE ACTUAL COST OF SUCH MATERIALS DELIVERED ON THE WORK, INCLUDING TRANSPORTATION, AND HANDLING CHARGES PAID BY HIM (EXCLUSIVE OF EQUIPMENT RENTALS AS HEREINAFTER SET FORTH), TO WHICH COST TEN PERCENT (10%) WILL BE ADDED.

D. EQUIPMENT. FOR ANY MACHINERY OR SPECIAL EQUIPMENT (OTHER THAN SMALL TOOLS AND OPERATOR) INCLUDING FUEL, LUBRICANTS AND REPAIRS, THE CONTRACTOR SHALL RECEIVE HOURLY RENTAL RATES WHICH SHALL NOT EXCEED THE RENTAL RATES BASED ON 1/40TH OF THE WEEKLY RATE OF THE CURRENT SCHEDULE PUBLISHED BY THE ASSOCIATED EQUIPMENT DISTRIBUTORS (AED) PLUS TRANSPORTATION COST FOR EQUIPMENT NOT ALREADY ON THE PROJECT. SUCH RATE WILL BE PAID FOR THE ACTUAL TIME THE EQUIPMENT IS IN OPERATION ON THE FORCE ACCOUNT WORK.

THE RATES FOR LICENSED TRUCKS AND SPECIAL EQUIPMENT NOT LISTED IN THE AED SCHEDULE USED ON THE FORCE ACCOUNT WORK SHALL NOT EXCEED THE HOURLY RATE BEING PAID FOR SUCH TRUCKS AND EQUIPMENT BY THE CONTRACTOR AT THE TIME OF THE FORCE ACCOUNT AUTHORIZATION. IN THE ABSENCE OF SUCH RATES, THE PREVAILING RATES BEING PAID IN THE AREA WHERE THE WORK IS CONTEMPLATED SHALL BE USED.

E. MISCELLANEOUS. NO ADDITIONAL ALLOWANCE WILL BE MADE FOR GENERAL SUPERINTENDENCE, THE USE OF SMALL TOOLS, OR OTHER COSTS FOR WHICH NO SPECIFIC ALLOWANCE IS HEREIN PROVIDED.

F. COMPENSATION. THE COMPENSATION AS SET FORTH IN THIS SECTION SHALL BE ACCEPTED BY THE CONTRACTOR AS PAYMENT IN FULL INCLUDING PROFIT FOR EXTRA WORK DONE ON A FORCE ACCOUNT BASIS. AT THE END OF EACH DAY THE CONTRACTOR'S REPRESENTATIVE AND THE INSPECTOR SHALL COMPARE RECORDS OF THE COST OF WORK DONE AS ORDERED ON A FORCE ACCOUNT BASIS.

G. STATEMENTS. NO PAYMENT WILL BE MADE FOR WORK PERFORMED ON A FORCE ACCOUNT BASIS UNTIL THE CONTRACTOR HAS FURNISHED THE ENGINEER OR OWNER WITH DUPLICATE ITEMIZED STATEMENTS OF THE COST OF SUCH FORCE ACCOUNT WORK DETAILED AS FOLLOWS:

1. NAME, CLASSIFICATION, DATE, DAILY HOURS, TOTAL HOURS, RATE AND EXTENSION FOR EACH LABORER, AND FOREMAN
2. DESIGNATION, DATES, DAILY HOURS, TOTAL HOURS, RENTAL RATE, AND EXTENSION FOR EACH UNIT OF EQUIPMENT
3. QUANTITIES OF MATERIALS, PRICES AND EXTENSIONS
4. TRANSPORTATION OF MATERIAL
5. COST OF PROPERTY DAMAGE, LIABILITY AND WORKERS' COMPENSATION INSURANCE PREMIUMS, UNEMPLOYMENT INSURANCE CONTRIBUTIONS, AND SOCIAL SECURITY TAX

STATEMENTS SHALL BE ACCOMPANIED AND SUPPORTED BY RECEIPTED INVOICES FOR ALL MATERIALS USED AND TRANSPORTATION CHARGES. HOWEVER, IF MATERIALS USED ON THE FORCE ACCOUNT WORK ARE NOT SPECIFICALLY PURCHASED FOR SUCH WORK BUT ARE TAKEN FROM THE CONTRACTOR'S STOCK THEN, IN LIEU OF THE INVOICES, THE CONTRACTOR SHALL FURNISH AN AFFIDAVIT CERTIFYING THAT SUCH MATERIALS WERE TAKEN FROM HIS STOCK, THAT THE QUANTITY CLAIMED WAS ACTUALLY USED AND THAT THE PRICE AND TRANSPORTATION AND HANDLING CLAIMED REPRESENT THE ACTUAL COST TO THE CONTRACTOR.

**ARTICLE 42. WORK OUTSIDE REGULAR HOURS.**

IF THE CONTRACTOR DESIRES TO PERFORM WORK OUTSIDE THE REGULAR HOURS OR ON SATURDAY, HE SHALL REQUEST PERMISSION TO WORK FORTY-EIGHT (48) HOURS IN ADVANCE TO ALLOW ARRANGEMENTS TO BE MADE FOR PROPER INSPECTION. THE OWNER MAY REFUSE THE CONTRACTOR PERMISSION TO WORK IF THE 48-HOUR NOTICE IS NOT GIVEN OR FOR OTHER JUST CAUSE. REASONABLE EFFORTS SHALL BE MADE BY THE CONTRACTOR TO AVOID UNDUE NOISE DURING THE NIGHT AND ON SUNDAYS, IF IT IS NECESSARY TO WORK AT SUCH TIMES. UNDER NORMAL CIRCUMSTANCES THE CONTRACTOR WILL NOT BE PERMITTED TO WORK ON SUNDAYS OR COUNTY HOLIDAYS.

UNLESS SPECIFICALLY SCHEDULED TO WORK OUTSIDE NORMAL HOURS BY THE OWNER IN THE INTEREST OF PUBLIC SAFETY OR CONVENIENCE, THE CONTRACTOR WILL BE LIABLE FOR THE EXPENSE OF OVERTIME WORK REQUIRED BY COUNTY EMPLOYEES. THIS EXPENSE INCLUDES BUT IS NOT LIMITED TO COUNTY EMPLOYEES' PERFORMING INSPECTIONS OUTSIDE NORMAL WORKING HOURS AS WELL AS EMPLOYEES BEING CALLED TO THE JOB SITE OUTSIDE NORMAL WORKING HOURS TO RESOLVE PROBLEMS DIRECTLY RELATED TO THIS CONTRACT. NORMAL WORKING HOURS ARE DEFINED AS 8:30 A.M. TO 5:00 P.M. MONDAY THROUGH FRIDAY, EXCLUDING COUNTY HOLIDAYS.

THE OWNER RESERVES THE RIGHT TO SCHEDULE THE CONTRACTOR TO WORK OUTSIDE NORMAL WORKING HOURS IN THE INTEREST OF PUBLIC SAFETY OR CONVENIENCE. NO CLAIM FOR ADDITIONAL COMPENSATION SHALL BE MADE BY THE CONTRACTOR WHEN SUCH OCCASIONS OCCUR.

**ARTICLE 43. DEDUCTIONS FOR UNCORRECTED WORK.**

IF THE OWNER DEEMS IT INEXPEDIENT TO CORRECT WORK DAMAGED OR NOT DONE IN ACCORDANCE WITH THE CONTRACT, AN EQUITABLE DEDUCTION FROM THE CONTRACT PRICE SHALL BE MADE THEREFOR.

**ARTICLE 44. LIQUIDATED DAMAGES FOR DELAY AND EXTENSION OF THE TIME.**

IF THE CONTRACTOR SHALL FAIL TO COMPLETE THE WORK OR ANY PART THEREOF WITHIN THE TIME STIPULATED IN THESE SPECIFICATIONS AND IN THE CONTRACT AGREEMENT, OR AN APPLICABLE EXTENSION THEREOF, IT WILL BE DIFFICULT OR IMPOSSIBLE TO ASCERTAIN THE ACTUAL DAMAGES FOR THE DELAY, AND IN LIEU THEREOF, THE CONTRACTOR SHALL PAY TO THE OWNER AS FIXED AND AGREED, LIQUIDATED DAMAGES FOR EACH CALENDAR DAY OF DELAY UNTIL THE DELAYED WORK IS CORRECTED OR ACCEPTED, AN AMOUNT EQUAL TO THE CONTRACT PRICE DIVIDED BY THE TOTAL NUMBER OF DAYS UNTIL FINAL COMPLETION PERDAY OF DELAY. THE CONTRACTOR AND OWNER AGREE THAT THIS SUM IS PROPORTIONATE TO THE PROBABLE LOSS AND IS NOT A PENALTY. THE CONTRACTOR EXPRESSLY WAIVES ANY DEFENSE AS TO THE VALIDITY OF ANY LIQUIDATED DAMAGES STATED IN THESE CONTRACT DOCUMENTS AS THEY MAY APPEAR ON THE GROUNDS THAT SUCH LIQUIDATED DAMAGES ARE

VOID AS PENALTIES OR ARE NOT REASONABLY RELATED TO ACTUAL DAMAGES. IF, AFTER THE EXPIRATION OF THE TIME STIPULATED IN THESE CONTRACT DOCUMENTS AND IN THE CONTRACT AGREEMENT, OR APPLICABLE EXTENSION THEREOF, THE OWNER TERMINATES THE RIGHT OF THE CONTRACTOR TO PROCEED AND DOES NOT ELECT TO COMPLETE THE WORK, LIQUIDATED DAMAGES SHALL BE PAID AS ABOVE PROVIDED FOR EACH CALENDAR DAY AFTER THE TIME SO STIPULATED, UNTIL THE EFFECTIVE DATE OF THE TERMINATION OF THE CONTRACTOR'S RIGHT TO PROCEED. IF THE OWNER TERMINATES THE CONTRACTOR'S RIGHT TO PROCEED AND ELECTS TO COMPLETE THE WORK AS PROVIDED ELSEWHERE IN THE SPECIFICATIONS, LIQUIDATED DAMAGES SHALL BE PAID AS PROVIDED FOR EACH CALENDAR DAY AFTER THE TIME SO STIPULATED, OR APPLICABLE EXTENSION THEREOF, UNTIL THE DELAYED WORK IS COMPLETED, PROVIDED THE OWNER EXERCISES DUE DILIGENCE IN COMPLETING THE WORK. THE CONTRACTOR AND HIS SURETIES SHALL BE LIABLE FOR ALL SUCH LIQUIDATED DAMAGES OCCURRING HERETOFORE DESCRIBED. IT IS AGREED, HOWEVER, THE CONTRACTOR SHALL NOT BE CHARGED WITH LIQUIDATED DAMAGES OR ACTUAL DAMAGES FOR DELAYS DUE TO CAUSES BEYOND HIS CONTROL AND WITHOUT HIS FAULT OR NEGLIGENCE, INCLUDING BUT NOT RESTRICTED TO: ACTS OF THE OWNER OR OF HIS EMPLOYEES, OR OF ANY OTHER CONTRACTOR EMPLOYED BY THE OWNER; CHANGES ORDERED IN THE WORK; STRIKES; LOCKOUTS; FIRE; UNUSUAL DELAY IN TRANSPORTATION; UNAVOIDABLE CASUALTIES; DELAY AUTHORIZED BY OWNER PENDING LITIGATION AS PROVIDED BY ARTICLE 59.

NO SUCH EXTENSION SHALL BE MADE FOR DELAY OCCURRING MORE THAN SEVEN (7) DAYS BEFORE CLAIM IS MADE IN WRITING TO THE OWNER. IN THE CASE OF A CONTINUING CAUSE OF DELAY ONLY ONE CLAIM IS NECESSARY.

IF NO SCHEDULE OR AGREEMENT STATING THE DATES UPON WHICH DRAWINGS SHALL BE FURNISHED IS MADE, THEN NO CLAIM FOR DELAY SHALL BE ALLOWED ON ACCOUNT OF FAILURE TO FURNISH DRAWINGS UNTIL TEN (10) DAYS AFTER RECEIPT BY THE ENGINEER OF A WRITTEN DEMAND FOR SUCH DRAWINGS.

**ARTICLE 45. DAMAGES.**

ANY CLAIM FOR DAMAGE ARISING UNDER THIS CONTRACT SHALL BE MADE IN WRITING TO THE PARTY LIABLE WITHIN FIFTEEN (15) DAYS TIME OF THE FIRST OBSERVANCE OF SUCH DAMAGE AND NOT LATER THAN THE TIME OF FINAL PAYMENT EXCEPT AS EXPRESSLY STIPULATED OTHERWISE IN GUARANTEE OF WORK AS IN THE CASE OF THE DEFECTIVE WORK OR MATERIALS, AND SHALL BE ADJUSTED BY AGREEMENT OR LITIGATION AS PROVIDED BY ARTICLE 59.

**ARTICLE 46. LIENS.**

NEITHER THE FINAL PAYMENT NOR ANY PART OF THE RETAINED PERCENTAGE SHALL BECOME DUE UNTIL THE CONTRACTOR, IF REQUIRED, SHALL DELIVER TO THE OWNER A COMPLETE RELEASE OF ALL LIENS ARISING OUT OF THIS CONTRACT, OR RECEIPTS IN FULL IN LIEU THEREOF, AND IF REQUIRED IN EITHER CASE AN AFFIDAVIT THAT SO FAR AS HE HAS KNOWLEDGE OR INFORMATION THE RELEASES AND RECEIPTS INCLUDE ALL THE LABOR AND MATERIAL FOR WHICH A LIEN COULD BE FILED; BUT THE CONTRACTOR MAY IF ANY SUBCONTRACTOR REFUSES TO FURNISH A RELEASE OR RECEIPT IN FULL, FURNISH A BOND SATISFACTORY TO THE OWNER TO INDEMNIFY THE OWNER AGAINST ANY LIEN. IF ANY LIEN REMAINS UNSATISFIED AFTER ALL PAYMENTS ARE MADE, THE CONTRACTOR SHALL REFUND TO THE OWNER ALL MONIES THAT THE LATTER MAY BE COMPELLED TO PAY IN DISCHARGING SUCH A LIEN, INCLUDING ALL COST AND A REASONABLE ATTORNEY'S FEE.

