Specification

North Side Park Restroom Block Installation

Project Number 16012

Prepared By:

City of Sullivan
Engineering Department
210 West Washington
Sullivan, Missouri 63080
(573) 468-8965

January 2018

INTRODUCTION

It is the intent of this document to set forth plans and specifications for a complete and usable project. It shall be the duty of the contractor to bring to the attention of the Engineer any omissions, conflicts or errors which could compromise this aim.

TABLE OF CONTENTS

Invitation to Bid
For
North Side Park Restroom Block Installation
Project #16012
For The City of Sullivan
Sullivan, Missouri

Sealed proposals, addressed to City of Sullivan, Missouri will be received until **February 22, 2018 at 10:30 a.m.**, at the office of City Clerk, Janice Koch, 210 West Washington, Sullivan, Missouri 63080, after which they will publicly be opened and read aloud.

This Contract will consist of all necessary work to install all concrete masonry units for the restroom at the North Side Park as outlined in the specifications.

Copies of the Contract Documents and Detailed Specifications required for bidding purposes may be obtained from the Engineering Department, City Hall, 210 West Washington, Sullivan, Missouri, 63080. Bidders having questions or requesting additional information should contact Robert Schaffer, P.E., CFM, City Engineer, at the Sullivan Engineering Department, telephone number 573-468-8965.

Effective January 1, 2009 and pursuant to Missouri Revised Statute Section 285.530 (1), "No business entity or employer shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the state of Missouri."

Bidders on the work will be required to comply with the State prevailing wage rates which will be included in the Contract Documents. Not less than the prevailing hourly rate of wages specified shall be paid to all workers performing work under the Contract. Bids shall be accompanied by Bidder's certified check, cashiers check or Bid Bond in the amount of five percent (5%) of the Bid Price.

The City of Sullivan reserves the right to accept or reject any or all bids received and to waive or not to waive any or all irregularities.

By virtue of statutory authority, a preference will be given to materials, products, supplies, provisions and all other articles produced, manufactured, made or grown within the state of Missouri.

INFORMATION FOR BIDDERS
FOR
NORTH SIDE PARK RESTROOM BLOCK INSTALLATION
SULLIVAN, MISSOURI

1. BID GUARANTY:

Each bid shall be accompanied by a bid bond, cashier's check or a certified check for an amount not less than five (5) percent of the bid amount, payable unconditionally to the City of Sullivan, Missouri as a guarantee that the bidder will execute a contract and furnish the required bond if his bid is accepted.

2. OPENING OF BIDS:

All bids will be opened publicly and read aloud at the place designated and at the time set in the Advertisement for Bids. The right to reject any or all bids and to waive defects or technicalities in bids is reserved. Collusion between bidders is sufficient cause to disqualify all bidders so involved.

3. RETURN OF BIDDER'S DEPOSITS:

The bid guaranty, whether check or bid bond, of the low bidder will be retained until the contract has been executed by the successful bidder, all insurance requirements met and satisfactory contract bond furnished. The check of the low bidder will then be returned. The bid guaranty of the second low bidder will be returned when the City has determined that the award will not be made to that firm. If errors or irregularities appear in the bid of either of the two apparent low bidders which create doubt as to the status of such bid, the bid guaranties of other bidders may be retained. When the two lowest bidders have been definitely established, the checks of the other bidders will be returned. Any bid bond furnished as a bid guaranty will be returned only upon the request of the bidder furnishing it. If an award is not made, all checks will be returned to the bidders.

4. FORM OF PROPOSAL:

All bids must be made on the attached form of proposal. Bid blanks must be completed and clearly filled in and must be free from alteration either by erasure or interlineations, or otherwise the bid proposal will be voided.

Bids must be properly signed in ink by the bidder or by an authorized official or agent when the bidder is a firm or corporation. When the bid is made by a firm, the signature must include the firm name, and the signature of member thereof. When made by a corporation, the signature must contain the name of the corporation followed by the

signature of the official or person authorized to bind it in the matter and with proof of his authority. When filed, the bid with the accompanying bid security must be enclosed together in a sealed envelope, clearly marked on the outside with the bid number and project name, addressed to the City Clerk, Sullivan, Missouri. The bidder shall designate on the bid blank his official address to which all communications can be mailed. No facsimiles will be accepted.

5. BASIS OF AWARD:

Bids will be compared by the extension and summation of the unit prices submitted in the proposal. The quantities as shown on the proposal form are estimated and are furnished to be used as a basis for calculations and for the preparation of the bid. The quantities are not necessarily exact.

6. AWARD OF CONTRACT:

The City will award the contract within a period not exceeding one hundred twenty days after the date of opening the bids, or else will reject all bids. The City reserves the right to require the successful bidder to file proof by the contract of their successful completion of similar projects.

7. EXECUTION OF CONTRACT:

The bidder to whom the contract has been awarded shall sign the contract payment bond and performance bond and return them to the City within ten (10) days after receipt of the contract. Failure to execute the contract and bonds and return them to the City within ten (10) days after receipt of the contract shall be cause for the annulment of the contract award and the forfeiture of the bid guaranty to the City.

8. PERFORMANCE AND PAYMENT BOND:

A bond will be required for the full amount of the contract price with a surety company authorized to do business in the State of Missouri and satisfactory to the City, conditioned for the faithful performance and payment of this contract and the guarantee of the work.

9. RIGHT RESERVED TO REJECT BIDS:

The City reserves the right to reject any or all bids.

10. COMPLETION TIME:

The Contractor shall commence work within seven (7) days after the date of written notice from the Engineer to begin work, and shall complete all work within the number of days detailed in the Contract Agreement after the expiration date of such seven (7) day period. Progress and completion of work and damage if required for failure to complete the work within the time required shall be further set out in detail in the general conditions and the special provisions.

11. SURVEYS, PERMITS AND REGULATIONS:

The contractor shall make all surveys including all required construction staking. Any property corners disturbed by the construction activities shall be replaced at the contractor's cost. Permits and licenses of a temporary nature necessary for the prosecution of the work shall be secured and paid for by the contractor.

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. The contractor is required to observe all laws and ordinances relating to the obstructing of streets, maintaining signals, keeping open passageways and protecting them where exposed to danger, and all general ordinances affecting them or their employees or their work hereunder in their relations to the owner or any person, and also to obey all laws and ordinances controlling or limiting the contractor while engaged in the prosecution of the work under this contract. If the contractor observes that the drawings and specifications are at variance with laws and regulations, they shall promptly notify the Engineer 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, regulations, or specifications, of local, state or federal authorities without such notice to the Engineer, they shall bear all costs arising therefrom.

See Section 2.2.14 of the General Conditions.

12. NO OTHER INTERESTED PARTIES:

The contractor declares that the only persons interested in this contract as principals are therein named as such; that no official of the municipality and no person acting for or employed by the municipality is directly or indirectly interested in this bid, or in any contract which may be made under it, or in any expected emolument, or profit to arise there from; that their bid and their contract are made in good faith, without fraud, collusion or connection with any other person bidding for the same work.

13. WITHDRAWAL OF BIDS:

Any bidder may withdraw their bid at any time prior to the scheduled closing time for the receipt of bids, but no bid shall be withdrawn for a period of one hundred twenty (120) days after the scheduled closing time for the receipt of bids.

14. 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, quality and quantity of the materials to be encountered, the character of the 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 official, officer, or agent of the owner is authorized to make any representations as to the materials or workmanship involved, or the conditions to be encountered, and the

contractor agrees that no such statement or the evidence of any documents or plans, not a part of this contract, shall constitute any grounds for claim as to conditions encountered. 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.

It is understood and agreed that the contractor has informed themselves fully as to the conditions relating to construction and labor under which the work will be performed, and agrees as far as possible to employ such methods and means in the carrying out of the work as will not cause any interruption or interference with any other contractor.

15. CONDITIONS IN BIDDER'S PROPOSAL:

The bidder shall not stipulate in their proposals any conditions not contained in the form of proposal contained in the contract documents.

16. TAXES:

Bidders shall include in their proposals any sales or use taxes which they are required by law to pay. This project is exempt from all sales taxes for construction materials and suppliers used directly in fulfilling contract requirements. Sales tax shall not be included into the unit costs for this project. The contractor shall follow the regulation as outlined in Missouri 12 CSR 10-3.388 Construction Materials.

The City will issue the contractor a tax exemption letter and a project exemption certificate. These documents are to be given to the applicable suppliers and used only for the project identified and will expire on the date indicated unless otherwise renewed by the City.

17. RIGHTS-OF-WAY:

The City will provide all rights-of-way upon which work is to be done.

18. INSURANCE:

The successful bidder must provide one (1) properly executed certificate of insurance and one (1) copy of the performance and payment bonds after the signing of the contract with the City.

Liability Insurance: The Contractor and any subcontractor shall indemnify and save harmless the City from all suits or action of every name and description brought against the City for or on account of any personal injuries, including accidental or resulting death, or property damages received or claimed to be received or sustained by any person or persons due to the construction of the work, or by or in consequence of any hazard, or of any negligence by the contractor or sub-contractor, their agents or employees or assigns in safeguarding it, or due to any improper material used in the construction, or by or on account of any act or omission of the contractor or subcontractor, their employees, agents or assigns.

The Contractor shall carry adequate public liability and property damage insurance for the joint and several benefit of the contractor and the City with a company licensed to do business in the State of Missouri and satisfactory to the City and in the amounts not less than those specified below. The amounts of coverage required for public liability or property damage shall not be construed to limit the liability of the contractor in protecting the City from damage or injury claims. The City shall have the right to require the contractor to increase any or all such insurance policy limits while the contract work is in progress in the event the engineer determines that unusual or special risks revealed by the work so require and in such amounts as the engineer may determine to be adequate, and without thereby limiting the liability of the contractor in protecting the city from damage or injury claims.

As partial security for the defense of claims and the payments required under such indemnity, the contractor and any subcontractor shall furnish at their cost, an owner's protective insurance policy satisfactory to the city naming the City as insured for amounts not less than the contractor's public liability and property damage insurance covering the work.

The contractor shall comply fully with the requirements of the Workmen's Compensation Act of the State of Missouri and shall furnish evidence that the contractor is insured there under.

The coverage shall insure the City of its officers and employees while acting within the scope of their duties against all claims arising out of or in connection with the work to be performed.

The cost of the insurance shall be included in the prices bid for the various items of work and no additional payment will be made therefore.