**ARTICLE 47. PAYMENTS WITHHELD.**

THE OWNER MAY WITHHOLD OR, ON ACCOUNT OF SUBSEQUENTLY DISCOVERED EVIDENCE, NULLIFY THE WHOLE OR PART OF ANY PAYMENT TO SUCH EXTENT AS MAY BE NECESSARY TO PROTECT HIMSELF FROM LOSS ON ACCOUNT OF:

- A. DEFECTIVE WORK NOT REMEDIED
- B. CLAIMS OR LIENS THAT HAVE BEEN FILED OR EVIDENCE INDICATING THAT THERE IS REASONABLE CAUSE TO BELIEVE SUCH MAY BE FILED
- C. FAILURE OF THE CONTRACTOR TO PAY FOR LABOR OR MATERIALS, OR TO MAKE PAYMENTS PROPERLY TO SUBCONTRACTORS
- D. A REASONABLE DOUBT THAT THE CONTRACT CAN BE COMPLETED FOR THE BALANCE THEN UNPAID
- E. DAMAGE TO ANOTHER CONTRACTOR
- F. THE OWNER HAVING BEEN REQUIRED TO CORRECT DEFECTIVE WORK, COMPLETE ANY WORK, PERFORM EMERGENCY WORK, OR PERFORM OTHER WORK
- G. UNSATISFACTORY PROSECUTION OF THE WORK, INCLUDING FAILURE TO FURNISH ACCEPTABLE SUBMITTALS, FAILURE TO MAKE ADEQUATE PROGRESS TOWARDS COMPLETING THE WORK WITHIN THE CONTRACT TIME OR FAILURE TO MAINTAIN THE WORK SITE AT ALL TIMES IN A NEAT, ORDERLY, AND WORKMAN-LIKE APPEARANCE.
- H. FAILURE TO KEEP NEAT, ACCURATE, AND COMPLETE SET OF "AS-BUILTS" UPDATED ON A DAILY BASIS.
- I. FAILURE TO SUBMIT A DAILY PERFORMANCE RECORD IN SUITABLE FORMAT.

WHEN THE ABOVE GROUNDS ARE REMOVED, PAYMENT SHALL BE MADE FOR AMOUNTS WITHHELD BECAUSE OF THEM.

**ARTICLE 48. THE OWNER'S RIGHT TO DO WORK.**

IF THE CONTRACTOR SHOULD FAIL TO PROSECUTE THE WORK OR FAITHFULLY PERFORM ANY PROVISIONS OF THIS CONTRACT, IT SHALL BE CONSTRUED AS GROUNDS FOR THE OWNER'S RIGHT TO PERFORM WORK. THE OWNER, HAVING DULY SERVED WRITTEN NOTICE TO THE CONTRACTOR OF HIS INTENT TO PERFORM WORK, MAY REMEDY SUCH DEFICIENCIES AFTER THREE (3) DAYS FROM DELIVERY OF SAID NOTICE TO THE CONTRACTOR. THE COSTS INCURRED BY THE OWNER IN CORRECTING THE DEFICIENCY SHALL BE PAID FOR BY THE CONTRACTOR.

**ARTICLE 49. THE OWNER'S RIGHT TO TERMINATE CONTRACT.**

IF THE CONTRACTOR SHOULD BE ADJUDGED BANKRUPT, OR IF HE SHOULD MAKE A GENERAL ASSIGNMENT FOR THE BENEFIT OF HIS CREDITORS, OR A RECEIVER SHOULD BE APPOINTED ON ACCOUNT OF HIS INSOLVENCY, OR IF HE SHOULD PERSISTENTLY OR REPEATEDLY REFUSE OR SHOULD FAIL, EXCEPT IN CASES FOR WHICH EXTENSION OF TIME IS PROVIDED, TO SUPPLY ENOUGH PROPERLY SKILLED WORKMEN OR PROPER MATERIALS, OR IF HE SHOULD FAIL TO MAKE PROMPT PAYMENT TO SUBCONTRACTORS OR FOR MATERIALS OR LABOR OR PERSISTENTLY DISREGARD LAWS, ORDINANCES, OR THE INSTRUCTIONS OF THE OWNER, OR OTHERWISE BE GUILTY OF A VIOLATION OF ANY PROVISION OF THE CONTRACT, THEN THE

OWNER, UPON THE CERTIFICATE OF THE ENGINEER THAT CAUSE EXISTS TO JUSTIFY SUCH ACTIONS, MAY, WITHOUT PREJUDICE TO ANY OTHER RIGHT OF REMEDY AND AFTER GIVING THE CONTRACTOR SEVEN (7) DAYS WRITTEN NOTICE, TERMINATE THE EMPLOYMENT OF THE CONTRACTOR AND TAKE POSSESSION OF THE PREMISES AND ALL OF THE MATERIALS, TOOLS, AND EQUIPMENT THEREON AND FINISH THE WORK BY WHATEVER METHOD HE MAY DEEM EXPEDIENT. IN SUCH CASE THE CONTRACTOR SHALL NOT BE ENTITLED TO RECEIVE ANY FURTHER PAYMENT UNTIL THE WORK IS FINISHED. IF THE UNPAID BALANCE OF THE CONTRACT PRICE SHALL EXCEED THE EXPENSE OF FINISHING THE WORK INCLUDING COMPENSATION FOR ADDITIONAL MANAGERIAL AND ADMINISTRATIVE SERVICES, SUCH EXCESS SHALL BE PAID TO THE CONTRACTOR. IF SUCH EXPENSE SHALL EXCEED SUCH UNPAID BALANCE THE CONTRACTOR SHALL PAY THE DIFFERENCE TO THE OWNER. THE EXPENSE INCURRED BY THE OWNER ASHEREIN PROVIDED, AND THE DAMAGE INCURRED THROUGH THE CONTRACTOR'S DEFAULT, SHALL BE CERTIFIED BY THE ENGINEER.

**ARTICLE 50. CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT.**

IF THE WORK SHOULD BE STOPPED UNDER AN ORDER OF ANY COURT, OR OTHER PUBLIC AUTHORITY, FOR A PERIOD OF NINETY (90) DAYS, THROUGH NO ACT OR FAULT OF THE CONTRACTOR OR OF ANYONE EMPLOYED BY HIM, OR IF THE ENGINEER SHOULD FAIL TO ISSUE ANY ESTIMATE FOR PAYMENT WITHIN THIRTY (30) DAYS AFTER IT IS DUE, OR IF THE OWNER SHOULD FAIL TO PAY THE CONTRACTOR WITHIN THIRTY (30) DAYS OF ITS MATURITY AND PRESENTATION, ANY SUM CERTIFIED BY THE ENGINEER OR AWARDED BY ARBITRATORS; THEN THE CONTRACTOR MAY, UPON SEVEN (7) DAYS WRITTEN NOTICE TO THE OWNER AND THE ENGINEER, STOP WORK OR TERMINATE THIS CONTRACT AND RECOVER FROM THE OWNER PAYMENT OF ALL WORK EXECUTED AND ANY LOSS SUSTAINED UPON ANY PLANT OR MATERIAL AND REASONABLE PROFIT AND DAMAGES.

**ARTICLE 51. REMOVAL OF MATERIALS AND EQUIPMENT.**

IN THE CASE OF ANNULMENT OF THIS CONTRACT BEFORE COMPLETION FROM ANY CAUSE WHATEVER OR IN THE CASE OF ACCEPTANCE OF THE WORK AFTER COMPLETION, THE CONTRACTOR WHEN NOTIFIED BY THE OWNER IN WRITING, SHALL WITHIN FIVE (5) DAYS AFTER RECEIPT OF NOTIFICATION REMOVE ALL OR ANY PORTION AS DIRECTED OF HIS EQUIPMENT AND MATERIALS FROM THE PROPERTY OF THE OWNER. SHOULD THE CONTRACTOR BE UNABLE OR UNWILLING TO COMPLY WITH THE OWNER'S REQUEST, THEN THE OWNER RESERVES THE RIGHT TO REMOVE AND/OR STORE SUCH EQUIPMENT AND MATERIALS AT THE CONTRACTOR'S EXPENSE.

**ARTICLE 52. ASSIGNMENT.**

NEITHER PARTY TO THE CONTRACT SHALL ASSIGN THE CONTRACT OR SUBLET IT AS A WHOLE WITHOUT THE WRITTEN CONSENT OF THE OTHER, NOR SHALL THE CONTRACTOR ASSIGN ANY MONIES DUE OR TO BECOME DUE TO HIM HEREUNDER, WITHOUT THE PREVIOUS WRITTEN CONSENT OF THE OWNER. SUCH CONSENT SHALL NOT BE UNREASONABLY WITHHELD.

**ARTICLE 53. RIGHTS OF VARIOUS INTEREST.**

WHEREVER WORK BEING DONE BY THE OWNER'S FORCES OR OTHER CONTRACTORS IS CONTIGUOUS TO WORK COVERED BY THIS CONTRACT, THE RESPECTIVE RIGHTS OF THE VARIOUS INTERESTS INVOLVED SHALL BE ESTABLISHED BY THE OWNER, TO SECURE THE COMPLETION OF THE VARIOUS PORTIONS OF THE WORK IN GENERAL HARMONY.

**ARTICLE 54. SEPARATE CONTRACT.**

THE OWNER RESERVES THE RIGHT TO LET OTHER CONTRACTS IN CONNECTION WITH THIS WORK. THE CONTRACTOR SHALL AFFORD OTHER CONTRACTORS REASONABLE OPPORTUNITY FOR THE INTRODUCTION AND STORAGE OF THEIR MATERIALS AND THE EXECUTION OF THEIR WORK, AND SHALL PROPERLY CONNECT AND COORDINATE HIS WORK WITH THEIRS.

IF ANY PART OF THE CONTRACTOR'S WORK DEPENDS FOR PROPER EXECUTION OR RESULTS UPON THE WORK OF ANY OTHER CONTRACTOR, THE CONTRACTOR SHALL INSPECT AND PROMPTLY REPORT TO THE OWNER ANY DEFECTS IN SUCH WORK THAT RENDER IT UNSUITABLE FOR SUCH PROPER EXECUTION AND RESULTS. HIS FAILURE SO TO INSPECT AND REPORT SHALL CONSTITUTE AN ACCEPTANCE OF THE OTHER CONTRACTOR'S WORK, AS FIT AND PROPER FOR THE RECEPTION OF HIS WORK, EXCEPT AS TO DEFECTS WHICH MAY DEVELOP IN THE OTHER CONTRACTOR'S WORK AFTER THE EXECUTION OF HIS WORK.

TO INSURE THE PROPER EXECUTION OF HIS SUBSEQUENT WORK, THE CONTRACTOR SHALL MEASURE WORK ALREADY IN PLACE AND SHALL AT ONCE REPORT IN WRITING TO THE OWNER ANY DISCREPANCY BETWEEN THE EXECUTED WORK AND THE DRAWINGS.

**ARTICLE 55. SUBCONTRACTS.**

THE CONTRACTOR SHALL, WITHIN TEN (10) DAYS AFTER THE SIGNATURE OF THE CONTRACT, NOTIFY THE OWNER IN WRITING OF THE NAMES OF SUBCONTRACTORS PROPOSED FOR THE WORK AND SHALL NOT EMPLOY ANY THAT THE OWNER MAY WITHIN TEN (10) DAYS AFTER RECEIPT OF NOTIFICATION OBJECT TO AS INCOMPETENT OR UNFIT OR ANY THAT APPEAR ON THE HUD AREA OFFICE CONSOLIDATED LIST OF DEBARRED, SUSPENDED, AND INELIGIBLE CONTRACTORS.

THE CONTRACTOR AGREES THAT HE IS AS FULLY RESPONSIBLE TO THE OWNER FOR THE ACTS AND OMISSIONS OF HIS SUBCONTRACTORS AND PERSONS EITHER DIRECTLY OR INDIRECTLY EMPLOYED BY THEM AS HE IS FOR THE ACTS OR OMISSIONS OF PERSONS DIRECTLY EMPLOYED BY HIM.

WITH THE EXCEPTION OF SUBCONTRACTS FOR LESS THAN \$10,000 EACH, AND SUBCONTRACTS WITH A MANUFACTURER OR A FABRICATOR, ANY AGREEMENT BETWEEN THE CONTRACTOR AND ANY SUBCONTRACTOR SHALL REQUIRE OF THE SUBCONTRACTOR A PAYMENT BOND WITH SURETY THEREON IN THE AMOUNT OF ONE HUNDRED PERCENT (100%) OF THE WORK SUBLET TO THE SUBCONTRACTOR, WHICH SHALL BE CONDITIONED UPON THE PAYMENT TO ALL PERSONS WHO HAVE AND FULFILL, CONTRACTS WHICH ARE DIRECTLY WITH THE SUBCONTRACTOR FOR PERFORMING LABOR AND/OR FURNISHING MATERIALS IN THE PROSECUTION OF THE WORK PROVIDED FOR IN THE SUBCONTRACT, AND TO PAY THOSE PERSONS WHO FURNISH LABOR AND/OR MATERIALS AS AFORESAID. IN THE EVENT THE CONTRACTOR FAILS TO REQUIRE SAID BOND, ANY PERSON WHO HAS AND FULFILLS A CONTRACT DIRECTLY WITH SUCH SUBCONTRACTOR IN PERFORMING LABOR AND/OR FURNISHING MATERIALS IN THE PROSECUTION OF THE WORK PROVIDED FOR IN THE SUBCONTRACT SHALL HAVE A DIRECT RIGHT OF ACTION AGAINST THE OBLIGORS AND SURETIES ON THE PAYMENT BOND REQUIRED OF THE CONTRACTOR.

PAYMENTS TO SUBCONTRACTORS SHALL BE MADE IN ACCORDANCE WITH THE TERMS OF VIRGINIA CODE SECTION 2.2-4354, WHICH ARE INCORPORATED HEREIN BY REFERENCE.

NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL CREATE ANY CONTRACTUAL RELATION BETWEEN ANY SUBCONTRACTOR AND THE OWNER.

**ARTICLE 56. EMPLOYMENT DISCRIMINATION PROHIBITED.**

IN ACCORDANCE WITH SECTION 2.2-4311 OF THE CODE OF VIRGINIA, EVERY CONTRACT FOR GOODS OR SERVICES OVER \$10,000 SHALL INCLUDE THE FOLLOWING PROVISIONS DURING THE PERFORMANCE OF THIS CONTRACT.

- A. THE CONTRACTOR WILL NOT DISCRIMINATE AGAINST ANY EMPLOYEE OR APPLICANT FOR EMPLOYMENT BECAUSE OF RACE, RELIGION, COLOR, SEX OR NATIONAL ORIGIN EXCEPT WHERE RELIGION, SEX OR NATIONAL ORIGIN IS A BONA FIDE OCCUPATIONAL QUALIFICATION REASONABLY NECESSARY TO THE NORMAL OPERATION OF THE CONTRACTOR. THE CONTRACTOR AGREES TO POST IN CONSPICUOUS PLACES, AVAILABLE TO EMPLOYEES AND APPLICANTS FOR EMPLOYMENT, NOTICES SETTING FORTH THE PROVISIONS OF THIS NONDISCRIMINATION CLAUSE.
  
- B. THE CONTRACTOR, IN ALL SOLICITATION OR ADVERTISEMENTS FOR EMPLOYEES PLACED BY OR ON BEHALF OF THE CONTRACTOR, WILL STATE THAT SUCH CONTRACTOR IS AN EQUAL OPPORTUNITY EMPLOYER.
  
- C. NOTICES, ADVERTISEMENTS AND SOLICITATIONS PLACED IN ACCORDANCE WITH FEDERAL LAW, RULE OR REGULATION SHALL BE DEEMED SUFFICIENT FOR THE PURPOSE OF MEETING THE REQUIREMENTS OF THIS SECTION.

THE CONTRACTOR WILL INCLUDE THE PROVISIONS OF THE FOREGOING PARAGRAPHS A, B, AND C IN EVERY SUBCONTRACT OR PURCHASE ORDER OF OVER \$10,000 SO THAT THE PROVISIONS WILL BE BINDING UPON EACH SUBCONTRACTOR OR VENDOR.

FURTHER, ALL INDIVIDUALS OR FIRMS CONTRACTING WITH ISLE OF WIGHT COUNTY ARE ENCOURAGED TO USE MINORITY BUSINESS ENTERPRISES AS SUBCONTRACTORS AND SUPPLIERS TO THE FULLEST EXTENT POSSIBLE IN PROVIDING SERVICES OR PRODUCTS TO ISLE OF WIGHT COUNTY.

**ARTICLE 57. DRUG FREE WORKPLACE.**

DURING THE PERFORMANCE OF THIS CONTRACT, THE CONTRACTOR AGREES TO (I) PROVIDE A DRUG-FREE WORKPLACE FOR THE CONTRACTOR'S EMPLOYEES; (II) POST IN CONSPICUOUS PLACES, AVAILABLE TO EMPLOYEES AND APPLICANTS FOR EMPLOYMENT, A STATEMENT NOTIFYING EMPLOYEES THAT THE UNLAWFUL MANUFACTURE, SALE DISTRIBUTION, DISPENSATION, POSSESSION, OR USE OF CONTROLLED SUBSTANCE OR MARIJUANA IS PROHIBITED IN THE CONTRACTOR'S WORKPLACE AND SPECIFYING THE ACTIONS THAT WILL BE TAKEN AGAINST EMPLOYEES FOR VIOLATIONS OF SUCH PROHIBITION; (III) STATE IN ALL SOLICITATIONS OR ADVERTISEMENTS FOR EMPLOYEES PLACED BY OR ON BEHALF OF THE CONTRACTOR THAT THE CONTRACTOR MAINTAINS A DRUG-FREE WORKPLACE; AND (IV) INCLUDE THE PROVISIONS OF THE FOREGOING CLAUSES IN EVERY SUBCONTRACT OR PURCHASE ORDER OF OVER TEN THOUSAND DOLLARS (\$10,000), SO THAT THE PROVISIONS WILL BE BINDING UPON EACH SUBCONTRACTOR OR VENDOR.

FOR THE PURPOSES OF THIS SECTION, "DRUG-FREE WORKPLACE" MEANS A SITE FOR THE PERFORMANCE OF WORK DONE IN CONNECTION WITH A SPECIFIC CONTRACT AWARDED TO A CONTRACTOR IN ACCORDANCE WITH THIS CHAPTER, THE EMPLOYEES OF WHOM ARE PROHIBITED FROM ENGAGING IN THE UNLAWFUL MANUFACTURE, SALE, DISTRIBUTION, DISPENSATION, POSSESSION OR USE OF ANY CONTROLLED SUBSTANCE OR MARIJUANA DURING THE PERFORMANCE OF THE CONTRACT.



**ARTICLE 58. INSURANCE.**

CONTRACTOR SHALL PURCHASE AND MAINTAIN INSURANCE WITH THE LIMITS OF LIABILITY NOT LESS THAN THE FOLLOWING AMOUNTS OR GREATER WHERE REQUIRED BY LAW:

- A. WORKMAN'S COMPENSATION INCLUDING EMPLOYER'S LIABILITY INSURANCE COMPLYING WITH STATE REQUIREMENTS. EMPLOYER'S LIABILITY INSURANCE SHALL BE PROVIDED WITH A LIMIT OF NOT LESS THAN \$500,000 PER OCCURRENCE.
  
- B. COMMERCIAL GENERAL LIABILITY INSURANCE INCLUDING: PREMISES AND OPERATIONS; INDEPENDENT CONTRACTORS' PROTECTION; PRODUCTS AND COMPLETED OPERATIONS; BROAD FORM PROPERTY DAMAGE; AND ENDORSEMENTS TO THE AGGREGATE LIMIT OF INSURANCE SPECIFYING AGGREGATE APPLIES SEPARATELY TO EACH PROJECT AND EACH LOCATION. THE GENERAL LIABILITY COVERAGE SHALL NAME THE OWNER AND ENGINEER AS ADDITIONAL INSURED.

1. LIMITS OF LIABILITY

AGGREGATE LIMITS:

\$2,000,000 PRODUCTS/COMPLETED OPERATIONS

\$2,000,000 GENERAL AGGREGATE

COVERAGE A:

BODILY INJURY AND PROPERTY DAMAGE \$1,000,000 ANY ONE OCCURRENCE

FIRE DAMAGE LIMIT \$50,000 ANY ONE FIRE

COVERAGE B:

PERSONAL & ADVERTISING INJURY

\$1,000,000 ANY ONE PERSON OR ORGANIZATION

COVERAGE C:

MEDICAL EXPENSE LIMIT \$5,000 ANY ONE PERSON

C. COMPREHENSIVE AUTOMOBILE LIABILITY INSURANCE:

1. COMBINED SINGLE LIMIT

(BODILY INJURY & PROPERTY DAMAGE) \$1,000,000 EACH OCCURRENCE

D. CONTRACTUAL LIABILITY:

- 1. BODILY INJURY \$1,000,000 EACH OCCURRENCE

2. PROPERTY DAMAGE           \$1,000,000 EACH OCCURRENCE  
  \$2,000,000 ANNUAL AGGREGATE

E. CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS ISLE OF WIGHT COUNTY, THE ENGINEER, CONSULTANTS OF THE ENGINEER, AND EMPLOYEES OR AGENTS OF ANY OF THEM FROM ANY AND ALL LOSSES, DAMAGES, CLAIMS, FINES, PENALTIES, SUITS AND COSTS, INCLUDING INJURY OR DEATH OF ANY PERSONS, OR DAMAGE TO OR LOSS OF PROPERTY, AS WELL AS FINES, ASSESSMENTS AND PENALTIES IMPOSED BY ANY AUTHORITY WHICH ARISE OUT OF ANY VIOLATION OF LAW BY, AND ALL ACTS AND OMISSION OF THE CONTRACTOR, THE CONTRACTOR'S AGENTS, EMPLOYEES, OR CUSTOMERS, OCCURRING IN CONNECTION WITH THE PRODUCTS AND SERVICES COVERED HEREIN.

F. COMMERCIAL UMBRELLA (EXCESS) LIABILITY

1. LIMIT OF LIABILITY

AGGREGATE LIMIT:           \$3,000,000 PRODUCTS AND COMPLETED  
OPERATIONS

COVERAGE A:           BODILY INJURY AND PROPERTY DAMAGE  
                                  \$3,000,000 ANY ONE OCCURRENCE

COVERAGE B:           PERSONAL & ADVERTISING INJURY  
                                  \$3,000,000 ANY ONE PERSON OR ORGANIZATION

RETAINED LIMIT: \$10,000 ANY ONE OCCURRENCE OR OFFENSE

A CERTIFICATE EVIDENCING INSURANCE COVERAGE AS ABOVE SHALL BE PROVIDED BY THE CONTRACTOR TO ISLE OF WIGHT COUNTY. THE COUNTY AND ITS CONSULTING ENGINEERS SHALL BE NAMED AS ADDITIONAL INSURES UNDER GENERAL LIABILITY COVERAGE; ENDORSEMENT OF SAME SHALL BE SUBMITTED WITH THE CERTIFICATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO KEEP SAID INSURANCE COVERAGE IN FULL FORCE AND EFFECT UNTIL FINAL PAYMENT AND AT ALL TIMES THEREAFTER WHEN CONTRACTOR MAY BE CORRECTING, REMOVING OR REPLACING DEFECTIVE WORK IN ACCORDANCE WITH TERMS OF THIS AGREEMENT. SUCH CERTIFICATE SHALL PROVIDE THAT THIRTY (30) DAYS ADVANCE WRITTEN NOTICE SHALL BE GIVEN TO THE COUNTY IN THE EVENT OF ANY CHANGE IN, OR CANCELLATION OF SUCH INSURANCE.

ALL INSURANCE SHALL BE WRITTEN BY INSURANCE COMPANIES LICENSED TO DO BUSINESS IN THE COMMONWEALTH OF VIRGINIA.

**ARTICLE 59. PERFORMANCE BOND AND LABOR AND MATERIALS BOND.**

THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FURNISH A PERFORMANCE BOND AND LABOR AND MATERIALS BOND PAYABLE TO THE TREASURER OF ISLE OF WIGHT COUNTY, EACH IN THE AMOUNT OF ONE HUNDRED PERCENT (100%) OF THE TOTAL AMOUNT OF THE CONTRACT, AS A

GUARANTEE FOR THE FAITHFUL PERFORMANCE THEREOF. SUCH BONDS MUST BE FURNISHED TO THE COUNTY WITHIN TWENTY (20) DAYS AFTER REQUESTED BY THE COUNTY. THE SUCCESSFUL BIDDER UPON FAILURE OR REFUSAL TO FURNISH THE REQUIRED BONDS OR DEPOSIT WITHIN THE TIME SPECIFIED SHALL PAY TO ISLE OF WIGHT COUNTY AS LIQUIDATED DAMAGES FOR SUCH FAILURE OR REFUSAL AN AMOUNT EQUAL TO THE BID SECURITY DEPOSITED WITH BID.

ALL BONDS MUST BE FURNISHED BY SUCH SURETY COMPANY OR COMPANIES AS ARE AUTHORIZED AND LICENSED TO TRANSACT BUSINESS IN THE COMMONWEALTH OF VIRGINIA.

**ARTICLE 60. CONTRACTUAL CLAIMS.**

CONTRACTUAL CLAIMS, WHETHER FOR MONEY OR OTHER RELIEF, SHALL BE SUBMITTED IN WRITING NO LATER THAN SIXTY (60) DAYS AFTER FINAL PAYMENT; HOWEVER, WRITTEN NOTICE OF THE CONTRACTOR'S INTENTION TO FILE SUCH CLAIM SHALL HAVE BEEN GIVEN AT THE TIME OF THE OCCURRENCE OR BEGINNING OF THE WORK UPON WHICH THE CLAIM IS BASED. ANY NOTICE OR CLAIM SHALL BE DELIVERED TO TONY WILSON, DIRECTOR OF PUBLIC WORKS, COUNTY OF ISLE OF WIGHT, P.O. BOX 80, ISLE OF WIGHT, VIRGINIA 23397 AND SHALL INCLUDE A DESCRIPTION OF THE FACTUAL BASIS FOR THE CLAIM AND A STATEMENT OF THE ACCOUNTS CLAIMED OR OTHER RELIEF REQUESTED. THE DIRECTOR OF PUBLIC WORKS SHALL RENDER A DECISION ON THE CLAIM AND SHALL NOTIFY THE CONTRACTOR WITHIN THIRTY (30) DAYS OF RECEIPT OF THE CLAIM. THE CONTRACTOR MAY APPEAL THE DECISION OF THE DIRECTOR OF PUBLIC WORKS TO THE COUNTY ADMINISTRATOR BY PROVIDING WRITTEN NOTICE TO THE DIRECTOR OF UTILITY SERVICES WITHIN FIFTEEN (15) DAYS OF THE DATE OF THE DECISION. THE COUNTY ADMINISTRATOR SHALL RENDER A DECISION ON THE CLAIM WITHIN SIXTY (60) DAYS OF THE DATE OF RECEIPT OF THE APPEAL NOTICE AND SUCH DECISION SHALL BE FINAL UNLESS THE CONTRACTOR APPEALS THE DECISION IN ACCORDANCE WITH THE VIRGINIA PUBLIC PROCUREMENT ACT (VPPA). INVOICES FOR ALL SERVICES OR GOODS PROVIDED BY THE CONTRACTOR SHALL BE DELIVERED TO THE COUNTY NO LATER THAN THIRTY (30) DAYS FOLLOWING THE CONCLUSION OF THE WORK OR DELIVERY OF THE GOODS.

**ARTICLE 61. LITIGATION.**

IN ANY CLAIM OR DISPUTE BETWEEN THE PARTIES TO THIS AGREEMENT, ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE BREACH THEREOF, THE PARTIES CONSENT TO THE JURISDICTION AND SOLE VENUE OF THE CIRCUIT COURT OF ISLE OF WIGHT COUNTY, VIRGINIA.

ACCEPTANCE OF FINAL PAYMENT SHALL BE DEEMED A WAIVER OF CONTRACTOR'S RIGHT TO FILE CLAIM FOR DISPUTE OR BREACH RELATING TO THIS AGREEMENT.

THE CONTRACTOR SHALL NOT CAUSE A DELAY OF WORK BECAUSE OF THE PENDING LITIGATION PROCEEDINGS, EXCEPT WITH THE EXPRESS, WRITTEN CONSENT OF THE OWNER OR WRITTEN INSTRUCTION FROM THE COURT.

**ARTICLE 62. NON-APPROPRIATION.**

NOTWITHSTANDING ANYTHING CONTAINED HEREIN TO THE CONTRARY, THIS CONTRACT SHALL BE TERMINATED IF ALL OF THE FOLLOWING EVENT SHALL HAVE OCCURRED:

- A. FUNDS ARE NOT APPROPRIATED FOR A SUBSEQUENT FISCAL PERIOD DURING THE TERM OF THIS CONTRACT FOR THE ACQUISITION OF SUBSTANTIALLY THE SAME FUNCTIONS AS PROVIDE FOR HEREIN, AND WRITTEN NOTICE THEREOF IS GIVEN TO THE CONTRACTOR AT LEAST THIRTY (30) DAYS PRIOR TO THE FIRST DAY OF SUCH SUBSEQUENT FISCAL PERIOD OR WITHIN FIVE (5) DAYS OF THE APPROVAL OF THE FINAL BUDGET FOR SUCH FISCAL YEAR, WHICHEVER OCCURS LATER.

B. COUNTY HAS EXHAUSTED ALL FUNDS LEGALLY AVAILABLE FOR PAYMENT UNDER THIS CONTRACT.

UPON SUCH TERMINATION, CONTRACTOR'S ONLY REMEDY SHALL BE TO TERMINATE THE CONTRACT AT THE END OF THE FISCAL PERIOD DURING WHICH NOTICE IS GIVEN; AND PAYMENT IN COMPLIANCE WITH THE CONTRACT FOR MATERIALS, GOODS, AND SERVICES RENDERED THEREUNDER DURING THE FISCAL YEAR AT THE END OF WHICH TERMINATION OCCURS, WITHOUT PENALTY, TERMINATION, PROFIT OR OVERHEAD EXPENSES OF ANY KIND, SHALL CONSTITUTE FULL PERFORMANCE ON THE PART OF THE OWNER.