The amounts of such insurance shall be not less than the following:

a) Contractor's Bodily Injury Liability and Property Damage Liability Insurance:

1) Injury or death of one person $2,000,000

2) Injury to more than one person in a single accident $2,525,423

3) Property damage $2,000,000

b) Automobile and Truck Public Liability, Bodily Injury, and Property Damage:

1) Injury or death of one person $2,000,000

2) Injury to more than one person in a single accident $2,525,423

3) Property damage $2,000,000

Certificates of insurance sent to the City as evidence of insurance shall contain the following statements, and in their absence the certificates will not be satisfactory to the City.

1) The insurance evidenced by this certificate will not be cancelled or altered except after ten (10) days from receipt by the City of written notice thereof.

2) The insurance evidenced by this certificate expressly includes blanket underground coverage including, but not limited to, injury to or destruction of wires, conduits, pipes, mains, sewers, or other grading of land, paving, backfilling, excavating or drilling, or to injury to or destruction of property at any time resulting there from.

3) The insurance evidenced by this certificate expressly includes person injury or death, or injury to or destruction of any property arising out of blasting or explosion or the collapse of or structural injury to any building or structure due to grading of land, excavation, filling, backfilling, or tunneling.

4) A certificate of insurance must be filed with the City providing builder's risk insurance for the proposed project.

5) The City must be listed on all Certificates of Insurance as additional insured.

6) A statement of the insurance company's A.M. Best rating will be required. A rating of at least A-VI is required.

19. CONTRACTOR'S WORK SCHEDULE:

The contractor shall submit a preliminary work schedule for the Engineer's approval prior to initiation of construction. This schedule must show that steady uninterrupted progress is planned for the improvements and that minimum disruption of local traffic will take place. During school time work will not begin until 9 am and the road must be open by 2:30 pm. This schedule shall be updated monthly through the length of the project.

20. PRICE TO BE WRITTEN:

If space is provided on the bid form, all prices shall be written in words, as well as expressed in figures, where space is provided. In case of a discrepancy between the prices written in words and prices written in figures, the prices written in words will be used.

21. COMPLIANCE:

The successful bidder will be required to comply with the Division of Labor Standards, Wage Determination Rate, which is made a part of this specification.

The successful bidder shall comply with requirements of Section 290.550 to 209.580 RMSo (2000), conclusive, when applicable.

22. TRAFFIC CONTROL / SIGNAGE:

The contractor shall supply the required signage and barricades to give proper warning of this work. The type and amount of signage shall, at a minimum, be as indicated on the drawings, specified or as directed by the Traffic Technician or Engineer. All signage shall be in conformance with the manual on Uniform Traffic Control Devices. Any obstruction left in or upon the street or sidewalk between one hour after sunset to one hour before sunrise shall have a lighted barricade(s) attached to or placed with it. Detour routes and signage must be well marked and approved by the engineer prior to posting. All signage and traffic control is at the contractor's expense unless specifically listed as a pay item, and shall become the City's property at the end of the project.

23. CITY WILL FURNISH:

The City will furnish the specifications for the project.

24. CONSTRUCTION COSTS:

All units of construction necessary for the completion of the project shall be performed at no additional costs for the City unless specifically listed as a pay item.

25. UTILITIES:

The Contractor will be required to have all utilities located. Damage to existing utilities due to neglect of the contractor shall be repaired at the contractor's expense.

27. SAFETY:

The contractor is responsible for all job site safety and shall follow all governmental rules and regulations particularly those of the Occupational Safety and Health Administration (OSHA).

Missouri law, 292.675 RSMo, requires the Contractor and its subcontractor(s) to provide a ten-hour Occupational Safety and Health Administration (OSHA) construction safety program (or a similar program approved by the Missouri Department of Labor and Industrial Relations as a qualified substitute) for their on-site employees (laborers, workmen, drivers, equipment operators, and craftsmen) who have not previously completed such a program and are directly engaged in actual construction of the improvement (or working at a nearby or adjacent facility used for construction of the improvement). The Contractor and its subcontractor(s) shall require all such employees to complete this ten-hour program, pursuant to 292.675 RSMo, unless they hold documentation on their prior completion of said program. Penalties for non-compliance include Contractor forfeiture to the City in the amount of $2,500, plus $100 per contractor and subcontractor employee for each calendar day such employee is employed beyond the elapsed time period for the required program completion under 292.675 RSMo.

28. GOVERNING CONSTRUCTION STANDARDS:

Unless specifically noted otherwise within these Contract Documents, the following construction standards shall be used for and govern the work on this project:

Roadway Construction: Missouri Standard Specifications for Highway Construction, 2004 edition or latest version thereof by the Missouri Highways and Transportation Commission.

Attached Specifications.

The above noted documents are to be used as construction standards only. Contract language and specifications shall not be modified by these documents. Any part of the Contract or Contract Documents for this project shall take precedence over any contradictory language within the above noted documents.

29. POSTAL DELIVERIES:

The contractor is to make arrangements with the US Post Office to allow for delivery of the mail during the project. The contractor is to provide temporary mailboxes and reset or replace any existing mailboxes disturbed by the construction. This item shall be incidental and the contractor will not receive any direct payment for this item.

30. TRASH COLLECTION:

The contractor is to provide trash collection services if the construction activities prohibit regular collection services. This item shall be incidental and the contractor will not receive any direct payment for this item.

31. INGRESS/EGRESS ACCESS:

The contractor shall provide ingress/egress access to all properties at all times. All temporary roadways and driveways required on the project shall be incidental to the contract (unless otherwise provided) and no additional payment will be made for these items.

32. GROUND RESTORATION:

Unless otherwise provided, all disturbed areas within right-of-way or within established lawns shall be restored using sod or seed to match what was on the property originally, following City Standards.

SUMMARY OF REQUIRED SUBMITTALS

Submittals by Contractor:

Enclosed with Bid

- Proposal P1-P2 Submitted:_____
- Buy American Provisions (BA-1) Submitted:_____
- Immigration Compliance Affidavit and Documentation (P.IC-1 to IC-16) **NOTE: Contractor to sign all sheets in spaces provided.** Submitted:_____

Prior to Construction

- Bid Guaranty (p.IB-1) Submitted:_____
- Contract Agreement Submitted:_____
- Performance Bond (p. IB-2 and 2.7.04) Submitted:_____
- Payment Bond (p. IB-2) Submitted:_____
- Certificate of Insurance (p.IB-4, 2.7.01, 2.7.02, and 2.7.03) Submitted:_____
- Preliminary Work Schedule (p. IB-6 and 2.5.03) Submitted:_____
- Shop Drawings Submitted:_____
- List of Subcontractors (2.3.17) Submitted:_____

During Construction

- Requests for Partial and Final Payment
- Payroll Records (p. CA-2)
- Samples and Results of Tests (2.2.11 and 2.6.14)

Prior to Final Payment

- Payroll Records (p. CA-2) Submitted:_____
- Waiver of Liens (2.6.15) Submitted:_____
- Written Notice that work is ready for Final Inspection
- (p. CA-2) Submitted:_____
- Written Warranty (2.4.08 and CA-2) Submitted:_____
- Sworn Affidavit that all bills have been paid (CA-2) Submitted:_____

Submittals by Engineer:

- Tax Exemption Certificate (p. IB-4) Submitted:_____
- Notice of Award Submitted:_____
- Notice to Proceed (p. CA-1) Submitted:_____

NOTICE AND INSTRUCTIONS TO BIDDERS/VENDORS

REGARDING §§ 285.525 THROUGH 285.550 RSMO, EFFECTIVE JANUARY 1, 2009

Effective January 1, 2009 and pursuant to Missouri Revised Statute Section 285.530(1), "No business entity or employer shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the state of Missouri."

As a condition for the award of any contract or grant in excess of five thousand dollars ($5,000) by the state or by any political subdivision of the state (e.g. City of Sullivan, MO) to a business entity, the business entity (Company) shall, by sworn affidavit and provision of documentation, affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services. Every such business entity shall sign an affidavit affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. Section 285.530 (2) RSMo.

"Business Entity" is defined as:

> …[A]ny person or group of persons performing or engaging in any activity, enterprise, profession, or occupation for gain, benefit, advantage, or livelihood. The term "business entity" shall include but not be limited to self-employed individuals, partnerships, corporations, contractors, and subcontractors. The term "business entity" shall include any business entity that possesses a business permit, license, or tax certificate issued by the state, any business entity that is exempt by law from obtaining such a business permit, and any business entity that is operating unlawfully without such a business permit. The term "business entity" shall not include a self-employed individual with no employees or entities utilizing the services of direct sellers as defined in subdivision (17) of subsection 12 of section 288.034 RSMo. See, Sec. 285.525 RSMo

_____

Contractor Signature

_____

Date

The City of Sullivan, Missouri, in order to comply with Sections 285.525 through 285.550 RSMo, has instituted the following procedure:

Required Affidavit for Contracts Over $5,000 (US) – Effective January 1, 2009, business entities desiring to contract with the City for the provision of service shall comply with the provisions of Sectiosn 285.525 through 285.550 RSMo. Contract award is contingent upon Company providing an acceptable notarized affidavit stating:

1. that Company is enrolled in and participates in a federal work authorization program with respect to the employees working in connection with the contracted services; and

2. that Company does not knowingly employ any person who is an unauthorized alien in connection with the contracted services.

A sample affidavit is attached.

Additionally, Company must provide documentation evidencing current enrollment in a federal work authorization program (e.g. electronic signature page from E-Verify program's Memorandum of Understanding (MOU)).

The City of Sullivan encourages companies that are not already enrolled and participating in a federal work authorization program to do so. E-Verify is an example of this type of program. Information regarding E-Verify is available at http://www.dhs.gov/e-verify or by calling 888-464-4218.

_____
Contractor Signature

_____
Date

If you have any questions, please contact the Engineering Department at the City of Sullivan at 573-468-8965.

_____
Contractor Signature

_____
Date

STATE OF MISSOURI)

)ss

COUNTY OF)

AFFIDAVIT

(as required by Section 285.530, Revised Statutes of Missouri)

As used in this Affidavit, the following terms shall have the following meanings:

EMPLOYEE:

Any person performing work or service of any kind or character for hire within the State of Missouri.

FEDERAL WORK AUTHORIZATION PROGRAM:

Any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, under the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603.

KNOWINGLY:

A person acts knowingly or with knowledge,

(a) with respect to the person's conduct or to attendant circumstances when the person is aware of the nature of the person's conduct or that those circumstances exist; or

(b) with respect to a result of the person's conduct when the person is aware that the person's conduct is practically certain to cause that result.