**ARTICLE 63. SEVERABILITY.**

IN THE EVENT THAT ANY PROVISION OR PORTION THEREOF OF ANY CONTRACT DOCUMENT SHALL BE FOUND TO BE LEGALLY INVALID OR UNENFORCEABLE, THEN SUCH PROVISION OR PORTION THEREOF, SHALL BE REFORMED IN ACCORDANCE WITH APPLICABLE LAW. THE INVALIDITY OR UNENFORCEABILITY OF ANY PROVISION OR PORTION OF ANY CONTRACT DOCUMENT SHALL NOT AFFECT THE VALIDITY OR ENFORCEABILITY OF ANY OTHER PROVISION OR PORTION OF THE CONTRACT DOCUMENTS.

**ARTICLE 64. AGREEMENT CONSTRUED UNDER VIRGINIA LAWS.**

THE AGREEMENT AND BOND GIVEN TO SECURE IT ARE TO BE EXECUTED AND PERFORMED IN THE COMMONWEALTH OF VIRGINIA AND SHALL BE CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE COMMONWEALTH OF VIRGINIA.

**END OF SECTION**

**CHANGE ORDER FORM**

CHANGE NO: \_\_\_\_\_

DATE: \_\_\_\_\_

PROJECT: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

The following changes are hereby made to the CONTRACT DOCUMENTS (Use Additional Sheets if Necessary):

Original Contract Date ..... \_\_\_\_\_

Original Contract Price.....\$ \_\_\_\_\_

Amount of Prior Change Orders.....\$ \_\_\_\_\_

This Change Order .....\$ \_\_\_\_\_

Cumulative Change Orders .....\$ \_\_\_\_\_

(% of original contract amount)

Revised Contract Amount .....\$ \_\_\_\_\_

Reason For Change Order: \_\_\_\_\_

Original Contract completion date was: \_\_\_\_\_

The new completion date for all work is: \_\_\_\_\_

**REQUIRED APPROVALS:**

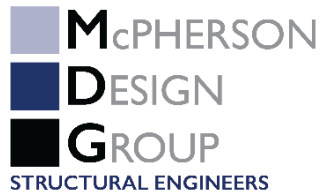
|                  |       |                             |
|------------------|-------|-----------------------------|
| Submitted by:    | _____ | Contractor                  |
| Recommended by:  | _____ | Construction Manager        |
| Accepted by:     | _____ | Public Works Director       |
| Funds Available: | _____ | Budget and Finance Director |
| Approved:        | _____ | County Administrator        |

Any work done on this project prior to the execution of this change order by the County is done at the Contractor's total risk and with no obligation on the part of the Isle of Wight County to pay for the work.

Section D (*Drawings and Technical Specifications*)

**NEW EXPANSION FOR  
WINDSOR LIBRARY  
18 Duke Street  
Windsor, Virginia 23487**

**Prepared By:**



192 Ballard Court, Suite 102, Virginia Beach, VA 23462 Phone: (757) 965-2000 Fax: (757) 965-2001  
[www.mdg-eng.com](http://www.mdg-eng.com)

**TECHNICAL SPECIFICATIONS:**

**DIVISION 3 – CONCRETE**

033000 CAST-IN-PLACE CONCRETE

**DIVISION 4 – MASONRY**

042200 CONCRETE UNIT MASONRY

**DIVISION 5 – METALS**

051200 STRUCTURAL STEEL FRAMING

**DIVISION 6 – WOOD AND PLASTICS**

061000 ROUGH CARPENTRY

061600 SHEATHING

062023 INTERIOR FINISH CARPENTRY

**DIVISION 9 – FINISHES**

092900 GYPSUM BOARD

096813 TILE CARPETING

099123 INTERIOR PAINTING

**DRAWINGS: FULL SET (ATTACHMENT A)**

## SECTION 033000 - CAST-IN-PLACE CONCRETE

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Cast-in-place concrete, including concrete materials, mixture design, placement procedures, and finishes.

B. Related Requirements:

1. Section 312000 "Earth Moving" for drainage fill under slabs-on-ground.

#### 1.2 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, and other pozzolans materials subject to compliance with requirements.

- B. Water/Cement Ratio (w/cm): The ratio by weight of water to cementitious materials.

#### 1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each of the following.

1. Portland cement.
2. Fly ash.
3. Slag cement.
4. Blended hydraulic cement.
5. Aggregates.
6. Admixtures:

- a. Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.

7. Vapor retarders.
8. Liquid floor treatments.
9. Curing materials.
10. Joint fillers.

- B. Design Mixtures: For each concrete mixture, include the following:
1. Mixture identification.
  2. Minimum 28-day compressive strength.
  3. Durability exposure class.
  4. Maximum w/cm.
  5. Slump limit.
  6. Air content.
  7. Nominal maximum aggregate size.
  8. Indicate amounts of mixing water to be withheld for later addition at Project site if permitted.
  9. Intended placement method.
  10. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Shop Drawings:
1. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
    - a. Location of construction joints is subject to approval of the Architect.
- D. Concrete Schedule: For each location of each Class of concrete indicated in "Concrete Mixtures" Article, including the following:
1. Concrete Class designation.
  2. Location within Project.
  3. Exposure Class designation.
  4. Formed Surface Finish designation and final finish.
  5. Final finish for floors.
  6. Curing process.
  7. Floor treatment if any.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For each of the following, signed by manufacturers:
1. Cementitious materials.
  2. Admixtures.
  3. Curing compounds.
  4. Vapor retarders.
  5. Joint-filler strips.
- B. Material Test Reports: For the following, from a qualified testing agency:
1. Portland cement.
  2. Fly ash.
  3. Slag cement.
  4. Blended hydraulic cement.
  5. Aggregates.



## 6. Admixtures:

- C. Research Reports: For concrete admixtures in accordance with ICC's Acceptance Criteria AC198.
- D. Preconstruction Test Reports: For each mix design.
- E. Field quality-control reports.
- F. Minutes of preinstallation conference.

## 1.6 QUALITY ASSURANCE

- A. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.
  - 1. Manufacturer certified in accordance with NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with ASTM C94/C94M and **ACI 301 (ACI 301M)**.

## 1.8 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with **ACI 301 (ACI 301M)** and ACI 306.1.
- B. Hot-Weather Placement: Comply with **ACI 301 (ACI 301M)** and **ACI 305.1 (ACI 305.1M)**.

## PART 2 - PRODUCTS

## 2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with **ACI 301 (ACI 301M)** unless modified by requirements in the Contract Documents.

## 2.2 CONCRETE MATERIALS

- A. Cementitious Materials:
  - 1. Portland Cement: ASTM C150/C150M, Type I Type II Type I/II, gray.
  - 2. Fly Ash: ASTM C618, Class C or F.
  - 3. Slag Cement: ASTM C989/C989M, Grade 100 or 120.
  - 4. Blended Hydraulic Cement: ASTM C595/C595M, Type IS, portland blast-furnace slag Type IP, portland-pozzolan cement.

- B. Normal-Weight Aggregates: ASTM C33/C33M, Class 3M coarse aggregate or better, graded. Provide aggregates from a single source.
1. Alkali-Silica Reaction: Comply with one of the following:
    - a. Expansion Result of Aggregate: Not more than 0.04 percent at one-year when tested in accordance with ASTM C1293.
    - b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10 percent at an age of 16 days when tested in accordance with ASTM C1567.
    - c. Alkali Content in Concrete: Not more than **4 lb./cu. yd. (2.37 kg/cu. m)** for moderately reactive aggregate or **3 lb./cu. yd. (1.78 kg/cu. m)** for highly reactive aggregate, when tested in accordance with ASTM C1293 and categorized in accordance with ASTM C1778, based on alkali content being calculated in accordance with **ACI 301 (ACI 301M)**.
  2. Maximum Coarse-Aggregate Size: **1 inch (25 mm)** nominal.
  3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Air-Entraining Admixture: ASTM C260/C260M.
- D. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride in steel-reinforced concrete.
1. Water-Reducing Admixture: ASTM C494/C494M, Type A.
  2. Retarding Admixture: ASTM C494/C494M, Type B.
  3. Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type D.
  4. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
  5. High-Range, Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type G.
  6. Plasticizing and Retarding Admixture: ASTM C1017/C1017M, Type II.
- E. Water and Water Used to Make Ice: ASTM C94/C94M, potable or complying with ASTM C1602/C1602M, including all limits listed in Table 2 and the requirements of paragraph 5.4

### 2.3 VAPOR RETARDERS

- A. Sheet Vapor Retarder, Class A: ASTM E1745, Class A; not less than **10 mils (0.25 mm)** thick. Include manufacturer's recommended adhesive or pressure-sensitive tape.

### 2.4 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately **9 oz./sq. yd. (305 g/sq. m)** when dry.

- B. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.
  - 1. Color:
    - a. Ambient Temperature Below 50 deg F (10 deg C): Black.
    - b. Ambient Temperature between 50 deg F (10 deg C) and 85 deg F (29 deg C): Any color.
    - c. Ambient Temperature Above 85 deg F (29 deg C): White.
- C. Curing Paper: 8-feet- (2438-mm-) wide paper, consisting of two layers of fibered kraft paper laminated with double coating of asphalt.
- D. Water: Potable or complying with ASTM C1602/C1602M.
- E. Clear, Waterborne, Membrane-Forming, Dissipating Curing Compound: ASTM C309, Type 1, Class B.
- F. Clear, Waterborne, Membrane-Forming, Nondissipating Curing Compound: ASTM C309, Type 1, Class B, certified by curing compound manufacturer to not interfere with bonding of floor covering.
- G. Clear, Waterborne, Membrane-Forming, Curing and Sealing Compound: ASTM C1315, Type 1, Class A.

## 2.5 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber or ASTM D1752, cork or self-expanding cork.
- B. Floor Slab Protective Covering: 8-feet- (2438-mm-) wide cellulose fabric.

## 2.6 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301 (ACI 301M).
  - 1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
  - 1. Fly Ash or Other Pozzolans: 25 percent by mass.
  - 2. Slag Cement: 50 percent by mass.
  - 3. Total of Fly Ash or Other Pozzolans, Slag Cement: 50 percent by mass, with fly ash or pozzolans not exceeding 25 percent by mass.
  - 4. Total of Fly Ash or Other Pozzolans: 35 percent by mass with fly ash or pozzolans not exceeding 25 percent by mass.
- C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.

1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete and concrete with a w/cm below 0.50.

## 2.7 CONCRETE MIXTURES

### A. Class A: Normal-weight concrete used for footings, and slab-on-grades.

1. Exposure Class: **ACI 318 (ACI 318M) F1W1 C0**.
2. Minimum Compressive Strength: As indicated at 28 days.
3. Maximum w/cm: 0.50.
4. Slump Limit: As indicated.
5. Slump Flow Limit: **22 inches (550 mm)**, plus or minus **1.5 inches (40 mm)**.
6. Air Content: As indicated.
7. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.

## 2.8 CONCRETE MIXING

### A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94/C94M, and furnish batch ticket information.

### B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete in accordance with ASTM C94/C94M. Mix concrete materials in appropriate drum-type batch machine mixer.

1. For mixer capacity of **1 cu. yd. (0.76 cu. m)** or smaller, continue mixing at least 1-1/2 minutes, but not more than five minutes after ingredients are in mixer, before any part of batch is released.
2. For mixer capacity larger than **1 cu. yd. (0.76 cu. m)**, increase mixing time by 15 seconds for each additional **1 cu. yd. (0.76 cu. m)**.
3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

## PART 3 - EXECUTION

### 3.1 INSTALLATION OF EMBEDDED ITEMS

#### A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.

1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of ANSI/AISC 303.

3. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

### 3.2 INSTALLATION OF VAPOR RETARDER

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder in accordance with ASTM E1643 and manufacturer's written instructions.
  1. Install vapor retarder with longest dimension parallel with direction of concrete pour.
  2. Face laps away from exposed direction of concrete pour.
  3. Lap vapor retarder over footings and grade beams not less than **6 inches (150 mm)**, sealing vapor retarder to concrete.
  4. Lap joints **6 inches (150 mm)** and seal with manufacturer's recommended tape.
  5. Terminate vapor retarder at the top of floor slabs, grade beams, and pile caps, sealing entire perimeter to floor slabs, grade beams, foundation walls, or pile caps.
  6. Seal penetrations in accordance with vapor retarder manufacturer's instructions.
  7. Protect vapor retarder during placement of reinforcement and concrete.
    - a. Repair damaged areas by patching with vapor retarder material, overlapping damages area by **6 inches (150 mm)** on all sides, and sealing to vapor retarder.

### 3.3 JOINTS

- A. Construct joints true to line, with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Coordinate with floor slab pattern and concrete placement sequence.
  1. Install so strength and appearance of concrete are not impaired, at locations indicated on Drawings or as approved by Architect.
  2. Place joints perpendicular to main reinforcement.
    - a. Continue reinforcement across construction joints unless otherwise indicated.
    - b. Do not continue reinforcement through sides of strip placements of floors and slabs.
  3. Form keyed joints as indicated. Embed keys at least **1-1/2 inches (38 mm)** into concrete.
  4. Locate joints for beams, slabs, joists, and girders at third points of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
  5. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
  6. Space vertical joints in walls as indicated on Drawings. Unless otherwise indicated on Drawings, locate vertical joints beside piers integral with walls, near corners, and in concealed locations where possible.
- C. Control Joints in Slabs-on-Ground: Form weakened-plane control joints, sectioning concrete into areas as indicated. Construct control joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Grooved Joints: Form control joints after initial floating by grooving and finishing each edge of joint to a radius of **1/8 inch (3.2 mm)**. Repeat grooving of control joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
  2. Sawed Joints: Form control joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut **1/8-inch- (3.2-mm-)** wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random cracks.
- D. Isolation Joints in Slabs-on-Ground: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated on Drawings.
  2. Terminate full-width joint-filler strips not less than **1/2 inch (13 mm)** or more than **1 inch (25 mm)** below finished concrete surface, where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
  3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints:
1. Install dowel bars and support assemblies at joints where indicated on Drawings.
  2. Lubricate or asphalt coat one-half of dowel bar length to prevent concrete bonding to one side of joint.
- F. Dowel Plates: Install dowel plates at joints where indicated on Drawings.

### 3.4 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.
1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
  2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.
- B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.
- C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect in writing, but not to exceed the amount indicated on the concrete delivery ticket.
1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

- D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of **ACI 301 (ACI 301M)**, but not to exceed the amount indicated on the concrete delivery ticket.
1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.
1. If a section cannot be placed continuously, provide construction joints as indicated.
  2. Deposit concrete to avoid segregation.
  3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
  4. Consolidate placed concrete with mechanical vibrating equipment in accordance with **ACI 301 (ACI 301M)**.
    - a. Do not use vibrators to transport concrete inside forms.
    - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least **6 inches (150 mm)** into preceding layer.
    - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
    - d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Do not place concrete floors and slabs in a checkerboard sequence.
  2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  3. Maintain reinforcement in position on chairs during concrete placement.
  4. Screed slab surfaces with a straightedge and strike off to correct elevations.
  5. Level concrete, cut high areas, and fill low areas.
  6. Slope surfaces uniformly to drains where required.
  7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface.
  8. Do not further disturb slab surfaces before starting finishing operations.

### 3.5 FINISHING FORMED SURFACES

#### A. Related Unformed Surfaces:

1. At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a color and texture matching adjacent formed surfaces.
2. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

### 3.6 FINISHING FLOORS AND SLABS

- A. Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish:
1. When bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operation of specific float apparatus, consolidate concrete surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats.
  2. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture and complies with **ACI 117 (ACI A117M)** tolerances for conventional concrete.
  3. Apply float finish to surfaces to receive trowel finish.
- C. Trowel Finish:
1. After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel.
  2. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance.
  3. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
  4. Do not add water to concrete surface.
  5. Do not apply hard-troweled finish to concrete, which has a total air content greater than 3 percent.
  6. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
  7. Finish and measure surface, so gap at any point between concrete surface and an unlevelled, freestanding, **10-ft.- (3.05-m-)** long straightedge resting on two high spots and placed anywhere on the surface does not exceed **1/8 inch (3 mm)** and also no more than **1/16 inch (1.6 mm)** in **2 feet (610 mm)**.
- D. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces indicated on Drawings. While concrete is still plastic, slightly scarify surface with a fine broom perpendicular to main traffic route.
1. Coordinate required final finish with Architect before application.
  2. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.
- E. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and locations indicated on Drawings.
1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.
  2. Coordinate required final finish with Architect before application.



### 3.7 INSTALLATION OF MISCELLANEOUS CONCRETE ITEMS

#### A. Filling In:

1. Fill in holes and openings left in concrete structures after Work of other trades is in place unless otherwise indicated.
2. Mix, place, and cure concrete, as specified, to blend with in-place construction.
3. Provide other miscellaneous concrete filling indicated or required to complete the Work.

#### B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

### 3.8 CONCRETE CURING

#### A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

1. Comply with **ACI 301 (ACI 301M)** and ACI 306.1 for cold weather protection during curing.
2. Comply with **ACI 301 (ACI 301M)** and **ACI 305.1 (ACI 305.1M)** for hot-weather protection during curing.
3. Maintain moisture loss no more than **0.2 lb/sq. ft. x h (1 kg/sq. m x h)**, calculated in accordance with ACI 305.1, before and during finishing operations.

#### B. Curing Formed Surfaces: Comply with **ACI 308.1 (ACI 308.1M)** as follows:

1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
2. Cure concrete containing color pigments in accordance with color pigment manufacturer's instructions.
3. If forms remain during curing period, moist cure after loosening forms.
4. If removing forms before end of curing period, continue curing for remainder of curing period, as follows:
  - a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
  - b. Continuous Sprinkling: Maintain concrete surface continuously wet.
  - c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
  - d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.
  - e. Membrane-Forming Curing Compound: Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.
    - 1) Recoat areas subject to heavy rainfall within three hours after initial application.
    - 2) Maintain continuity of coating and repair damage during curing period.

#### C. Curing Unformed Surfaces: Comply with **ACI 308.1 (ACI 308.1M)** as follows:

1. Begin curing immediately after finishing concrete.
2. Interior Concrete Floors:
  - a. Floors to Receive Floor Coverings Specified in Other Sections: Contractor has option of the following:
    - 1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
      - a) Lap edges and ends of absorptive cover not less than 12 inches (300 mm).
      - b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.
    - 2) Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive.
      - a) Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
      - b) Cure for not less than seven days.
    - 3) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:
      - a) Water.
      - b) Continuous water-fog spray.
  - b. Floors to Receive Penetrating Liquid Floor Treatments: Contractor has option of the following:
    - 1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
      - a) Lap edges and ends of absorptive cover not less than 12 inches (300 mm).
      - b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.
    - 2) Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive.
      - a) Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
      - b) Cure for not less than seven days.

- 3) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:
  - a) Water.
  - b) Continuous water-fog spray.
- c. Floors to Receive Polished Finish: Contractor has option of the following:
  - 1) Absorptive Cover: As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
    - a) Lap edges and ends of absorptive cover not less than 12 inches (300 mm).
    - b) Maintain absorptive cover water saturated, and in place, for duration of curing period, but not less than seven days.
  - 2) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:
    - a) Water.
    - b) Continuous water-fog spray.
- d. Floors to Receive Chemical Stain:
  - 1) As soon as concrete has sufficient set to permit application without marring concrete surface, install curing paper over entire area of floor.
  - 2) Install curing paper square to building lines, without wrinkles, and in a single length without end joints.
  - 3) Butt sides of curing paper tight; do not overlap sides of curing paper.
  - 4) Leave curing paper in place for duration of curing period, but not less than 28 days.
- e. Floors to Receive Urethane Flooring:
  - 1) As soon as concrete has sufficient set to permit application without marring concrete surface, install prewetted absorptive cover over entire area of floor.
  - 2) Rewet absorptive cover, and cover immediately with polyethylene moisture-retaining cover with edges lapped 6 inches (150 mm) and sealed in place.
  - 3) Secure polyethylene moisture-retaining cover in place to prohibit air from circulating under polyethylene moisture-retaining cover.
  - 4) Leave absorptive cover and polyethylene moisture-retaining cover in place for duration of curing period, but not less than 28 days.
- f. Floors to Receive Curing Compound:
  - 1) Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.

- 2) Recoat areas subjected to heavy rainfall within three hours after initial application.
- 3) Maintain continuity of coating, and repair damage during curing period.
- 4) Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound does not interfere with bonding of floor covering used on Project.

g. Floors to Receive Curing and Sealing Compound:

- 1) Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller in accordance with manufacturer's written instructions.
- 2) Recoat areas subjected to heavy rainfall within three hours after initial application.
- 3) Repeat process 24 hours later, and apply a second coat. Maintain continuity of coating, and repair damage during curing period.

### 3.9 TOLERANCES

- A. Conform to **ACI 117 (ACI 117M)**.

### 3.10 FIELD QUALITY CONTROL

- A. Special Inspections: Contractor will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.
- B. Testing Agency: Contractor will engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
1. Testing agency to be responsible for providing curing container for composite samples on Site and verifying that field-cured composite samples are cured in accordance with ASTM C31/C31M.
  2. Testing agency to immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
  3. Testing agency shall report results of tests and inspections, in writing, to Owner, Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.
    - a. Test reports to include reporting requirements of ASTM C31/C31M, ASTM C39/C39M, and ACI 301, including the following as applicable to each test and inspection:
      - 1) Project name.
      - 2) Name of testing agency.
      - 3) Names and certification numbers of field and laboratory technicians performing inspections and testing.
      - 4) Name of concrete manufacturer.
      - 5) Date and time of inspection, sampling, and field testing.
      - 6) Date and time of concrete placement.
      - 7) Location in Work of concrete represented by samples.

- 8) Date and time sample was obtained.
  - 9) Truck and batch ticket numbers.
  - 10) Design compressive strength at 28 days.
  - 11) Concrete mixture designation, proportions, and materials.
  - 12) Field test results.
  - 13) Information on storage and curing of samples before testing, including curing method and maximum and minimum temperatures during initial curing period.
  - 14) Type of fracture and compressive break strengths at seven days and 28 days.
- C. Batch Tickets: For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added at Project site.
- D. Inspections:
1. Headed bolts and studs.
  2. Verification of use of required design mixture.
  3. Concrete placement, including conveying and depositing.
  4. Curing procedures and maintenance of curing temperature.
  5. Verification of concrete strength before removal of shores and forms from beams and slabs.
  6. Batch Plant Inspections: On a random basis, as determined by Architect.
- E. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M shall be performed in accordance with the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
    - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing to be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  2. Slump: ASTM C143/C143M:
    - a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
    - b. Perform additional tests when concrete consistency appears to change.
  3. Slump Flow: ASTM C1611/C1611M:
    - a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
    - b. Perform additional tests when concrete consistency appears to change.
  4. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete.

- a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
5. Concrete Temperature: ASTM C1064/C1064M:
    - a. One test hourly when air temperature is 40 deg F (4.4 deg C) and below or 80 deg F (27 deg C) and above, and one test for each composite sample.
  6. Unit Weight: ASTM C567/C567M fresh unit weight of structural lightweight concrete.
    - a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  7. Compression Test Specimens: ASTM C31/C31M:
    - a. Cast and laboratory cure three sets of three 6-inch (150 mm) by 12-inch (300 mm) or 4-inch (100 mm) by 8-inch (200 mm) cylinder specimens for each composite sample.
    - b. Cast, initial cure, and field cure two sets of three standard cylinder specimens for each composite sample.
  8. Compressive-Strength Tests: ASTM C39/C39M.
    - a. Test one set of three laboratory-cured specimens at seven days and one set of three specimens at 28 days.
    - b. Test one set of three field-cured specimens at seven days and one set of three specimens at 28 days.
    - c. A compressive-strength test to be the average compressive strength from a set of three specimens obtained from same composite sample and tested at age indicated.
  9. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor to evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
  10. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa) if specified compressive strength is 5000 psi (34.5 MPa), or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi (34.5 MPa).
  11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
  12. Additional Tests:
    - a. Testing and inspecting agency to make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
    - b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Architect.

- 1) Acceptance criteria for concrete strength to be in accordance with **ACI 301 (ACI 301M)**, Section 1.6.6.3.
  13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
  14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- F. Measure floor and slab flatness and levelness in accordance with **ASTM E1155 (ASTM E1155M)** within 48 hours of completion of floor finishing and promptly report test results to Architect.

### 3.11 PROTECTION

A. Protect concrete surfaces as follows:

1. Protect from petroleum stains.
2. Diaper hydraulic equipment used over concrete surfaces.
3. Prohibit vehicles from interior concrete slabs.
4. Prohibit use of pipe-cutting machinery over concrete surfaces.
5. Prohibit placement of steel items on concrete surfaces.
6. Prohibit use of acids or acidic detergents over concrete surfaces.
7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.
8. Protect concrete surfaces scheduled to receive surface hardener or polished concrete finish using Floor Slab Protective Covering.

END OF SECTION 033000

## SECTION 042200 - CONCRETE UNIT MASONRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Concrete masonry units.
  - 2. Steel reinforcing bars.

#### 1.2 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).
- B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For reinforcing steel. Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For each type and size of product. For masonry units, include data on material properties and material test reports substantiating compliance with requirements.
- B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
  - 1. Include test reports for mortar mixes required to comply with property specification. Test in accordance with ASTM C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air content.
  - 2. Include test reports, in accordance with ASTM C1019, for grout mixes required to comply with compressive strength requirement.

#### 1.5 QUALITY ASSURANCE

#### 1.6 FIELD CONDITIONS

- A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost



or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

- B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

## PART 2 - PRODUCTS

### 2.1 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work.
- C. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated.
  - 1. Where fire-resistance-rated construction is indicated, units are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction.

### 2.2 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
  - 1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
- B. CMUs: ASTM C90.
  - 1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of **2800 psi (19.3 MPa)**.
  - 2. Density Classification: Lightweight unless otherwise indicated.

### 2.3 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

- D. Aggregate for Mortar: ASTM C144.
  - 1. White-Mortar Aggregates: Natural white sand or crushed white stone.
- E. Aggregate for Grout: ASTM C404.
- F. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
- G. Water: Potable.

## 2.4 REINFORCEMENT

- A. Uncoated-Steel Reinforcing Bars: ASTM A615/A615M or ASTM A996/A996M, **Grade 60 (Grade 420)**.
- B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells. Units are formed from **0.148-inch (3.77-mm)** steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.
- C. Masonry-Joint Reinforcement, General: ASTM A951/A951M.
  - 1. Interior Walls: Hot-dip galvanized, carbon steel.
  - 2. Exterior Walls: Hot-dip galvanized carbon steel.
  - 3. Wire Size for Side Rods: [**0.148-inch (3.77-mm)**] [**0.187-inch (4.76-mm)**] diameter.
  - 4. Wire Size for Cross Rods: [**0.148-inch (3.77-mm)**] [**0.187-inch (4.76-mm)**] diameter.
  - 5. Spacing of Cross Rods: Not more than **16 inches (407 mm)** o.c.
  - 6. Provide in lengths of not less than **10 feet (3 m)**, with prefabricated corner and tee units.

## 2.5 TIES AND ANCHORS

- A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:
  - 1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A82/A82M, with ASTM A153/A153M, Class B-2 coating.
  - 2. Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M, Commercial Steel, with ASTM A153/A153M, Class B coating.
  - 3. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
- B. Adjustable Anchors for Connecting to Structural Steel Framing: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.
  - 1. Anchor Section for Welding to Steel Frame: Crimped **1/4-inch- (6.35-mm-)** diameter, hot-dip galvanized-steel wire.
  - 2. Tie Section: Triangular-shaped wire tie made from [**0.187-inch- (4.76-mm-)**] [**0.25-inch- (6.35-mm-)**] diameter, hot-dip galvanized-steel wire.

- C. Adjustable Anchors for Connecting to Concrete: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.
1. Connector Section: Dovetail tabs for inserting into dovetail slots in concrete and attached to tie section; formed from **0.105-inch- (2.66-mm-)** thick steel sheet, galvanized after fabrication.
  2. Tie Section: Triangular-shaped wire tie made from **0.187-inch- (4.76-mm-)** diameter, hot-dip galvanized-steel wire.
  3. Corrugated-Metal Ties: Metal strips not less than **7/8 inch (22 mm)** wide with corrugations having a wavelength of **0.3 to 0.5 inch (7.6 to 12.7 mm)** and an amplitude of **0.06 to 0.10 inch (1.5 to 2.5 mm)** made from **0.075-inch- (1.90 mm-)** thick steel sheet, galvanized after fabrication with dovetail tabs for inserting into dovetail slots in concrete.
- D. Rigid Anchors: Fabricate from steel bars **1-1/2 inches (38 mm)** wide by **1/4 inch (6.35 mm)** thick by **24 inches (610 mm)** long, with ends turned up **2 inches (51 mm)** or with cross pins unless otherwise indicated.
1. Corrosion Protection: Hot-dip galvanized to comply with ASTM A153/A153M.