_____

Contractor Signature

_____

Date

UNAUTHORIZED ALIEN:

An alien who does not have the legal right or authorization under federal law to work in the United States, as defined in 8 U.S.C. 1324a(h)(3).

BEFORE ME, the undersigned authority, personally appeared

_____, who, being duly sworn, states on his oath or affirmation as follows:

1. My name is _____ and I am currently the President of _____ (hereinafter "Contractor"), whose business address is _____, and I am authorized to make this Affidavit.

2. I am of sound mind and capable of making this Affidavit, and am personally acquainted with the facts stated herein.

3. Contractor is enrolled in and participates in a federal work authorization program with respect to the employees working in connection with the following services contracted between Contractor and

_____

_____

_____

_____

4. Contractor does not knowingly employ any person who is an unauthorized alien in connection with the contracted services set forth above.

_____
Contractor Signature

_____
Date

5. Attached hereto is documentation affirming Contractor's enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services.

Further, Affiant saith not.

_____

Printed Name, Affiant

Subscribed and sworn to before me this _____ day of _____,2009.

_____

Notary Public

My Commission Expires: State of Missouri

Commissioned in _____ County

PLEASE NOTE:

Acceptable enrollment and participation documentation consists of the E-Verify Memorandum of Understanding:

1. A valid, completed copy of the first page identifying the Contractor; and

2. A valid copy of the signature page completed and signed by the Contractor, and the Department of Homeland Security - Verification Division.

_____

Contractor Signature

_____

Date

CONTRACT AGREEMENT

This agreement, made the ____ day of March, 2018, by and between _____, Party of the First Part, hereinafter called the "Contractor", and CITY OF SULLIVAN, MISSOURI, Party of the Second Part, hereinafter called the "Owner".

WITNESSETH: That the Owner and the Contractor for the consideration hereinafter named agree as follows:

ARTICLE 1. Scope of Work:

The Contractor shall furnish all of the labor, materials, machinery, and equipment and perform all of the work outlined in the specifications entitled **North Side Park Restroom Block Installation,** furnished by the City of Sullivan Engineering Department, 210 West Washington, Sullivan, Missouri.

The Work to be done under this Contract consists of constructing and completing all work described in the proposal, attached.

ARTICLE 2. Time of Completion:

The work to be performed under this Contract shall be commenced seven (7) days after being given written notice to proceed from the City and shall be completed in fifteen (15) calendar days.

It is mutually understood and agreed that time is the essence of this Agreement and in the event said work is not completed on or before the date named above for its completion, party of the first part, the Contractor, shall pay liquidated damages to the Owner of $250.00 per day. Those damages shall be used to pay for the extra time required for the completion of the work and for the delays or damages to the traveling public affected by the project. Extra time shall in all cases be construed as the time required for completion after the date herein named. Extensions of time granted by the party of the second part, the Owner, for completion of the Contract on account of fire, strikes, or acts of Providence shall not be construed as extra time. The amount of such expense and services shall be determined by the Engineer, shall be reported to him in writing to the Owner, and shall be withheld from any money due the Contractor and paid to the proper parties.

ARTICLE 3. The Contract Sum:

The Owner shall pay the Contractor for the performance of the Contract a sum not-to-exceed _____ ($_____) for the performance of the Contract, subject to additions and deductions provided herein, in current funds at the prices named in the proposal attached to and a part of these documents and the contract.

ARTICLE 4. Progress Payments:

The Owner shall make payments on account of the Contract as provided therein as follows:

Contractor shall submit pay requests no later the last week of the month to be paid by the third Wednesday of the following month. Contractor shall certify and submit to the Engineer, an estimate of the amount and fair value of the work done, as a basis for partial payments therefore. The ten (10) percent (retainage) which is deducted each month is reserved by the City as partial guaranty of the faithful execution of the Contract by the Contractor.

It is understood and agreed that no partial payment shall be made to the Contractor until the Contractor shall furnish to the Engineer either the original or a duly certified copy of his and each of his subcontractor's payrolls and satisfactory proof of payment of, or satisfactory release thereof of all bills for services, materials, tools, supplies, and subcontractors. (i.e. lien waivers).

Requests shall be submitted on the City of Sullivan standard partial pay and final pay request and payroll forms contained within these documents.

ARTICLE 5. Acceptance and Final Payment:

The Contractor shall submit to the City a sworn affidavit that all bills for labor, service, materials, and subcontractors have been paid and that there are no suits pending in connection with the work done or labor and materials furnished under the Contract. All prior certificates and estimates, being approximate only, are subject to correction in the final estimate and payment. The Contractor with this contract hereby warrants all of the work done under this contract for a period of one (1) year following the completion of the project. Upon completion, the Contractor shall submit to the City a written one (1) year warranty on total project. Failure of the Contractor to submit a written warranty does not release the Contractor of this warranty in any way.

If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, the City shall upon certificate without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions covering final payment, and it shall not constitute a waiver of claims by the City.

ARTICLE 6. The Contract Documents:

The information for and instruction to bidders, the proposal, the bond, the general conditions of the contract, the specifications, and the drawings, together with the agreement, form the contract and they are as fully a part of this contract as if thereto attached or repeated.

ARTICLE 7. Prevailing Wage:

Contractor shall ensure that all labor performed in construction shall be compensated at prevailing wage, in accordance with the Missouri Division of Labor Standards Annual Wage Order No. 24, Section 036, (or the most current version thereof) applicable to Franklin County. Certified Payroll Sheets complying with the current wage order shall be submitted with each request for payment.

ARTICLE 8. Periods of Excessive Unemployment:

Contractor shall ensure that Section 290.550 through 290.580 RMSo (2000), inclusive are satisfied, in that only Missouri laborers or laborers from nonrestrictive states are employed on this project, and shall include these requirements in any subcontract entered by Contractor for this project.

ARTICLE 9. Choice of Law and Venue Provision:

Choice of Law: This contract shall be deemed to have been fully executed, made by the parties in, and governed by the laws of the State of Missouri for all purposed and intents. Venue shall be vested in courts of appropriate jurisdiction in Franklin County, Missouri.

ARTICLE 10. Compliance with City Code:

Contractor shall be in compliance with all City Codes and Ordinances.

IN WITNESS WHEREOF, the parties have hereto executed this Agreement the date of the year first above written.

CITY OF SULLIVAN, MISSOURI

_____

By: Dennis A. Watz, Mayor Date

Attest:

_____

City Clerk, Janice Koch

Contractor

_____

By: Date

Attest:

_____

Secretary

ACKNOWLEDGMENT WHERE THE CONTRACTOR
IS A CORPORATION

STATE OF MISSOURI)
)
COUNTY OF)

On this _____day of _____, 20_____, before me appeared _____, to me personally known, who being by me duly sworn did say that he is the President (other officer or agent), of _____Corporation, a corporation of the State of _____, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said _____ acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

_____
Notary Public

My Commission Expires: _____

ACKNOWLEDGMENT WHERE THE CONTRACTOR
IS A PARTNERSHIP

STATE OF MISSOURI)
)
COUNTY OF)

On this _____ day of _____, 20____ before me appeared _____, to me personally know, who being by me duly sworn did say he (she) is a member of the partnership of _____, and that as such partner he (she) has authority to execute the foregoing instrument on behalf of said partnership, ad acknowledge that he (she) executed the same as his (her) free act and deed and as the free act and deed of said partnership.

IN TESTIMONY WHEREOF, I have hereunto set my and affixed my official seal and day and year first above written.

_____
Notary Public

My Commission Expires: _____

EXHIBIT A

THIS FORM MUST BE COMPLETED AND ENCLOSED WITH THE BID

FRANKLIN COUNTY
DOMESTIC PRODUCTS PROCUREMENT ACT (BUY AMERICAN)

The Missouri Domestic Products Procurement Act (34.350-34.359 RSMo) requires that for all bids with a value of $25,000 or more, the goods or commodities purchased by any public agency (which definition includes all political subdivisions of the State, including counties) or used or supplied in the construction, alteration, repair, or maintenance of any public works must be manufactured or produced in the United States. As defined in 34.350 RSMo, United States means the United States of America, the District of Columbia, and all territories and possessions subject to the jurisdiction of the United States. The law also requires that the bidder must provide proof of compliance. Note: In general, if an import tariff is applied to an item, it does not qualify for the Buy American preference. In addition, Most Favored Nation status does not allow application of the preference.

Section A – All Products Are Manufactured or Produced In U.S.
If all products bid qualify as domestic products under Missouri law, complete only Section A.

I hereby certify that all products qualify as domestic, that the information provided is true and correct, and complies with all provisions of Sections 34.350-34.359 RSMo. I understand that any misrepresentation herein constitutes the commission of a class A misdemeanor pursuant to Section 34.355 of the Revised Statutes of Missouri.
SIGNATURE
COMPANY NAME

If Section A is completed, do not complete Section B.

Section B – Only One Product Line or No Products Are Manufactured or Produced In U.S.
If only one product line or no products are manufactured or produced in the U.S. complete only section B.

I hereby certify that there is only one product line or no product manufactured or produced in the U.S., that the information provided is true and correct, and complies with all provisions of Sections 34.350-34.359 RSMo. I understand that any misrepresentation herein constitutes the commission of a class A misdemeanor pursuant to Section 34.355 of the Revised Statutes of Missouri.
SIGNATURE
COMPANY NAME

Section C – Products May Qualify Because of Qualifying Treaty
If some or all products bid qualify for domestic status because of a trade treaty, etc., then the bidder must identify each product, country and qualifying treaty, etc. below. The bidder must list ALL products which are or may qualify as domestic below. If more space is needed, please copy this form and submit as an attachment.

BID ITEM NUMBER(S)	COUNTRY WHERE MANUFACTURED OR PRODUCED	QUALIFYING TREATY, LAW, AGREEMENT, OR REGULATION

SECTION C

I hereby certify that the specific items listed above are domestic, that the information provided is true and correct, and complies with all provisions of Sections 34.350-34.359 RSMo. I understand that any misrepresentation herein constitutes the commission of a class A misdemeanor pursuant to Section 34.355 of the Revised Statutes of Missouri.

SIGNATURE
COMPANY NAME

NOTICE OF AWARD

TO Contractor

Address

Address

Project Description: #16012 NORTH SIDE PARK RESTROOM BLOCK INSTALLATION

The City of Sullivan has considered the Bid submitted by you for the above described Work in response to its Invitation for Bids and Information for Bidders.