## 2.6 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and as follows:
1. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, **0.016 inch (0.40 mm)** thick.
  2. Fabricate continuous flashings in sections **96 inches (2400 mm)** long minimum, but not exceeding **12 feet (3.7 m)**. Provide splice plates at joints of formed, smooth metalflashing.
  3. Fabricate metal drip edges from stainless steel. Extend at least **3 inches (76 mm)** into wall and **1/2 inch (13 mm)** out from wall, with outer edge bent down 30 degrees and hemmed.
  4. Fabricate metal sealant stops from stainless steel. Extend at least **3 inches (76 mm)** into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for **3/4 inch (19 mm)** and down into joint **1/4 inch (6 mm)** to form a stop for retaining sealant backer rod.
  5. Fabricate metal expansion-joint strips from stainless steel to shapes indicated.
- B. Flexible Flashing: Use the following unless otherwise indicated:
1. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than **0.030 inch (0.76 mm)**.
  2. Butyl Rubber Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than **0.030 inch (0.76 mm)**.
  3. Elastomeric Thermoplastic Flashing: Composite flashing product consisting of a polyester-reinforced ethylene interpolymer alloy.

4. EPDM Flashing: Sheet flashing product made from ethylene-propylene-diene terpolymer, complying with ASTM D4637/D4637M, 0.040 inch (1.0 mm) thick.
- C. Single-Wythe CMU Flashing System: System of CMU cell flashing pans and interlocking CMU web covers made from UV-resistant, high-density polyethylene. Cell flashing pans have integral weep spouts designed to be built into mortar bed joints and that extend into the cell to prevent clogging with mortar.
- D. Solder and Sealants for Sheet Metal Flashings: As specified in Section 076200 "Sheet Metal Flashing and Trim."
- E. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

## 2.7 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene, urethane or PVC.
- B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D2000, Designation M2AA-805 or PVC, complying with ASTM D2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.
- C. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D226/D226M, Type I (No. 15 asphalt felt).

## 2.8 MASONRY-CELL FILL

- A. Loose-Fill Insulation: Perlite complying with ASTM C549, Type II (surface treated for water repellency and limited moisture absorption) or Type IV (surface treated for water repellency and to limit dust generation).

## 2.9 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
  1. Do not use calcium chloride in mortar or grout.
  2. Use masonry cement mortar unless otherwise indicated.
  3. For exterior masonry, use masonry cement mortar.
  4. For reinforced masonry, use masonry cement mortar.
  5. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C270, Proportion Property Specification. Provide the following types of mortar for applications stated unless another type is indicated.
  - 1. For masonry below grade or in contact with earth, use Type M.
  - 2. For reinforced masonry, use Type S.
  - 3. For mortar parge coats, use Type S.
  - 4. For exterior, above-grade, load-bearing and nonload-bearing walls and parapet walls; for interior load-bearing walls; for interior nonload-bearing partitions; and for other applications where another type is not indicated, use Type N.
  - 5. For interior nonload-bearing partitions, Type O may be used instead of Type N.
- D. Grout for Unit Masonry: Comply with ASTM C476.
  - 1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.
  - 2. Proportion grout in accordance with ASTM C476, Table 1 or paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2000 psi (14 MPa).
  - 3. Provide grout with a slump of 8 to 11 inches (200 to 280 mm), 10 to 11 inches (250 to 280 mm) as measured in accordance with ASTM C143/C143M.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

### 3.2 TOLERANCES

- A. Dimensions and Locations of Elements:
  - 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
  - 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
  - 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.
- B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than **1/4 inch in 10 feet (6 mm in 3 m)**, or **1/2-inch (12-mm)** maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than **1/8 inch in 10 feet (3 mm in 3 m)**, **1/4 inch in 20 feet (6 mm in 6 m)**, or **1/2-inch (12-mm)** maximum.
3. For vertical lines and surfaces, do not vary from plumb by more than **1/4 inch in 10 feet (6 mm in 3 m)**, **3/8 inch in 20 feet (9 mm in 6 m)**, or **1/2-inch (12-mm)** maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than **1/8 inch in 10 feet (3 mm in 3 m)**, **1/4 inch in 20 feet (6 mm in 6 m)**, or **1/2-inch (12-mm)** maximum.
5. For lines and surfaces, do not vary from straight by more than **1/4 inch in 10 feet (6 mm in 3 m)**, **3/8 inch in 20 feet (9 mm in 6 m)**, or **1/2-inch (12-mm)** maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus **1/8 inch (3 mm)**, with a maximum thickness limited to **1/2 inch (12 mm)**.
2. For head and collar joints, do not vary from thickness indicated by more than plus **3/8 inch (9 mm)** or minus **1/4 inch (6 mm)**.
3. For exposed head joints, do not vary from thickness indicated by more than plus or minus **1/8 inch (3 mm)**.

### 3.3 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less-than-nominal **4-inch (100-mm)** horizontal face dimensions at corners or jambs.
- C. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- D. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- E. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below, and rod mortar or grout into core.
- F. Fill cores in hollow CMUs with grout **24 inches (600 mm)** under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

### 3.4 MORTAR BEDDING AND JOINTING

- A. Lay hollow CMUs as follows:
  1. Bed face shells in mortar and make head joints of depth equal to bed joints.

2. Bed webs in mortar in all courses of piers, columns, and pilasters.
  3. Bed webs in mortar in grouted masonry, including starting course on footings.
  4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.
- B. Lay solid CMUs with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- D. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

### 3.5 MASONRY-CELL FILL

- A. Pour lightweight-aggregate fill into cavities to fill void spaces. Maintain inspection ports to show presence of fill at extremities of each pour area. Close the ports after filling has been confirmed. Limit the fall of fill to one story high, but not more than **20 feet (6 m)**.
- B. Install molded-polystyrene insulation units into masonry unit cells before laying units.

### 3.6 MASONRY-JOINT REINFORCEMENT

- A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of **5/8 inch (16 mm)** on exterior side of walls, **1/2 inch (13 mm)** elsewhere. Lap reinforcement a minimum of **6 inches (150 mm)**.
1. Space reinforcement not more than **16 inches (406 mm)** o.c.
  2. Space reinforcement not more than **8 inches (203 mm)** o.c. in foundation walls and parapet walls.
  3. Provide reinforcement not more than **8 inches (203 mm)** above and below wall openings and extending **12 inches (305 mm)** beyond openings in addition to continuous reinforcement.
- B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.
- C. Provide continuity at wall intersections by using prefabricated T-shaped units.
- D. Provide continuity at corners by using prefabricated L-shaped units.

### 3.7 ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

- A. Anchor masonry to structural steel and concrete, where masonry abuts or faces structural steel or concrete, to comply with the following:
1. Provide an open space not less than **1/2 inch (13 mm)** wide between masonry and structural steel or concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.

2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
3. Space anchors as indicated, but not more than **24 inches (610 mm)** o.c. vertically and **36 inches (915 mm)** o.c. horizontally.

### 3.8 FLASHING

- A. General: Install embedded flashing at ledges and other obstructions to downward flow of water in wall where indicated.
- B. Install flashing as follows unless otherwise indicated:
  1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
  2. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing **1/2 inch (13 mm)** back from outside face of wall, and adhere flexible flashing to top of metal drip edge.

### 3.9 REINFORCED UNIT MASONRY

- A. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.
- B. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
  1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.

### 3.10 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Contractor will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements is done at Contractor's expense.
- B. Inspections: Special inspections in accordance with Level B in TMS 402/ACI 530/ASCE 5.
  1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
  2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
  3. Place grout only after inspectors have verified proportions of site-prepared grout.
- C. Testing Prior to Construction: One set of tests.
- D. Testing Frequency: One set of tests for each **5000 sq. ft. (464 sq. m)** of wall area or portion thereof.



- E. Concrete Masonry Unit Test: For each type of unit provided, in accordance with ASTM C140 for compressive strength.
- F. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, in accordance with ASTM C780.
- G. Mortar Test (Property Specification): For each mix provided, in accordance with ASTM C780. Test mortar for mortar air content and compressive strength.
- H. Grout Test (Compressive Strength): For each mix provided, in accordance with ASTM C1019.
- I. Prism Test: For each type of construction provided, in accordance with ASTM C1314 at seven days and at 28 days.

### 3.11 PARGING

- A. Parge exterior faces of below-grade masonry walls, where indicated, in two uniform coats to a total thickness of **3/4 inch (19 mm)**. Dampen wall before applying first coat, and scarify first coat to ensure full bond to subsequent coat.
- B. Use a steel-trowel finish to produce a smooth, flat, dense surface with a maximum surface variation of **1/8 inch per foot (3 mm per 300 mm)**. Form a wash at top of parging and a cove at bottom.
- C. Damp-cure parging for at least 24 hours and protect parging until cured.

### 3.12 REPAIRING, POINTING, AND CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
  - 1. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes.
  - 2. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.

### 3.13 MASONRY WASTE DISPOSAL

- A. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
  - 1. Do not dispose of masonry waste as fill within **18 inches (450 mm)** of finished grade.
- B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.

- C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042200

## SECTION 051200 - STRUCTURAL STEEL FRAMING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Structural steel.
  - 2. Shrinkage-resistant grout.

#### 1.2 DEFINITIONS

- A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in ANSI/AISC 303.

#### 1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.4 ACTION SUBMITTALS

- A. Product Data:
  - 1. Structural-steel materials.
  - 2. High-strength, bolt-nut-washer assemblies.
  - 3. Anchor rods.
  - 4. Threaded rods.
  - 5. Shop primer.
  - 6. Galvanized-steel primer.
  - 7. Galvanized repair paint.
  - 8. Shrinkage-resistant grout.
- B. Shop Drawings: Show fabrication of structural-steel components.
- C. Delegated Design Submittal: For structural-steel connections indicated on Drawings to comply with design loads, include analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Mill test reports for structural-steel materials, including chemical and physical properties.

- C. Source quality-control reports.
- D. Field quality-control reports.

## 1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category BU or is accredited by the IAS Fabricator Inspection Program for Structural Steel (Acceptance Criteria 172).
- B. Installer Qualifications: A qualified Installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category ACSE.
- C. Welding Qualifications: Qualify procedures and personnel in accordance with AWS D1.1/D1.1M.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Comply with applicable provisions of the following specifications and documents:
  - 1. ANSI/AISC 303.
  - 2. ANSI/AISC 360.
  - 3. RCSC's "Specification for Structural Joints Using High-Strength Bolts."
- B. Connection Design Information:
  - 1. Option 2: Fabricator's experienced steel detailer selects or completes connections in accordance with ANSI/AISC 303.
    - a. Select and complete connections using schematic details indicated and ANSI/AISC 360.
- C. Construction: Shear wall system.

### 2.2 STRUCTURAL-STEEL MATERIALS

- A. W-Shapes: ASTM A992/A992M.
- B. Channels, Angles: ASTM A36/A36M, **Grade 50 (Grade 345)**.
- C. Plate and Bar: ASTM A36/A36M, **Grade 50 (Grade 345)**.
- D. Cold-Formed Hollow Structural Sections: ASTM A500/A500M, Grade B structural tubing.
- E. Steel Pipe: ASTM A53/A53M, Type E or Type S, Grade B.
- F. Welding Electrodes: Comply with AWS requirements.

## 2.3 BOLTS AND CONNECTORS

- A. High-Strength A325 Bolts, Nuts, and Washers: ASTM F3125/F3125M, **Grade A325 (Grade A325M)**, Type 1, heavy-hex steel structural bolts; **ASTM A563, Grade DH (ASTM A563M, Class 10S)**, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers; all with plain finish.
1. Direct-Tension Indicators: ASTM F959/F959M, **Type 325-1 (Type 8.8-1)**, compressible-washer type with plain finish.
- B. High-Strength A490 Bolts, Nuts, and Washers: ASTM F3125/F3125M, **Grade A490 (Grade A490M)**, Type 1, heavy-hex steel structural bolts or Grade F2280 tension-control, bolt- nut-washer assemblies with splined ends; **ASTM A563, Grade DH (ASTM A563M, Class 10S)**, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers; all with plain finish.
1. Direct-Tension Indicators: ASTM F959/F959M, **Type 490-1 (Type 10.9-1)**, compressible-washer type with plain finish.
- C. Zinc-Coated High-Strength A325 Bolts, Nuts, and Washers: ASTM F3125/F3125M, **Grade A325 (Grade A325M)**, Type 1, heavy-hex steel structural bolts; **ASTM A563, Grade DH (ASTM A563M, Class 10S)**, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers.
1. Finish: Hot-dip zinc coating.
  2. Direct-Tension Indicators: ASTM F959/F959M, **Type 325-1 (Type 8.8-1)**, compressible-washer type with mechanically deposited zinc coating finish.
- D. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F3125/F3125M, Grade F1852, Type 1, heavy-hex head assemblies, consisting of steel structural bolts with splined ends; **ASTM A563, Grade DH (ASTM A563M, Class 10S)**, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers.
1. Finish: Plain.

## 2.4 RODS

- A. Headed Anchor Rods: ASTM F1554, Grade 36, straight.
1. Finish: Plain.
- B. Threaded Rods: ASTM A36/A36M.
1. Finish: Plain.

## 2.5 PRIMER

- A. Steel Primer:
1. Comply with Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

2. SSPC-Paint 23, latex primer.
3. Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.

B. Galvanized-Steel Primer: MPI#80.

1. Etching Cleaner: MPI#25, for galvanized steel.
2. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20 ASTM A780/A780M.

## 2.6 SHRINKAGE-RESISTANT GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C1107/C1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

## 2.7 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate in accordance with ANSI/AISC 303 and to ANSI/AISC 360.

## 2.8 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened.

- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

## 2.9 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel in accordance with ASTM A123/A123M.

1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.

## 2.10 SHOP PRIMING

- A. Shop prime steel surfaces, except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of **2 inches (50 mm)**.
2. Surfaces to be field welded.
3. Surfaces of high-strength bolted, slip-critical connections.
4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).

5. Galvanized surfaces unless indicated to be painted.
  6. Surfaces enclosed in interior construction.
- B. Surface Preparation of Steel: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces in accordance with the following specifications and standards:
1. SSPC-SP 2.
  2. SSPC-SP 3.
- C. Surface Preparation of Galvanized Steel: Prepare galvanized-steel surfaces for shop priming by thoroughly cleaning steel of grease, dirt, oil, flux, and other foreign matter, and treating with etching cleaner or in accordance with SSPC-SP 16.
- D. Priming: Immediately after surface preparation, apply primer in accordance with manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.

## 2.11 SOURCE QUALITY CONTROL

- A. Testing Agency: Contractor will engage a qualified testing agency to perform shop tests and inspections.
1. Allow testing agency access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
  2. Bolted Connections: Inspect and test shop-bolted connections in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts."
  3. Welded Connections: Visually inspect shop-welded connections in accordance with AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
    - a. Liquid Penetrant Inspection: ASTM E165/E165M.
    - b. Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedment's for compliance with requirements.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and in accordance with ANSI/AISC 303 and ANSI/AISC 360.
- B. Baseplates Bearing Plates and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
  - 1. Set plates for structural members on wedges, shims, or setting nuts as required.
  - 2. Weld plate washers to top of baseplate.
  - 3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
  - 4. Promptly pack shrinkage-resistant grout solidly between bearing surfaces and plates, so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for grouting.
- C. Maintain erection tolerances of structural steel within ANSI/AISC 303.