You are hereby notified that your Bid has been accepted for items in the amount of $ XXX.XX, _____.

You are required by the Information for Bidders to execute the Contract Agreement and furnish the required Contractors Bonding and Certificates of Insurance within ten (10) calendar days from the date of this Notice.

If you fail to execute said Agreement and to furnish said Bond within ten (10) calendar days from the date of this Notice, said City of Sullivan will be entitled to consider all your rights arising out of the City of Sullivan's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. The City of Sullivan will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the City of Sullivan.

Dated this ___ day of March, 2018.

Owner: CITY OF SULLIVAN

By: _____

City Engineer

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged

By_____

This the_____ day of _____,_____.

Title_____

Employer Identification Number _____

NOTICE TO PROCEED

TO Contractor

Address

Address

Project Description: #16012 NORTH SIDE PARK RESTROOM BLOCK INSTALLATION

You are hereby notified to commence Work in accordance with the Agreement dated _____, ____, within **seven (7)** calendar days from the date of this NOTICE TO PROCEED, or, on or before _____, ____. You are required to complete the Work in the Contract within **fifteen (15)** consecutive calendar days from the date of this Notice. The date of completion of all work is therefore _____, 2017.

Dated this ____ day of March, 2017.

Owner: CITY OF SULLIVAN

By:

City Engineer

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____

(Contractor) Company Name Typed or Printed

_____

Authorized Signature

_____

Name Typed or Printed

This the _____day of _____,_____

Title:_____

Employer identification Number: _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS THAT WE, the undersigned, _____ (hereinafter called the "Principal"), an *individual, partnership, or corporation, duly authorized by law to do business as a construction contractor in _____and _____ (hereinafter called the "Surety"), a corporation duly authorized to do a surety business under the laws of the State of Missouri, are held and firmly bound unto
(hereinafter called the "Obligee"), in the penal sum of _____ ($_____) dollars lawful money of the United States, for the payment of which well and truly to be made unto said Obligee, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents, as follows:

The conditions of this obligation are such that whereas on the ____ day of _____, 20__, the said Principal entered into a written agreement, which agreement is hereby made a part hereof, with said Obligee for the construction of _____ located at

_____.

Now, therefore, if the said Principal shall faithfully and properly perform the foregoing Contract according to all the terms thereof, and shall as soon as the work contemplated by said Contract is completed, pay to the proper parties all amount due for material, lubricants, oil, gasoline, grain, hay, food, coal, and coke, repairs on machinery, groceries and foodstuff, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums, both compensation and all other kinds of insurance, on said word, and for all labor performed in such work whether by subcontractor or otherwise, then this obligation to be void, otherwise to remain in full force and effect, and may be sued on for his use and benefit by any person furnishing materials or performing labor, either as an individual, or as a subcontractor for any contractor in the name of said Obligee.

*Mark out the inapplicable designation

Note: Performance Bond may be submitted utilizing Surety Companies standard form.

The said Surety for the value received, hereby stipulates and agrees that no charge, extensions of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extensions of time, alteration or addition to the terms of the agreement or the work or to the specifications.

IN TESTIMONY WHEREOF, the parties hereunto have cased the execution hereof in _____ original counterparts as of the _____ day of _____, 20____.

_____	_____
PRINCIPAL	SURETY
_____	_____
By	By
_____	_____
Title	Title

ATTEST:

_____ (Seal)

Capital Improvement Project
North Side Park Restroom Block Installation
Project #16012
Proposal

City of Sullivan
210 West Washington
Sullivan, MO 63080

In accordance with the advertisement inviting proposals regarding the above noted project for the City of Sullivan subject to the conditions, contract documents, specifications, including all addenda, and the plans, which so far as they relate to the proposal are made part of it, the undersigned herewith propose to construct the work specified at the following unit prices: (**Any Items Not Listed In Pay Items Shall Be Considered Incidental To Construction**)

Item No.	Description:	Units	Estimated Quantity	Unit Price	Total Price
1	INSTALLATION OF 8”X8”X16” SPLIT FACE CONCRETE MASONRY UNITS – COMPLETE	EA.	500	$_____	$_____
2	INSTALLATION OF 8”X8’X16” STANDARD CONCRETE MASONRY UNITS - COMPLETE	EA.	270	$_____	$_____

TOTAL BASE BID IN WORDS **$**_____

TOTAL BASE BID IN FIGURES **$**_____

(Signature required on page P2 of P2)

The undersigned bidder proposes and agree, if this bid is accepted, to enter into an agreement with the City in the form included in the Contract Documents to perform and furnish all work as specified or indicated in the contract documents for the contract price and within the contract time indicated in this bid and in accordance the other terms and conditions of the contract documents. The bidder accepts all of the terms and conditions of the advertisement or invitation to bid and instructions to bidders, including with limitation, those dealing with the disposition of bid security. This bid will remain subject to acceptance for 60 days. Bidder will sign and submit the agreement with the bonds and other documents required by the bidding requirements within 10 days after notice of award by the City. In submitting this bid, the bidder represents that he has examined copies of all bidding documents and all addenda (receipt of which is hereby acknowledged) and has attached a signed copy of each hereto.

Bidder has familiarized himself with the nature and extent of the contract documents, work, site conditions, locality, and laws and regulations that in any manner may affect the cost, progress, performance or furnishing of the work. Bidder has performed or obtained any additional examination, investigations, tests, reports, or similar information or data in respect to underground facilities as required to perform and furnish the work at the contract price, within the contract time and in accordance with the other terms and conditions of the contract documents. The bidder has given the City written notice of all conflicts, error, or discrepancies if any that it has discovered in the contract documents.

The bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation. The bidder has not directly or indirectly induced or solicited any other bidder to submit a false or sham bid. The bidder has not solicited or induced any person, firm, or corporation to refrain from bidding. The bidder has not sought by collusion to obtain for itself any advantage over any other bidder or the City.

The bidder understands and agrees that the City may elect to delete portions of the work before or after the award of the contract, and if the City so elects before the award of the contract, the bidder agrees that the bids will be compared and the contract sum and totals adjusted accordingly to account for deleted portions of the work. The summation of the item prices and item totals must equal the overall total amount. In the event of a discrepancy between the overall total amount and the mathematical summation of such item totals, the mathematical summation of the item totals and accounting for any deletions of portions of the work shall form the basis of the award and the basis for the contract sum.

_____ Mailing Address: _____

Contractor's Company Name _____

_____

_____ _____

Contractor's Authorized Rep. (SIGNATURE)

Date: _____

_____

Authorized Representative's Title Phone Number: _____

GENERAL CONDITIONS OF THE CONTRACT

SECTION 2.1 DEFINITIONS

2.1.01. CONTRACT DOCUMENTS: The Contract comprises of the following documents, including all additions, deletions and modifications incorporated therein before the execution of the Contract.

a) Legal and Procedural Documents

1. Advertisement
2. Information for Bidders
3. Proposal
4. Bid Guaranty
5. Contract
6. Performance Bond
7. Payment Bond

b) Special Provisions

c) General Conditions of the Contract

d) Detailed Specification Requirements

e) Drawings

2.1.02 ENGINEER is the City of Sullivan Engineer.

2.1.03 OWNER is the City of Sullivan, Missouri.

2.1.04 SUB-CONTRACTOR is any person, firm or corporation with a direct contract with the contractor who acts for or in behalf of the contractor in executing any part of the contract, but does not include one who merely furnishes material.

2.1.05 CONTRACTOR is the contractor named in the contract documents.

2.1.06 PROPOSAL: The offer of a bidder to perform the work described by the contract documents when made out and submitted on the prescribed proposal form, properly signed and guaranteed.

2.1.07 BID GUARANTY: The cashier's check or bidder's bond accompanying the proposal submitted by the bidder, as a guaranty that the bidder will enter into a contract with the owner for the construction of the work, if the contract is awarded to them.

2.1.08 CONTRACT is the agreement covering the performance of the work described in the contract documents including all supplemental agreements thereto and all general and special provisions pertaining to the work or material therefore.

2.1.09 PAYMENT BOND is the approved form of security furnished by the contractor and their surety as a guaranty of good faith on the part of the contractor to pay all fees owed for labor and materials required for the project in accordance with the terms of the contract.

2.1.10 PERFORMANCE BOND is the approved form of security furnished by the contractor and their surety as a guaranty of good faith on the part of the contractor to execute the work in accordance with the terms of the contract.

2.1.11 SURETY is the person, firm or corporation who executes the contractor's payment and performance bond.

2.1.12 SPECIFICATIONS shall mean the legal and procedural documents, general conditions of the contract, together with the modifications thereof, and the detailed specification requirements, with all addenda thereto.

2.1.13 DRAWINGS are those listed in the index to specifications and drawings with all addenda thereto.

2.1.14 WRITTEN NOTICE: Written notice shall be considered as served when delivered in person or sent by registered mail to the individual, firm or corporation or to the last business address of such known to those who serve the notice.

a) Change of Address: It shall be the duty of each party to advise the other parties to the contract as to any change in their business address until completion of the contract.

2.1.15 ACT OF GOD means an earthquake, flood, cyclone or other cataclysmic phenomenon of nature. Rain, wind, flood or other natural phenomenon of normal intensity for the locality shall not be construed as an Act of God and no reparation shall be made to the contractor for damages to the work resulting therefrom.

2.1.16 WORKING DAY: A working day is defined as any day when, in the opinion of the Engineer, soil and weather conditions are such as would permit any major operation of the project for six hours or over unless other unavoidable conditions prevent the contractor's operators. If conditions are such as to stop work in less than six hours, the day will not be counted as a working day. Saturdays, Sundays, national holidays and holidays established by the laws of the state will not be counted as working days.

2.1.17 PREVAILING WAGE RATES: The Contractor shall be required to comply with the Requirements of the "Wage Scale Determinations" as provided for each trade.

2.1.18 CITY: is the City of Sullivan, Missouri who is also the OWNER.

SECTION 2.2 DRAWINGS, SPECIFICATIONS AND RELATED DATA

2.2.01 INTENT OF DRAWINGS AND SPECIFICATIONS: The intent of the drawings and specifications is that the contractor furnish all labor and materials, equipment and transportation necessary for the proper execution of the work unless specifically noted otherwise. The contractor shall do all the work shown on the drawings and described in the specifications and all incidental work considered necessary to complete the project in a substantial and acceptable manner, and to fully complete the work or improvements, ready for use, occupancy and operation by the owner.

2.2.02 CONFLICT: If there be conflicting variance between the drawings and the specifications, the provisions of the specifications shall control. In case of conflict between the general conditions of the contract or any modifications thereof and the detailed specification requirements, the detailed specification requirements shall control.

2.2.03 DISCREPANCIES IN DRAWINGS: Any discrepancies found between the drawings and specifications and site conditions or any errors or omissions in the drawings or specifications shall be immediately reported to the Engineer, who shall promptly correct such error or omission in writing. Any work done by the contractor after their discovery of such discrepancies, errors or omissions shall be done at the contractor's risk.

2.2.04 ADEQUACY OF DRAWINGS AND SPECIFICATIONS: Responsibility for adequacy of the design and for sufficiency of the drawings and specifications shall be borne by the engineer. The complete requirements of the work to be performed under the contract shall be set forth in drawings and specifications to be supplied by the owner through the Engineer or by the Engineer as representative of the owner. Drawings and specifications furnished shall be in accordance with the contract documents and shall be true and accurate developments thereof.

2.2.05 ADDITIONAL INSTRUCTIONS: Further instructions may be issued by the Engineer during the progress of the work by means of drawings or otherwise to make more clear or specific the drawings and specifications or as may be necessary to explain or illustrate changes in the work to be done.

2.2.06 COPIES OF DRAWINGS AND SPECIFICATIONS FURNISHED: Except as provided for otherwise, all required copies of drawings and specifications necessary for the execution of the work shall be furnished to the contractor without charge.

2.2.07 DRAWINGS AND SPECIFICATIONS AT JOB SITE: One complete set of all drawings and specifications shall be maintained at the job site and shall be available to the City Engineer at all times.

2.2.08 OWNERSHIP OF DRAWINGS AND SPECIFICATIONS: All original or duplicated drawings and specifications and other data prepared by the Engineer shall remain the property of the Engineer and they shall not be reused on other work, but shall be returned to them upon completion of the work.

2.2.09 DIMENSIONS: Figured dimensions on the plans will be used in preference to scaling the drawings. Where the work of the contractor is affected by finish dimensions, these shall be determined by the contractor at the site, and they shall assume the responsibility therefore.

2.2.10 MODELS: All models prepared for this work shall become the property of the owner at the completion of the work.

2.2.11 SAMPLES: All samples called for in the specifications or required by the Engineer shall be furnished by the contractor and shall be submitted to the Engineer for his (her) approval. Samples shall be furnished so as not to delay fabrication, allowing the Engineer reasonable time for the consideration of the samples submitted. See also 2.6.15.

a.) Samples for Tests: Contractor shall furnish such samples of material as may be required for examination and test. All materials and workmanship shall be in accordance with approved samples. All samples of materials for tests shall be taken according to methods provided in the specifications.

b.) Quality Assurance - Concrete: In order to ensure the quality of the contractor's work, samples of all cast in place concrete shall be collected and tested by an independent testing laboratory. The cost of the collection and testing of such samples will be the contractor's expense. The contractor shall provide enough samples for testing as to ensure that all of the work meets the specifications. The engineer can direct the contractor to do additional testing at the contractor's expense if he/she determines the need for additional sampling.

c.) Quality Assurance – Soils and Base Rock: In order to ensure the quality of the contractor's backfill material, all soil and base rock shall be tested by an independent testing laboratory. The cost of the collection and testing of such samples will be the contractor's expense. The contractor shall provide enough samples for testing as to ensure that all of the work meets the specifications. The engineer can direct the contractor to do additional testing at the contractor's expense if he/she determines the need for additional sampling. The subgrade and base rock shall be proof rolled with a fully loaded tandem dump truck in both driving lanes and down the middle.

2.2.12 SHOP DRAWINGS: The contractor shall provide shop drawings, settings, schedules and such other drawings as may be necessary for the prosecution of the work in the shop and in the field as required by the drawings, specifications or Engineer's instructions. Deviations from the drawings and specifications shall be called to the attention of the Engineer at the time of the first submission of shop drawings and other drawings for approval. The Engineer's approval of any drawings shall not release the contractor from responsibility for such deviations. Shop drawings shall be submitted according to the following schedule:

a) Three copies shall be submitted at least thirty (30) days before the materials indicated thereon are to be needed, or earlier if required to prevent delay of the work.

b) The Engineer shall, within five (5) days of the submittal of any shop drawings, return one copy to the contractor marked with all corrections and changes.

c) The contractor shall then correct the shop drawings to conform to the corrections and changes requested by the Engineer.

d) Following completion of such corrections and changes, the contractor shall furnish the City Engineer one copy of the shop drawings conforming to the required corrections and changes.

2.2.13 QUALITY OF MATERIALS: In order to establish standards of quality, the Engineer has, in the detailed specifications, referred to certain products by name and catalog number. This procedure is not to be construed as eliminating from competition other products of equal or better quality by other manufacturers where fully suitable in design.

a) The Contractor shall furnish the complete list of proposed desired substitutions prior to signing of the contract, together with such engineering and catalog data as the Engineer may require.

b) The contractor shall abide by the Engineer's judgment when proposed substitute materials or items of equipment are judged to be unacceptable and shall furnish the specified material or item of equipment in such case. All proposals for substitutions shall be submitted in writing within a reasonable time. No substitute materials shall be used unless approved in writing.

c) An addendum will be issued prior to bid opening, identifying manufacturers of approved equipment. Only general contractors can request approval of equal equipment.

2.2.14 SURVEYS: The contractor shall establish all base lines for location of the principal component parts of the work together with a suitable number of bench marks adjacent to the work. Based upon the information, the contractor shall develop and make all detail staking necessary for construction, including slope stakes, batter boards, stakes for pile locations, back of curb and other working points, lines and elevations. The contractor shall have the responsibility to carefully preserve bench marks, reference points and stakes, and in the case of destruction thereof by the contractor or resulting from their negligence, the contractor shall be charged with the expense and damage resulting therefrom and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such bench mark, reference points and stakes.

The contractor shall be responsible at his own cost to replace any property corners, iron pipes, or property pins that are disturbed by his work. The survey work by contractor shall include providing survey information for utility company relocations. All surveying work shall be performed by a licensed surveyor within the State of Missouri.

2.2.15 AS BUILT PLANS: The Contractor is responsible for producing an as-built set of plans for the engineer within 2 weeks of completing the project. There shall be no direct payment for this item of work; it shall be subsidiary to the bid items.

SECTION 2.3 ENGINEER-OWNER-CONTRACTOR RELATIONS

2.3.01 ENGINEER'S RESPONSIBILITY AND AUTHORITY: All work shall be done under the general supervision of the Engineer. The Engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, rate of progress of work, interpretation of drawings and specifications and all questions as to the acceptable fulfillment of the contract on the part of the contractor.

2.3.02 ENGINEER'S DECISIONS: All claims of the owner or the contractor shall be presented to the Engineer for decision which shall be made in writing within a reasonable time. All decisions of the Engineer shall be final.

2.3.03 SUSPENSION OF WORK: The Engineer shall have the authority to suspend the work, wholly or in part, for such period or periods, as he (she) may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for prosecution of the work, or failure on the part of the contractor to carry out the provisions of the contract or to supply materials meeting the requirements of the specifications. The contractor shall not suspend operation without the Engineer's permission.

2.3.04 INSPECTION OF WORK: All materials and each part or detail of the work shall be subject at all times to inspection by the Engineer, and the contractor will be held strictly to the true intent of the specifications in regard to quality of materials, workmanship and the diligent execution of the contract. Such inspection may include mill, plant, or ship inspection, and any material furnished under these specifications is subject to such inspection. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the contractor as is required to make a complete and detailed inspection.

2.3.05 EXAMINATION OF COMPLETED WORK: If the Engineer requests it, the contractor at any time before acceptance of the work shall remove or uncover such portions of the finished work as may be directed. After examination, the contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering or removing, and the replacing of the covering or making good of the parts removed shall be paid for as extra work, but should the work so exposed or examined prove unacceptable, the uncovering, removing and replacing shall be at the contractor's expense.

2.3.06 CONTRACTOR'S SUPERINTENDENCE: A qualified superintendent, who is acceptable to the Engineer, shall be maintained on the work and give efficient supervision to the work until its completion. The superintendent shall have full authority to act in behalf of the contractor, and all directions given to the superintendent shall be considered given to the contractor. In general, the Engineer's instructions shall be confirmed in writing and always upon written request from the contractor.

2.3.07 LANDS BY OWNER: The owner shall provide the lands shown on the drawings upon which the work under the contract is to be performed and to be used for right-of-way for access. Any delay in furnishing these lands by the owner shall be deemed proper cause for adjustment in the time of completion.

2.3.08 LANDS BY CONTRACTOR: Any additional land and access thereto not shown on the drawings that may be required for temporary construction facilities or for storage of materials shall be provided by the contractor with no liability to the owner. The contractor shall confine their apparatus and storage of materials and operation of their workmen to those areas described in the drawings and specifications and such additional areas which he may provide as approved by the Engineer.

2.3.09 PRIVATE PROPERTY: The contractor shall not enter upon private property for any purpose without obtaining permission, and they shall be responsible for the preservation of all public property, trees, monuments, etc., along and adjacent to the street and/or right-of-way, and shall use every precaution necessary to prevent damage to pipes, conduits, and other underground structures, and shall protect carefully from disturbance or damage all monuments, and property marks until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.

2.3.10 ASSIGNMENT OF CONTRACT: Neither the contractor nor the owner shall sublet, sell, transfer, assign or otherwise dispose of the contract or any portion thereof, or of his right, title or interest therein, or their obligation thereunder, without written consent of the other party.

2.3.11 REMOVAL OF CONSTRUCTION EQUIPMENT, TOOLS AND SUPPLIES: At the termination of this contract, before acceptance of the work by the Engineer, the contractor shall remove all of their equipment, tools and supplies from the property of the owner. Should the contractor fail to remove such equipment, tools and supplies, the owner shall have the right to remove them.

2.3.12 SUSPENSION OF WORK BY THE OWNER: The work or any portion thereof may be suspended at any time by the owner provided that he gives the contractor five (5) days written notice of suspension, which shall set forth the date on which work is to be resumed. The contractor shall resume the work upon written notice from the owner and within ten days after the date set forth in the notice of suspension. If the owner does not give written notice to resume work within ten days of the date fixed in the notice of suspension, the contractor may abandon that portion of the work so suspended and shall be entitled to payment in accordance with Paragraph 2.6.10.