### 3.3 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for bolt and joint type specified.
  - 1. Joint Type: Snug tightened.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
  - 1. Comply with ANSI/AISC 303 and ANSI/AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.

### 3.4 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector to perform the following special inspections:
  - 1. Verify structural-steel materials and inspect steel frame joint details.
  - 2. Verify weld materials and inspect welds.
  - 3. Verify connection materials and inspect high-strength bolted connections.
- B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
  - 1. Bolted Connections: Inspect bolted connections in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts."
  - 2. Welded Connections: Visually inspect field welds in accordance with AWS D1.1/D1.1M.



- a. In addition to visual inspection, test and inspect field welds in accordance with AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
  - 1) Liquid Penetrant Inspection: ASTM E165/E165M.
  - 2) Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
  - 3) Ultrasonic Inspection: ASTM E164.
  - 4) Radiographic Inspection: ASTM E94/E94M.

END OF SECTION 051200

## SECTION 061000 - ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Shear wall panels.
4. Rooftop equipment bases and support curbs.
5. Wood blocking, cants, and nailers.
6. Wood furring and grounds.
7. Wood sleepers.
8. Plywood backing panels.

#### 1.2 ACTION SUBMITTALS

##### A. Product Data:

1. For each type of process and factory-fabricated product.
2. For preservative-treated wood products.

#### 1.3 INFORMATIONAL SUBMITTALS

##### A. Material Certificates:

1. For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
2. For preservative-treated wood products. Indicate type of preservative used and net amount of preservative retained.

##### B. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.
2. Fire-retardant-treated wood.
3. Engineered wood products.
4. Shear panels.
5. Power-driven fasteners.
6. Post-installed anchors.
7. Metal framing anchors.

## PART 2 - PRODUCTS

## 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: Comply with DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.
  2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
  3. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content:
1. Boards: 15 percent.
  2. Dimension Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less; 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.
  3. Timber. 19 percent.
- C. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
1. Allowable design stresses, as published by manufacturer, are to meet or exceed those indicated. Manufacturer's published values are to be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

## 2.2 PRESERVATIVE TREATMENT

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood framing members that are less than **18 inches (460 mm)** above the ground in crawlspaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

### 2.3 FIRE-RETARDANT-TREATMENT

- A. General: Where fire-retardant-treated materials are indicated, materials are to comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than **10.5 feet (3.2 m)** beyond the centerline of the burners at any time during the test.
  1. Exterior Type: Treated materials are to comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D2898. Use for exterior locations and where indicated.
  2. Interior Type A: Treated materials are to have a moisture content of 28 percent or less when tested according to ASTM D3201/D3201M at 92 percent relative humidity. Use where exterior type is not indicated.
- C. Kiln-dry lumber after treatment to maximum moisture content of 19 percent. Kiln-dry plywood after treatment to maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- E. Application: Treat items indicated on Drawings, and the following:
  1. Framing for raised platforms.
  2. Framing for stages.
  3. Concealed blocking.
  4. Framing for non-load-bearing partitions.
  5. Framing for non-load-bearing exterior walls.
  6. Roof construction.
  7. Plywood backing panels.

## 2.4 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions by Grade: Construction or No. 2 grade.
1. Application: Interior partitions not indicated as load bearing.
  2. Species:
    - a. Southern pine or mixed southern pine; SPIB.
    - b. Northern species; NLGA.
    - c. Eastern softwoods; NeLMA.
    - d. Western woods; WCLIB or WWPA.
- B. Framing Other Than Non-Load-Bearing Partitions by Grade: No. 2 grade.
1. Application: Framing other than interior partitions.
  2. Species:
    - a. Hem-fir (north); NLGA.
    - b. Southern pine; SPIB.
    - c. Douglas fir-larch; WCLIB or WWPA.
    - d. Southern pine or mixed southern pine; SPIB.
    - e. Spruce-pine-fir; NLGA.
    - f. Douglas fir-south; WWPA.
    - g. Hem-fir; WCLIB or WWPA.
    - h. Douglas fir-larch (north); NLGA.
    - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
- C. Exposed Framing: Hand-select material for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
1. Species and Grade: As indicated above for load-bearing construction of same type.

## 2.5 ENGINEERED WOOD PRODUCTS

- A. Laminated-Veneer Lumber: Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D5456 and manufactured with an exterior-type adhesive complying with ASTM D2559.
1. Extreme Fiber Stress in Bending, Edgewise: 2900 psi (20.0 MPa) [2600 psi (17.9 MPa)].
  2. Modulus of Elasticity, Edgewise: 1,800,000 psi (12 400 MPa).
- B. Wood I-Joists: Prefabricated units, I-shaped in cross section, made with solid or structural composite lumber flanges and wood-based structural panel webs, let into and bonded to flanges. Comply with material requirements of and with structural capacities established and monitored according to ASTM D5055.
1. Web Material: Either OSB or plywood, complying with DOC PS 1 or DOC PS 2, Exposure 1.
  2. Structural Properties: Depths and design values not less than those indicated.

3. Comply with APA PRI-400. Factory mark I-joists with APA-EWS trademark indicating nominal joist depth, joist class, span ratings, mill identification, and compliance with APA-EWS standard.
- C. Rim Boards: Product designed to be used as a load-bearing member and to brace wood I-joists at bearing ends, complying with research or evaluation report for I-joists.
1. Manufacturer: Provide products by same manufacturer as I-joists.
  2. Material: All-veneer product glued-laminated wood product made from any combination solid lumber, wood strands, and veneers.
  3. Thickness: 1 inch (25 mm).
  4. Comply with APA PRR-401, rim board grade. Factory mark rim boards with APA-EWS trademark indicating thickness, grade, and compliance with APA-EWS standard.

## 2.6 SHEAR WALL PANELS

- A. Wood-Framed Shear Wall Panels: Prefabricated assembly consisting of wood perimeter framing, tie downs, and Exposure I, Structural I plywood or OSB sheathing.
- B. Allowable design loads, as published by manufacturer, are to meet or exceed those of basis-of-design products. Manufacturer's published values are to be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

## 2.7 MISCELLANEOUS LUMBER

- A. Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
1. Blocking.
  2. Nailers.
  3. Rooftop equipment bases and support curbs.
  4. Cants.
  5. Furring.
  6. Grounds.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of any species.
- C. Concealed Boards: 19 percent maximum moisture content and any of the following species and grades:
1. Mixed southern pine or southern pine; No. 2 grade; SPIB.
  2. Eastern softwoods; No. 2 Common grade; NeLMA.
  3. Northern species; No. 2 Common grade; NLGA.
  4. Western woods; Construction or No. 2 Common grade; WCLIB or WWPA.

## 2.8 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: Plywood, DOC PS 1, Exterior, A-C, fire-retardant treated, in thickness indicated or, if not indicated, not less than **1/2-inch (13-mm)** nominal thickness.

## 2.9 FASTENERS

- A. General: Fasteners are to be of size and type indicated and comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than **1-1/2 inches (38 mm)** into wood substrate.
  - 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.
- B. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- C. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01, ICC-ES AC58, ICC-ES AC193 or ICC-ES AC308 as appropriate for the substrate.

## 2.10 METAL FRAMING ANCHORS

- A. Allowable design loads, as published by manufacturer, are to meet or exceed those indicated of basis-of-design products. Manufacturer's published values are to be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors are to be punched for fasteners adequate to withstand same loads as framing anchors.
- B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A653/A653M, **G60 (Z180)** coating designation.
  - 1. Use for interior locations unless otherwise indicated.
- C. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A653/A653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); **G185 (Z550)** coating designation; and not less than **0.036 inch (0.9 mm)** thick.
  - 1. Use for wood-preservative-treated lumber and where indicated.

## 2.11 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets:
  - 1. Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; **1-inch (25-mm)** nominal thickness, compressible to **1/32 inch (0.8 mm)**; selected from manufacturer's standard widths to suit width of sill members indicated.

2. Closed-cell neoprene foam, **1/4 inch (6.4 mm)** thick, selected from manufacturer's standard widths to suit width of sill members indicated.
  3. Self-adhering sheet consisting of **64mils (1.6 mm)** of rubberized asphalt laminated on one side to a **4-mil- (0.10-mm-)** thick, polyethylene-film reinforcement, and with release liner on adhesive side; formulated for application with primer or surface conditioner that complies with VOC limits of authorities having jurisdiction.
- B. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than **0.025 inch (0.6 mm)**.
- C. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D3498 that is approved for use indicated by adhesive manufacturer.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- C. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- D. Install shear wall panels to comply with manufacturer's written instructions.
- E. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- F. Do not splice structural members between supports unless otherwise indicated.
- G. Comply with AWWA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- H. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- I. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
  2. ICC-ES evaluation report for fastener.



3.2 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

## SECTION 061600 - SHEATHING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Wall sheathing.
  - 2. Roof sheathing.
  - 3. Subflooring.
  - 4. Underlayment.
  - 5. Sheathing joint and penetration treatment.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
  - 1. Wood-preserved-treated plywood.
  - 2. Fire-retardant-treated plywood.

### PART 2 - PRODUCTS

#### 2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested in accordance with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

#### 2.2 WOOD PANEL PRODUCTS

- A. Emissions: Products are to meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

### 2.3 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.

### 2.4 FIRE-RETARDANT-TREATED PLYWOOD

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested in accordance with ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
  - 1. Exterior Type: Treated materials are to comply with requirements specified above for fire-retardant-treated plywood by pressure process after being subjected to accelerated weathering in accordance with ASTM D2898. Use for exterior locations and where indicated.
  - 2. Interior Type A: Treated materials are to have a moisture content of 28 percent or less when tested in accordance with ASTM D3201/D3201M at 92 percent relative humidity. Use where exterior type is not indicated.
  - 3. Design Value Adjustment Factors: Treated lumber plywood is to be tested in accordance with ASTM D5516 and design value adjustment factors are to be calculated in accordance with ASTM D6305. Span ratings after treatment are to be not less than span ratings specified. For roof sheathing and where high-temperature fire-retardant to be not less than span ratings specified.
- C. Kiln-dry material after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated plywood with appropriate classification marking of qualified testing agency.
- E. Application: Treat plywood indicated on Drawings.

### 2.5 WALL SHEATHING

- A. Plywood Sheathing: Either DOC PS 1 or DOC PS 2, Exposure 1 sheathing.

- B. Oriented-Strand-Board Sheathing: DOC PS 2, Exposure 1 sheathing.
- C. Paper-Surfaced Gypsum Sheathing: ASTM C1396/C1396M, gypsum sheathing; with water-resistant-treated core and with water-repellent paper bonded to core's face, back, and long edges.
  - 1. Type and Thickness: Regular, **1/2 inch (13 mm)** thick.
- D. Glass-Mat Gypsum Sheathing, Walls: ASTM C1177/C1177M.
  - 1. Type and Thickness: Regular, **1/2 inch (13 mm)** thick.
- E. Cellulose Fiber-Reinforced Gypsum Sheathing: ASTM C1278/C1278M, gypsum sheathing.
  - 1. Product: Subject to compliance with requirements, provide "Fiberock Sheathing with Aqua-Tough" by United States Gypsum Co.
  - 2. Type and Thickness: Regular, **1/2 inch (13 mm)** thick.
- F. Cementitious Backer Units, Walls: ASTM C1325, Type A.
  - 1. Thickness: **1/2 inch (12.7 mm)**.

## 2.6 ROOF SHEATHING

- A. Plywood Sheathing: DOC PS 1 Exposure 1 sheathing.
- B. Oriented-Strand-Board Sheathing: DOC PS 2, Exposure 1 sheathing.

## 2.7 SUBFLOORING AND UNDERLAYMENT

- A. Plywood Combination Subfloor-Underlayment: DOC PS 1, Exposure 1, Underlayment single-floor panels.
- B. Oriented-Strand-Board Combination Subfloor-Underlayment: DOC PS 2, Exposure 1 single-floor panels.
- C. Plywood Subflooring: Either DOC PS 1 or DOC PS 2, Exposure 1 single-floor panels or sheathing.
- D. Oriented-Strand-Board Subflooring: DOC PS 2, Exposure 1, single-floor panels or sheathing.
- E. Underlayment: Provide underlayment in nominal thicknesses indicated or, if not indicated, not less than **1/4 inch (6.4 mm)** over smooth subfloors and not less than **3/8 inch (9.5 mm)** over board or uneven subfloors.
  - 1. Plywood Underlayment for Resilient Flooring: DOC PS 1, Exposure 1 Underlayment with fully sanded face.
  - 2. Plywood Underlayment for Ceramic Tile: DOC PS 1, Exterior, C-C Plugged, not less than **5/8-inch (15.9-mm)** nominal thickness.
  - 3. Plywood Underlayment for Carpet: DOC PS 1, Exposure 1, Underlayment.

## 2.8 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.

## 2.9 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

- A. Sealant for Paper-Surfaced Gypsum Sheathing: Elastomeric, medium-modulus, neutral-curing silicone joint sealant compatible with joint substrates formed by gypsum sheathing and other materials, recommended by sheathing manufacturer for application indicated and complying with requirements for elastomeric sealants specified in Section 079200 "Joint Sealants."

- B. Sealant for Glass-Mat Gypsum Sheathing: Silicone emulsion sealant complying with ASTM C834, compatible with sheathing tape and sheathing and recommended by tape and sheathing manufacturers for use with glass-fiber sheathing tape and for covering exposed fasteners.

1. Sheathing Tape: Self-adhering glass-fiber tape, minimum **2 inches (50 mm)** wide, **10 by 10 or 10 by 20 threads/inch (390 by 390 or 390 by 780 threads/m)**, of type recommended by sheathing and tape manufacturers for use with silicone emulsion sealant in sealing joints in glass-mat gypsum sheathing and with a history of successful in-service use.

- C. Sheathing Tape for Foam-Plastic Sheathing: Pressure-sensitive plastic tape recommended by sheathing manufacturer for sealing joints and penetrations in sheathing.

## 2.10 MISCELLANEOUS MATERIALS

- A. Adhesives for Field Gluing Panels to Wood Framing: Formulation complying with APA AFG-01 ASTM D3498 that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

- C. Securely attach to substrate by fastening as indicated, complying with the following:

1. Table 2304.10.1, "Fastening Schedule," in the ICC's International Building Code.

2. ICC-ES evaluation report for fastener.
- D. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

### 3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
  1. Combination Subfloor-Underlayment:
    - a. Glue and nail Nail to wood framing.
    - b. Space panels **1/8 inch (3 mm)** apart at edges and ends.
  2. Subflooring:
    - a. Glue and nail Nail to wood framing.
    - b. Screw to cold-formed metal framing.
    - c. Space panels **1/8 inch (3 mm)** apart at edges and ends.
  3. Wall and Roof Sheathing:
    - a. Nail to wood framing. Apply a continuous bead of glue to framing members at edges of wall sheathing panels.
    - b. Screw to cold-formed metal framing.
    - c. Space panels **1/8 inch (3 mm)** apart at edges and ends.
  4. Underlayment:
    - a. Nail to subflooring.
    - b. Space panels **1/32 inch (0.8 mm)** apart at edges and ends.