2.3.13 OWNER'S RIGHT TO CORRECT DEFICIENCIES: Upon failure of the contractor to perform the work in accordance with the contract documents, including any requirements with respect to the schedule of completion, and after five days written notice to the contractor and receipt of written approval from the Engineer, the owner may, without prejudice to any other remedy he (she) may have, correct such deficiencies.

2.3.14 OWNER'S RIGHT TO TERMINATE CONTRACT AND COMPLETE THE WORK: The owner shall have the right to terminate the employment of the contractor after giving ten days written notice of termination of the contractor in the event of any default by the contractor and upon receiving written notice from the Engineer certifying the cause for such action. In the event of such termination, the owner may take possession of the work and of all materials, tools and equipment thereon and may finish the work by whatever method and means they select.

It shall be considered a default by the contractor whenever they shall:

a) Declare bankruptcy, become insolvent, or assign their assets for the benefit of their creditors.

b) Disregard or violate important provisions of the contract documents or Engineer's instructions, or fail to prosecute the work according to the agreed schedule of completion, including extensions thereof.

c) Fail to provide a qualified superintendent, competent workmen or sub-contractors, or proper materials, or fail to make prompt payment thereof.

2.3.15 CONTRACTOR'S RIGHT TO SUSPEND WORK OR TERMINATE CONTRACT: The contractor may suspend work or terminate contract upon ten days written notice to the owner and Engineer, for any of the following reasons:

a) If an order of any court, or public authority caused the work to be stopped or suspended for a period of ninety days through no act or fault of the contractor or their employees.

b) If the Engineer should fail to act upon any request for payment within thirty days after it is presented in accordance with the general conditions of the contract.

c) If the owner should fail to pay the contractor any sum within thirty days after its award by arbitrators.

2.3.16 RIGHTS OF VARIOUS INTERESTS: Wherever work being done by the owner's forces or by other contractors is contiguous to work covered by this contract, the respective rights of the various interests involved shall be established by the Engineer, to secure the completion of the various portions of the work in general harmony.

2.3.17 SUBCONTRACTS: At the time specified by the contract documents or when requested by the Engineer, the contractor shall submit in writing to the owner for approval of the Engineer the names of the sub-contractors proposed for the work. Sub-contractors may not be changed except at the request or with the approval of the Engineer. The contractor is responsible to the owner for the acts and omissions of their employees. The contract documents shall not be construed as creating any contractual relation between any sub-contractor and owner. The contractor shall bind every sub-contractor by the terms of the contract documents.

For convenience of reference and to facilitate the letting of contracts and subcontracts, the specifications are separated into titled sections. Such separations shall not, however, operate to make the Engineer an arbiter to establish limits to the contracts between contractor and subcontractor.

2.3.18 WORK DURING AN EMERGENCY: The contractor shall perform any work and shall furnish and install any materials and equipment necessary during an emergency endangering life or property. In all cases they shall notify the Engineer of the emergency as soon as practicable, but he (she) shall not wait for instructions before proceeding to properly protect both life and property.

2.3.19 ORAL AGREEMENTS: No oral order, objection, claim or notice by any party to the others shall affect or modify any of the terms of obligations contained in any of the contract documents, and none of the provisions of the contract documents shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or modification thereof in writing, and no evidence shall be introduced in any proceeding of any other waiver or modifications.

2.3.20 SAFETY: The contractor shall employ adequate safety procedures and techniques in the performance of their work.

SECTION 2.4 MATERIALS AND WORKMANSHIP

2.4.01 MATERIALS FURNISHED BY THE CONTRACTOR: All materials used in the work shall meet the requirements of the respective specifications, and no material shall be used until it has been approved by the Engineer. All materials not otherwise specifically indicated shall be furnished by the contractor.

2.4.02 STORAGE OF MATERIALS: Materials shall be so stored as to insure the preservation of their quality and fitness for the work. When considered necessary, they shall be placed on wooden platforms or other hard, clean surfaces, and not on the ground, and/or they shall be placed under cover. Stored materials shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposes without written permission of the owner or lessee.

2.4.03 CHARACTER OF WORKMEN: The contractor shall at all times be responsible for the conduct and discipline of their employees and/or any sub-contractor or persons employed by sub-contractors. All workmen must have sufficient knowledge, skill and experience to perform properly the work assigned to them. Any foreman or workman employed by the contractor or sub-contractor who, in the opinion of the Engineer, does not perform their work in a skilled manner, or appears to be incompetent or to act is a disorderly or intemperate manner shall, at the written request of the Engineer, be discharged immediately and shall not be employed again in any portion of the work without the approval of the Engineer.

2.4.04 REJECTED WORK AND MATERIALS: All materials which do not conform to the requirements of the contract documents are not equal to samples approved by the Engineer, or are in any way unsatisfactory or unsuited to the purpose for which they are intended, shall be rejected. Any defective work whether the result of poor workmanship, use of defective materials, damage through carelessness or any other given cause shall be removed within ten days after written notice is given by the Engineer, and the work shall be re-executed by the contractor. The fact that the Engineer may have previously overlooked such defective work shall not constitute an acceptance of any part of it.

a) Should the contractor fail to remove work or materials rejected within ten days after written notice to do so, the owner may remove them and may store the material.

b) Correction of faulty work after final payment shall be in accordance with Paragraph 2.6.18.

2.4.05 MANUFACTURER'S DIRECTIONS: Manufactured articles, material and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer unless herein specified to the contrary.

2.4.06 CUTTING AND PATCHING: The contractor shall do all necessary cutting and patching of the work that may be required to properly receive the work of the various trades or as required by the drawings and specifications to complete the structure. The contractor shall restore all such cut or patched work as directed by the Engineer. Cutting of existing structure that shall endanger the work, adjacent property, workmen or the public shall not be done unless approved by the Engineer and under his (her) direction.

2.4.07 CLEANING UP: The contractor shall remove from the owner's property, and from all public and private property, all temporary structures, rubbish, and waste materials resulting from their operation or caused by their employees, and shall remove all surplus materials leaving the site smooth, clean and true to line and grade.

2.4.08 GUARANTY PERIOD: The contractor shall warrant all material furnished, equipment furnished and work performed by them for a period of one year from the date of written acceptance of the work. This warranty shall be documented to the City in writing by an authorized representative of the contractor. Failure of contractor to provide written warranty does not absolve contractor of said warranty.

SECTION 2.5 PROGRESS AND COMPLETION OF WORK

2.5.01 NOTICE TO PROCEED: Following the execution of the contract by the owner, written notice to proceed with the work shall be given to the contractor. The contractor shall begin and shall prosecute the work regularly and uninterruptedly thereafter (unless otherwise directed in writing by the owner) with such force as to secure the completion of the work within the time stated in the proposal.

2.5.02 CONTRACT TIME: The contractor shall complete, in an acceptable manner, all of the work contracted for in the time stated in the proposal. Computation of contract time shall commence on the seventh day following the date of mailing, by regular mail, of the notice to proceed.

2.5.03 SCHEDULE OF COMPLETION: The contractor shall submit, at such times as may reasonably be requested by the Engineer, schedules which shall show the order in which the contractor proposes to carry on the work, with dates at which the contractor will start the several parts of the work, and estimated dates of completion of the several parts.

2.5.04 CHANGES IN THE WORK: The Owner may, as the need arises, order changes in the work through additions, deletions or modifications without invalidating the contract. Compensation and time of completion affected by the change shall be adjusted as described in section 2.5.05, “EXTRA WORK”.

2.5.05 EXTRA WORK: New and unforeseen items of work found to be necessary and which cannot be covered by any item or combination of items for which there is a contract price shall be classed as extra work. Extra work is further defined as any work required to complete the project that is not already included within the contract documents or incidental to the work that is to be performed on the project within the Contract Documents. The contractor shall do such extra work and furnish such materials as may be required for the proper completion or construction of the whole work contemplated upon written order from the Owner as approved by the Engineer. In the absence of such written order, no claim for extra work shall be considered. Extra work shall be performed in accordance with these specifications or special provisions shall be done in accordance with the best practice as approved by the Engineer. Extra work required in an emergency to protect life and property shall be performed by the Contractor as required.

The Contractor is contracting with a municipality, and as such, the Mayor and Board of Aldermen have the sole authority to execute change orders for Extra Work on behalf of the Owner. The authority direct the performance of Extra Work by the Contractor may be delegated to the Engineer by an ordinance of the Board of Aldermen.

Engineer is authorized to give written orders to the Contractor to perform minor changes in the project <u>not</u> involving an adjustment in the total contract sum, extension of contract time, and not inconsistent with the intent of the Contract Documents. The contractor shall carry out such written orders promptly.

The Contractor must make written notice of all Extra Work claims promptly before conditions change or are disturbed and in no event later than 21 days after first observance of the conditions requiring the Extra Work. The written notice of Extra Work shall include an explanation of the conditions leading to the Extra Work, estimated Extra Work quantities, and cost estimate of the Extra Work and be issued to the Engineer.

2.5.06 EXTENSION OF CONTRACT TIME: A delay beyond the contractor's control occasioned by an Act of God or act of omission on the part of the owner or by strikes, lockouts, fire, etc., may entitle the contractor to an extension of time in which to complete the work as determined by the Engineer, provided, however, that the contractor shall give immediate notice to the Engineer of the cause of such delay. For any single delay in the project in excess of 2 calendar days, the Contractor shall provide the Engineer written notice of such delay and reasons for said delay within 7 days of the occurrence of the delay.

2.5.07 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 completion of uncompleted work or causes refinishing of completed work, the contractor shall be entitled to such extra compensation, or extension of time or both, as the Engineer may determine.

SECTION 2.6 MEASUREMENT AND PAYMENT

2.6.01 DETAILED BREAKDOWN OF CONTRACT AMOUNT: Except in cases where unit prices form the basis for payment under the contract, the contractor shall within ten days of receipt of notice to proceed, submit a complete breakdown of the contract amount showing the value assigned to each part of the work including an allowance for profit and overhead. Upon approval of the breakdown of the contract amount by the Engineer, it shall be used as the basis of all requests for payment.

2.6.02 REQUESTS FOR PAYMENT: The contractor may submit periodically but not more than once each month a request for payment for work done and materials delivered and stored on the site. All pay requests must be made to the Engineer at least 10 days before the last day of the month. The contractor shall furnish the Engineer all reasonable facilities required for obtaining the necessary information relative to the progress and execution of the work. Payment for materials stored on the site will be conditioned upon evidence submitted to establish the owner title to such materials. Each request for payment shall be computed from the work completed on all items listed in the detailed breakdown of contract amount, less a percentage to be retained as detailed in the Contract Agreement until final completion and acceptance of the work, and less previous payments. Where unit prices are specified, the request for payment shall be based on the quantities completed. See also section 2.6.20 and the Contract Agreement. The Contractor shall submit all pay requests on the forms incorporated in these specifications for all partial and final pay requests.

2.6.03 ENGINEER'S ACTION ON A REQUEST FOR PAYMENT: Within ten days of submission of any request for payment by the contractor, the Engineer shall:

a) Approve the request for payment as submitted.

b) Approve such other amounts as he (she) shall decide is due the contractor, informing the contractor in writing of his (her) reason for approving the amended amount.

c) Withhold the request for payment, informing the contractor in writing of their reasons for withholding it.

2.6.04 OWNER'S ACTION ON AN APPROVED REQUEST FOR PAYMENT: Within fourteen days from the date of approval of a request for payment by the Engineer, the owner shall:

a) Approve the request for payment to be mailed on the third Wednesday of the month following the Contractor’s request for payment.

b) Approve to pay such other amount in accordance with Paragraph 2.6.05 as they shall decide is due the contractor, informing the contractor and the Engineer in writing of their reasons for paying the amended amount. Payment of the amended amount will be mailed on the third Wednesday of the month following the Contractor’s request for payment.

c) Notify the Contractor and the Engineer in writing that payment will be withheld in accordance with Paragraph 2.6.05 and informing the contractor and the Engineer of their

reasons for withholding payment.

2.6.05 OWNER'S RIGHT TO WITHHOLD PAYMENT OF AN APPROVED REQUEST FOR PAYMENT: The owner may withhold payment in whole or in part on an approved request for payment to the extent necessary to protect themselves from loss on account of any of the following causes discovered subsequent to approval of a request for payment by the Engineer.

a) Defective work.

b) Evidence indicating the probable filing of claims by other parties against the contractor.

c) Failure of the contractor to make payments to sub-contractors, material suppliers or labor.

d) Damage to another contractor.

2.6.06 RESPONSIBILITY OF THE CONTRACTOR: Unless specifically noted otherwise, the contractor shall furnish all materials and services and perform all the work described by the contract documents or shall have all materials and services furnished and all the work performed at their expense. It shall be the contractor's responsibility to pay for:

a) Replacement of survey bench marks, reference points and stakes provided by the owner under Paragraph 2.2.14 and all construction staking.

b) Lands by contractor provided in accordance with Paragraph 2.3.08.

c) Insurance obtained in accordance with Paragraphs 2.7.01 and 2.7.02.

d) Fire insurance obtained in accordance with Paragraph 2.7.03.

e) Payment and Performance bond obtained in accordance with Paragraph 2.7.04.

f) Royalties required under Paragraph 2.7.05.

g) Permits and licenses required of the contractor and sub-contractors.

2.6.07 PAYMENT FOR UNCORRECTED WORK: Should the Engineer direct the contractor not to correct work that has been damaged or that was not performed in accordance with the contract documents, an equitable deduction from the contract amount shall be made to compensate the owner for the uncorrected work.

2.6.08 PAYMENT FOR REJECTED WORK AND MATERIALS: The removal of work and materials rejected under Paragraph 2.4.04 and the re-execution of acceptable work by the contractor shall be at the expense of the contractor, and they shall pay the cost of replacing the work of other contractors destroyed or damaged by the removal of rejected work or materials and the subsequent replacement of acceptable work.

a) Removal of rejected work or materials and storage of materials by the owner in accordance with Paragraph 2.4.04 shall be paid by the contractor within thirty days after

written notice to pay is given by the owner. It the contractor does not pay the expenses of such removal and after ten days written notice being given by the owner of their intent to sell the materials at auction or at private sale and shall pay to the contractor the net proceeds therefrom after deducting all the cost and expenses that should have been borne by the contractor.

2.6.09 PAYMENTS FOR EXTRA WORK: Written notice of claims for payments for extra work shall be given by the contractor within ten days after receipt of instructions from the owner as approved by the Engineer to proceed with the extra work and also before any work is commenced, except in emergency endangering the life or property. No claim shall be made valid unless so made. In all cases, the contractor's itemized estimate sheets showing all labor and material shall be submitted to the Engineer. The owner's order for extra work shall specify any extension of the contract time and one of the following methods of payments:

a) Unit prices or combinations of unit prices which formed the basis of the original contract.

b) A lump sum based on the contractor's estimate, accepted by the owner, and approved by the Engineer.

c) Forced account as described in Section 2.6.19.

2.6.10 PAYMENT FOR WORK SUSPENDED BY THE OWNER: If the work or any part thereof shall be suspended by the owner and abandoned by the contractor as provided in Paragraph 2.3.13, the contractor will then be entitled to payment for all work done on the portions so abandoned.

2.6.11 PAYMENT FOR WORK BY THE OWNER: The cost of the work performed by the owner in removing construction equipment, tools and supplies in accordance with Paragraph 2.3.12 and in correcting deficiencies in accordance with Paragraph 2.3.14 shall be paid by the contractor.

2.6.12 PAYMENT FOR WORK BY THE OWNER FOLLOWING HIS TERMINATION OF THE CONTRACT: Upon termination of the contract by the owner in accordance with Paragraph 2.3.14, no further payments shall be due the contractor until the work is completed. If the unpaid balance of the contract amount shall exceed the cost of completing the work including all overhead costs, the excess shall be paid to the contractor. If the cost of completing the work shall exceed the unpaid balance, the contractor shall pay the difference to the owner. The cost incurred by the owner, as herein provided, and the damage incurred through the contractor's default, shall be certified by the owner, and approved by the Engineer.

2.6.13 PAYMENT FOR WORK TERMINATED BY THE CONTRACTOR: Upon suspension of the work or termination of the contract by the contractor within accordance with Paragraph 2.3.15, the contractor shall recover payment from the owner for the work performed.

2.6.14 PAYMENT FOR SAMPLES AND TESTING OF MATERIALS: Samples furnished in accordance with Paragraph 2.2.11 shall be furnished by the contractor at their expense.

a) Testing of samples and materials furnished in accordance with Paragraph 2.2.11 shall be arranged and paid for by the contractor.

2.6.15 RELEASE OF LIENS: The contractor shall deliver to the owner a complete release of all liens arising out of this contract before the retained percentage or before the final request for payment is paid. If any lien remains unsatisfied after all payments are made, the contractor shall refund to the owner such amounts as the owner may have been compelled to pay in discharging of such liens including all costs and a reasonable attorney's fee.

2.6.16 ACCEPTANCE AND FINAL PAYMENT: When the contractor shall have completed the work in accordance with the terms of the contract documents, the Engineer shall certify his (her) acceptance to the owner and his (her) approval of the contractor's final request for payment, which shall be the contract amount plus all approved additions less all approved deductions (including retention) and less previous payments made. The request for final payment shall be made on the form contained in these specifications. The contractor shall furnish evidence that they have fully paid all debts for labor, material, and equipment incurred in connection with the work, following which the owner shall accept the work and release the contractor except as to the conditions of the performance bond, any legal rights of the owner, required guarantees, and corrections of faulty work after final payment, and shall authorize payment of the contractor's final request for payments per the Contract Agreement. The contractor must allow sufficient time between the time of completion of the work and approval of the final request for payment for the Engineer to assemble and check the necessary data.

2.6.17 TERMINATION OF CONTRACTOR'S RESPONSIBILITY: The contract will be considered complete when all work has been finished, the final inspection made by the Engineer, and the project accepted in writing by the owner. The contractor's responsibility shall then cease, except as set forth in their performance bond, as required by the guaranty period in accordance with Paragraph 2.4.08 and as provided in Paragraph 2.6.18.

2.6.18 CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT: The approval of the final request for payment by the Engineer and the making of the final payment by the owner to the contractor shall not relieve the contractor of responsibility for the faulty materials or workmanship. The owner shall promptly give notice of faulty materials or workmanship and the contractor shall promptly replace any such defects discovered within two years from the date of written acceptance of the work. The Engineer shall decide all questions arising under this paragraph, and all such decisions shall be subject to arbitration.

2.6.19 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK: All extra work done on a force account basis will be paid for in the manner hereinafter described, and the compensation thus provided shall be accepted by the Contractor as payment in full for the use of small tools, superintendent's services, timekeeper's service, premium on bond, and all other overhead expenses incurred in the prosecution of all extra work done on a force account basis. Payment will be made as follows:

a) For all materials purchased by the contractor and used in this specific work, they will receive the actual cost of such materials including freight charges, as shown by original receipted bills for materials and freight, to which will be added an amount equal to 15% of the sum thereof.

b) For all labor and foremen, engaged in the specific operation, the Contractor will receive the prevailing wage and will be paid on the project for each and every hour that said labor and foremen are actually engaged in such work, to which will be added an amount equal to 15% of the sum thereof. In addition the contractor shall be paid a sum equal to the workmen's compensation insurance premium and the actual cost of Social Security taxes, computed on the base rate for the class of work involved for the actual amount of the payroll.

c) For any machine, power, and equipment which it may be deemed necessary or desirable to use, the contractor will be allowed reasonable rental price, which shall be agreed upon before such work is begun for each and every hour that said machinery or equipment is in use on such work, to which sum no percentage shall be added.

The contractor's timekeeper and the inspector shall compare records of extra work on a force account basis at the end of each day. Copies of these records shall be made in duplicate by the inspector and shall be signed by both the inspector and the contractor's timekeeper, one copy being forwarded respectively to the engineer and the contractor.

No extra work will be paid for unless unit prices or wages have been agreed upon in writing before such work is started. Bills for force account work must be sworn to and submitted in triplicate to the Engineer with the current monthly estimate.

2.6.20 REQUEST FOR PAYMENT FORM: All Requests for Payment shall use the City of Sullivan partial and final pay requests. Copies of these forms are contained within these contract documents.