### 3.3 GYPSUM SHEATHING INSTALLATION

- A. Comply with GA-253 and with manufacturer's written instructions.
  1. Fasten gypsum sheathing to wood framing with nails or screws.
  2. Install panels with a **3/8-inch (9.5-mm)** gap where non-load-bearing construction abuts structural elements.
  3. Install panels with a **1/4-inch (6.4-mm)** gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.
- B. Seal sheathing joints according to sheathing manufacturer's written instructions.

1. Apply elastomeric sealant to joints and fasteners and trowel flat. Apply sufficient amount of sealant to completely cover joints and fasteners after troweling. Seal other penetrations and openings.
2. Apply glass-fiber sheathing tape to glass-mat gypsum sheathing joints and apply and trowel sealant to embed entire face of tape in sealant. Apply sealant to exposed fasteners with a trowel so fasteners are completely covered. Seal other penetrations and openings.

#### 3.4 CEMENTITIOUS BACKER UNIT INSTALLATION

- A. Install panels and treat joints in accordance with ANSI A108.11 and manufacturer's written instructions for type of application indicated.

#### 3.5 FOAM-PLASTIC SHEATHING INSTALLATION

- A. Comply with manufacturer's written instructions.
- B. Foam-Plastic Wall Sheathing: Install vapor-relief strips or equivalent for permitting escape of moisture vapor that otherwise would be trapped in stud cavity behind sheathing.
- C. Apply sheathing tape to joints between foam-plastic sheathing panels and at items penetrating sheathing. Apply at upstanding flashing to overlap both flashing and sheathing.

#### 3.6 PARTICLEBOARD UNDERLAYMENT INSTALLATION

- A. Comply with CPA's recommendations for type of subfloor indicated. Fill and sand gouges, gaps, and chipped edges. Sand uneven joints flush.
  1. Fastening Method: Glue and nail underlayment to subflooring.

#### 3.7 HARDBOARD UNDERLAYMENT INSTALLATION

- A. Comply with CPA's recommendations and hardboard manufacturer's written instructions for preparing and applying hardboard underlayment.
  1. Fastening Method: Nail underlayment to subflooring.

END OF SECTION 061600

## SECTION 062023 - INTERIOR FINISH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Interior trim, including non-fire-rated interior door and sidelight frames.

#### 1.2 DEFINITIONS

- A. MDF: Medium-density fiberboard.
- B. MDO: Plywood with a medium-density overlay on the face.
- C. PVC: Polyvinyl chloride.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.
- B. Samples: For each exposed product and for each color and texture specified.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with applicable rules of any rules-writing agency certified by the American Lumber Standard Committee's (ALSC) Board of Review. Grade lumber by an agency certified by the ALSC's Board of Review to inspect and grade lumber under the rules indicated.
  1. Factory mark each piece of lumber with grade stamp of grading agency.
  2. For exposed lumber, mark grade stamp on end or back of each piece.
- B. Hardboard: ANSI A135.4.

#### 2.2 INTERIOR TRIM

- A. Lumber Trim for Opaque Finish (Painted Finish):
  1. Species and Grade:



- a. Eastern white pine; NeLMA or NLGA Premium or 2 Common.
  - b. Eastern white, Idaho white, lodgepole, ponderosa, radiata, or sugar pine; NeLMA, NLGA, or WWP A Premium or 2 Common (Sterling).
  - c. White woods; WWP A 1 Common.
  - d. Species and Grade: Douglas fir-larch or Douglas fir south; NLGA, WCLIB, or WWP A Superior or C & Btr finish.
  - e. Spruce-pine-fir; NeLMA, NLGA, WCLIB, or WWP A 1 Common.
  - f. Alder, aspen, basswood, cottonwood, gum, magnolia, soft maple, sycamore, tupelo, or yellow poplar; NHLA B Finish.
2. Maximum Moisture Content for Softwoods: 19 percent.
  3. Finger Jointing: Not allowed.
  4. Face Surface: Surfaced (smooth).
  5. Optional Material: Primed MDF of same actual dimensions as lumber indicated may be used in lieu of lumber.
- B. Moldings for Opaque Finish (Painted Finish): Made to patterns included in MMPA's "WM/Series Softwood Moulding Patterns."
1. Softwood Moldings: MMPA WM 4, P grade.
    - a. Species: Eastern white, Idaho white, lodgepole, ponderosa, radiata, or sugar pine.
    - b. Maximum Moisture Content: 15 percent with at least 85 percent of shipment at 12 percent or less.
  2. Hardwood Moldings: MMPA WM 4, P-grade.
    - a. Species: Aspen, basswood, cottonwood, gum, magnolia, soft maple, tupelo, or yellow poplar.
    - b. Maximum Moisture Content: 9 percent.
  3. Finger Jointing: Not allowed.
  4. Optional Material: Primed MDF.
  5. Base Pattern: Shall match existing.
  6. Shoe-Mold Pattern: Shall match existing.
  7. Casing Pattern: Shall match existing.
  8. Mull-Casing Pattern: Shall match existing.
  9. Stop Pattern: Shall match existing.
  10. Chair-Rail Pattern: Shall match existing.

### 2.3 MISCELLANEOUS MATERIALS

- A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
- B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.

- C. Multipurpose Construction Adhesive: Formulation, complying with ASTM D3498, that is recommended for indicated use by adhesive manufacturer.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

### 3.2 INSTALLATION, GENERAL

- A. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials.
  - 1. Use concealed shims where necessary for alignment.
  - 2. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
  - 3. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.
  - 4. Install to tolerance of **1/8 inch in 96 inches (3 mm in 2438 mm)** for level and plumb. Install adjoining interior finish carpentry with **1/32-inch (0.8-mm)** maximum offset for flush installation and **1/16-inch (1.5-mm)** maximum offset for reveal installation.
  - 5. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.

### 3.3 INSTALLATION OF STANDING AND RUNNING TRIM

- A. Install trim with minimum number of joints as is practical, using full-length pieces from maximum lengths of lumber available.
  - 1. Do not use pieces less than **24 inches (610 mm)** long, except where necessary.
  - 2. Stagger joints in adjacent and related standing and running trim.
  - 3. Cope or miter at returns, miter at outside corners, and cope at inside corners to produce tight-fitting joints with full-surface contact throughout length of joint. Match existing construction.
  - 4. Use scarf joints for end-to-end joints.
  - 5. Plane backs of casings to provide uniform thickness across joints where necessary for alignment.
  - 6. Install trim after gypsum-board joint finishing operations are completed.
  - 7. Install without splitting; drill pilot holes before fastening where necessary to prevent splitting.
  - 8. Fasten to prevent movement or warping.
  - 9. Countersink fastener heads on exposed carpentry work and fill holes.

END OF SECTION 062023

## SECTION 092900 - GYPSUM BOARD

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Interior gypsum board.

#### 1.2 ACTION SUBMITTALS

- A. Product data.
- B. Shop Drawings: Show locations and installation of control and expansion joints, including plans, elevations, sections, details of components, and attachments to other work.

### PART 2 - PRODUCTS

#### 2.1 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

#### 2.2 INTERIOR GYPSUM BOARD

- A. Gypsum Wallboard: ASTM C1396/C1396M.
  - 1. Thickness: 1/2 inch (12.7 mm).
  - 2. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
- B. Gypsum Ceiling Board: ASTM C1396/C1396M.
  - 1. Thickness: 1/2 inch (12.7 mm).
  - 2. Long Edges: Tapered.
- C. Mold-Resistant Gypsum Board: ASTM C1396/C1396M. With moisture- and mold-resistant core and paper surfaces.
  - 1. Core: 1/2 inch (12.7 mm), regular type.
  - 2. Long Edges: Tapered.
  - 3. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

#### 2.3 TRIM ACCESSORIES

- A. Interior Trim: ASTM C1047.

1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
2. Shapes:
  - a. Cornerbead.
  - b. Bullnose bead.
  - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
  - d. L-Bead: L-shaped; exposed long flange receives joint compound.
  - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
  - f. Expansion (control) joint.
  - g. Curved-Edge Cornerbead: With notched or flexible flanges.

## 2.4 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C475/C475M.
- B. Joint Tape:
  1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
  1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
  2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping, all-purpose compound.
    - a. Use setting-type compound for installing paper-faced metal trim accessories.
  3. Fill Coat: For second coat, use setting-type, sandable topping compound.
  4. Finish Coat: For third coat, use setting-type, sandable topping compound.
  5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

## PART 3 - EXECUTION

### 3.1 INSTALLATION OF PANELS

- A. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- B. Comply with ASTM C840.
- C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide ~~1/4- to 1/2-inch-~~ (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- D. For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

### 3.2 FINISHING OF GYPSUM BOARD

- A. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- B. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- C. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840:
  - 1. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
    - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

### 3.3 APPLICATION OF TEXTURE FINISHES

- A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.

### 3.4 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION 092900

## SECTION 096813 - TILE CARPETING

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Modular carpet tile.

#### 1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

- 1.

B. Shop Drawings: For carpet tile installation, plans showing the following:

1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tiles.
2. Carpet tile type, color, and dye lot.
3. Pattern type, location, and direction.
4. Pile direction.
5. Type, color, and location of edge, transition, and other accessory strips.
6. Transition details to other flooring materials.

C. Samples: For each exposed product and for each color and texture required.

#### 1.4 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Sample warranty.

#### 1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Certified by the International Certified Floorcovering Installers Association at the Commercial II certification level.

1.7 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CARPET TILE

- A. Color: As selected by Owner.
- B. Pattern: As selected by Owner.
- C. Fiber Content: 100 percent nylon 6.
- D. Fiber Type: Nylon.
- E. Pile Characteristic: Level-loop pile.
- F. Yarn Twist.
- G. Tufted Yard Weight: 20 oz./yd.<sup>2</sup>.
- H. Density: 5806 oz./cu. yd. (g/cu. cm).
- I. Pile Thickness: 0.124 for finished carpet tile according to ASTM D6859.
- J. Stitches: 10 per inch.
- K. Gage: 1/10 inches.
- L. Primary Backing/Backcoating: Non-woven synthetic.
- M. Secondary Backing: Manufacturer's standard material.
- N. Size: 24 by 24 inches (610 by 610 mm).
- O. Applied Treatments:
  - 1. Soil-Resistance Treatment: Manufacturer's standard treatment.
- P. Performance Characteristics:



1. Appearance Retention Rating: Severe traffic, 3.5 minimum according to ASTM D7330.

## 2.2 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
- B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that comply with flammability requirements for installed carpet tile, and are recommended by carpet tile manufacturer for releasable installation.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Concrete Slabs:
- B. Wood Subfloors: Verify that underlayment surface is free of irregularities and substances that may interfere with adhesive bond or show through surface.

### 3.2 PREPARATION

- A. General: Comply with the Carpet and Rug Institute's CRI 104 and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile.
- B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions **1/8 inch (3 mm)** wide or wider, and protrusions more than **1/32 inch (0.8 mm)** unless more stringent requirements are required by manufacturer's written instructions.
- C. Concrete Substrates: Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by adhesive and carpet tile manufacturers.
- D. Metal Substrates: Clean grease, oil, soil and rust, and prime if recommended in writing by adhesive manufacturer. Rough sand painted metal surfaces and remove loose paint. Sand aluminum surfaces, to remove metal oxides, immediately before applying adhesive.
- E. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

### 3.3 INSTALLATION

- A. General: Comply with the Carpet and Rug Institute's CRI 104, Section 10, "Carpet Tile," and with carpet tile manufacturer's written installation instructions.

- B. Installation Method: As recommended in writing by carpet tile manufacturer.
- C. Maintain dye-lot integrity. Do not mix dye lots in same area.
- D. Maintain pile-direction patterns recommended in writing by carpet tile manufacturer.
- E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on carpet tile as marked on subfloor. Use nonpermanent, nonstaining marking device.
- H. Install pattern parallel to walls and borders.
- I. Access Flooring: Stagger joints of carpet tiles so carpet tile grid is offset from access flooring panel grid. Do not fill seams of access flooring panels with carpet adhesive; keep seams free of adhesive.
- J. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

## SECTION 099123 - INTERIOR PAINTING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Primers.
  - 2. Water-based finish coatings.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of topcoat product.
- C. Product Schedule: Use same designations indicated on Drawings and in the Interior Painting Schedule to cross-reference paint systems specified in this Section. Include color designations.

#### 1.3 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

### PART 2 - PRODUCTS

#### 2.1 PAINT PRODUCTS, GENERAL

- A. Material Compatibility:
  - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- B. Colors: As selected by Owner.

#### 2.2 PRIMERS

- A. Interior Latex Primer Sealer: Water-based latex sealer used on new interior plaster, concrete, and gypsum wallboard surfaces.

- B. Interior Latex Primer for Wood: Waterborne-emulsion primer formulated for resistance to extractive bleeding, mold, and microbials; for hiding stains; and for use on interior wood subject to extractive bleeding.

### 2.3 WATER-BASED FINISH COATS

- A. Interior, Latex, Eggshell: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.
  - 1. Gloss and Sheen Level: Manufacturer's standard eggshell finish.
- B. Interior, Latex, Satin: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.
  - 1. Gloss and Sheen Level: Manufacturer's standard low-sheen finish.
- C. Interior, Latex, Semigloss: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.
  - 1. Gloss Level: Manufacturer's standard semigloss finish.
- D. Interior, Latex, Gloss: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.
  - 1. Gloss Level: Manufacturer's standard gloss finish.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- B. Proceed with coating application only after unsatisfactory conditions have been corrected.
  - 1. Application of coating indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
- C. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

### 3.3 INSTALLATION

- A. Apply paints according to manufacturer's written instructions.
- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

### 3.4 CLEANING AND PROTECTION

- A. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- B. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- C. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.5 INTERIOR PAINTING SCHEDULE

- A. Finish Carpentry: Wood trim, Doors, Windows, and Wood board paneling.
  - 1. Latex over Latex Primer System:
    - a. Prime Coat: Interior latex primer for wood.
    - b. Intermediate Coat: Matching topcoat.
    - c. Topcoat: Interior, latex, coordinate finish with Owner.
  - 2. Latex over Alkyd Primer System:
    - a. Prime Coat: Interior alkyd primer sealer.
    - b. Intermediate Coat: Matching topcoat.
    - c. Topcoat: Interior, latex, coordinate finish with Owner.
    - d.
- B. Gypsum Board Substrates:
  - 1. Latex over Latex Sealer System:
    - a. Prime Coat: Interior latex primer sealer.
    - b. Intermediate Coat: Matching topcoat.
    - c. Topcoat: Interior, latex, coordinate finish with Owner.

END OF SECTION 099123