SECTION 2.7 INSURANCE, LEGAL RESPONSIBILITY AND PUBLIC SAFETY

2.7.01 INSURANCE: The contractor shall secure and maintain such insurance from an insurance company authorized to write casualty insurance in the state where the work is located as will protect himself, his sub-contractors, and the owner from claims for bodily injury, death or property damage which may arise from operations under this contract. The contractor shall not commence work under this contract until they have obtained all insurance required under this paragraph and shall have filed the certificate of insurance or the certified copy of the insurance policy with the owner. Each insurance policy shall contain a clause providing that it shall not be cancelled by the insurance company without ten days written notice to the owner of intention to cancel. The amounts of such insurance shall be not less than the following:

a) Contractor's Bodily Injury Liability and Property Damage Liability Insurance:

1)	Property Damage, Injury or death of one person	$2,000,000
2)	Injury to more than one person in a single accident	$2,525,423

b) Automobile and Truck Public Liability, Bodily Injury, and Property Damage:

1)	Property Damage, Injury or death of one person	$2,000,000
2)	Injury to more than one person in a single accident	$2,525,423

Certificates of insurance sent to the City as evidence of insurance shall contain the following statement, and in their absence the certificate will not be satisfactory to the City:

> The insurance evidenced by this certificate will not be cancelled or altered except after ten (10) days from receipt by the City of Written notice thereof.

The Contractor shall ensure that all subcontractors also comply with the requirements of this provision. Insurance are further detailed in the Information for Bidders.

2.7.02 INDEMNITY: The Contractor shall indemnify and save harmless the City of Sullivan from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgements of every nature and description brought or recovered against it by reasons of any omission or act of the contractor, its agents or employees, in the execution of the work or in the guarding of it.

2.7.03 FIRE INSURANCE: In addition to such fire insurance as the contractor elects to carry for their own protection, they shall secure and maintain in the name of the owner policies upon such structures and material and in such amounts as to fully protect the owner. The policies shall be secured from a company which is satisfactory to the owner and delivered to the owner.

2.7.04 PAYMENT AND PERFORMANCE BOND: The Contractor shall, at the time of their execution of the contract, furnish a corporate bond in the sum equal to the contract amount. The form of the bond shall be as the owner may prescribe and with a surety company authorized to do business in the states where the work is located.

2.7.05 PATENTS AND ROYALTIES: If any design, device, material or process covered by letters, patent or copyright is used by the contractor, they shall provide for such use by legal agreement with the owner of the patent or a duly authorized license of such owner, and shall save harmless the owner from any and all loss or expense on account thereof, including its use by the owner.

2.7.07 PERMITS: All permits and licenses necessary for the prosecution of the work shall be secured by the contractor.

2.7.07 LAWS TO BE OBSERVED: The Contractor shall give all notices and comply with all federal, state and local laws, ordinances and regulations in any manner affecting the conduct of the work, and all such orders and decrees as exist, or may be enacted by bodies or tribunals having any jurisdiction or authority over the work, and shall indemnify and save harmless the owner against any claim or liability arising from, or based on the violation of any such law, ordinance, regulation, order or decree, whether by himself or his employees.

2.7.08 WARNING SIGNS AND BARRICADES: The Contractor shall provide adequate signs, barricades, red lights, and watchmen and take all necessary precautions for the protection of the work and the safety of the public. All barricades and obstructions shall be protected at night by amber signal lights which shall be kept burning from sunset to sunrise. Barricades shall be of substantial construction and shall be painted white or white-washed to increase their visibility at night. Suitable warning signs shall be so placed and illuminated at night as to show in advance where construction, barricades or detours exist. See detour plan provided by City for placement of devices.

2.7.09 PUBLIC SAFETY AND CONVENIENCE: The Contractor shall at all times so conduct their work as to insure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the work, and to insure the protection of persons and property in a manner satisfactory to the Engineer. No road or street shall be closed to the public except with the permission of the Engineer and proper governmental authority. Fire hydrants on or adjacent to work shall be kept accessible to fire fighting equipment at all times. Temporary provisions shall be made by the Contractor to insure the use of sidewalks and the proper functioning of all gutters, sewer inlets, drainage ditches, and irrigation ditches, which shall not be obstructed except as approved by the Engineer.

2.7.10 CROSSING UTILITIES: When new construction crosses highways, railroads, streets or utilities under the jurisdiction of state, county, city or other public agency, public utility or private entity, the contractor shall secure written permission from the proper authority before executing such new construction. A copy of this written permission must be filed with the owner before any work is done. The Contractor will be required to furnish a release from the proper authority before final acceptance of the work.

2.7.11 SANITARY PROVISIONS: The Contractor shall provide and maintain such sanitary accommodations for the use of their employees and those of their sub-contractors as may be necessary to comply with the requirements and regulations of the local and state departments of health and as directed by the Engineer.

JOB SPECIAL PROVISIONS

TABLE OF CONTENTS

(Job Special Provisions shall take precedence over the plans, specifications, and General Conditions whenever in conflict therewith).

All items of work either previously stated or described herein shall include all materials, labor and equipment necessary to complete the work at the locations shown on the plans in accordance with the specifications and the special provisions.

1. GOVERNING SPECIFICATIONS AND DEFINITION CHANGES

Unless specifically noted otherwise within these Contract Documents, the following specifications shall be used for and govern the work on this project:

Roadway Construction: "Missouri Standard Specifications for Highway Construction" latest edition and "Standard Plans for Highway Construction" latest edition by the Missouri Highway and Transportation Commission (MHTC).

Specifications of the City of Sullivan.

2. WORK ZONE TRAFFIC MANAGEMENT PLAN

All traffic control shall conform to the latest version of the Manual of Uniform Traffic Control Devices (MUTCD).

Contractor must maintain access to all residential and commercial properties at all times unless otherwise agreed upon by the engineer in writing. At least one lane of traffic will remain open at all times unless otherwise agreed upon by the engineer in writing.

Basis of Payment. Payment for the above mentioned work will be at the contracts unit bid price for "Traffic Control."

3. UTILITIES

For informational purposes only, the following is a list of names, addresses, and telephone numbers of the known utility companies in the area of the construction work for this improvement:

Utility Name	**Known Required Adjustment**	**Anticipated Relocation Completion Date**
Electric City of Sullivan 210 West Washington Sullivan, MO 63080 Telephone (573) 468-4612		
Telephone Fidelity Cablevision, Inc. 52 North Clark Sullivan, MO 63080 Telephone (573) 364-5206		
Gas Missouri Natural Gas 6 Progress Parkway Union, MO 63084 Telephone (636) 584-8440		

Sewer
City of Sullivan
210 West Washington
Sullivan, MO 63080
Telephone (573) 468-4612

Water
City of Sullivan
210 West Washington
Sullivan, MO 63080
Telephone (573) 468-4612

Cable
Fidelity Cablevision, Inc.
52 North Clark
Sullivan, MO 63080
Telephone (573) 364-5206

The City does not warrant that the above information or the depiction of utility lines or facilities on other bidding documents are complete or accurately reflect either all utilities or their precise locations within or adjacent to the project limits or the status of any relocation work. The bidder is solely responsible to plan and execute its sequence of work only in reliance on information obtained by it from utility companies.

UTILITY COMPANY WORK SCHEDULES: Contractors assume all risk in bidding or planning their work in reliance on this information. By submitting its bid and executing this contract the contractor represents it has taken into account all possible effects of these relocations and its need to coordinate its work with that of the utilities in its planned timing and sequence of work and its manpower and equipment loading. Contractor agrees that it shall have no claim for damages by reason of any direct or indirect effect, by way of delay or otherwise, of any of these utility relocations.

By submitting a bid on this project, contractors certify that they have taken into account in their planned order of work, personnel and equipment loading and schedule all effects of the presence of the utilities, their relocation and all effects, cost and impacts of the same in their bid prices.

Therefore, contractors agree that any effects of the presence of the utilities, their relocation shall not be compensable as a suspension of work, extra work, a change in the work, as a differing site condition or otherwise including without delay, impact, cumulative impact, incidental or consequential damages. Contractor's SOLE REMEDY for the effects of the presence of utilities, delay or any other effects shall be in an excusable delay as provided in Missouri Standard Specifications Section 105.7.3. The contractor waives, itself, its subcontractors and suppliers the compensability of the presence of the utilities, delay in their relocation and any cost to the contractor, its subcontractors and suppliers in any claim or action arising out of or in relation to the work under the contract.

The Contractor's Progress Schedule, required as a part of this section and in conformance with Section 108.4 of the Missouri Standard Specifications shall reflect coordination of the contractor's work with that of the utility relocation including, without limitation, all dependencies of the contractor's or its subcontractors work upon relocation of utility lines and facilities and the effects of the utility relocation on the order of work provided in other parts of the contract documents.

The contractor shall be solely responsible and liable for and hold and save harmless the City from all damages, including incidental and consequential damages, to any utility lines or facilities or interruption of service caused by its subcontractor's operations in the event the contractor or any of its subcontractors begin to work in areas where utility relocations have not been completed.

No direct payment will be made for the contractor's compliance with above section.

4. AS BUILTS

1.0 Description. This specification covers the requirements, deliverables, standards, and basis of payment for the preparation and delivery of construction as-built plans.

1.1 Requirements. The as-built plans shall include the following: the size, type and manufacturer information of material used, horizontal and vertical coordinates of all utilities visible from the surface, alignment of underground facilities, flowline elevations of all sewers, all permanent improvements, and all changes/deviations from the plans. As-built plans shall be prepared by a licensed surveyor in the State of Missouri.

2.0 Basis of Payment. Unless otherwise provided in the contract documents, there shall be no direct payment for this item of work; it shall be subsidiary to the bid items.

5. GENERAL SITE ITEMS

Contractor is to maintain and be responsible for drainage throughout the project duration. The contractor will plate any new or existing structures that may be required due to phasing/construction work.

The Contractor shall keep the work site in an orderly manner, free from trash and other debris. All work materials removed from the site shall be removed by the end of each workday.

Mailboxes within the limits of operations shall be removed, as needed, by the contractor. They shall be set temporarily where they will be accessible to both the carrier and the patron, and shall be properly reset by the contractor at designated locations before final acceptance of the work by the City. Mailboxes damaged by the contractor shall be replaced by the contractor. All mailbox supports set by the contractor shall comply with AASHTO guidelines.

The contractor will maintain access for local trash services.

6. QUALITY ASSURANCE - TESTING

The contractor will be responsible for hiring an independent testing firm that will report directly to the City, in order to obtain and perform all required material testing per the MoDot Materials Manual specifications.

Basis of Payment. Payment for the above mentioned work will be per the MoDot Specifications for Highway Construction and be incidental to the various bid items where testing is required.

7. SITE ACCESS

The Contractor shall access the work area directly for this project. The Contractor, shall be responsible for coordinating his operations with the property owner(s) and returning the area disturbed to its pre-construction condition.

8. PROPERTY OWNER ISSUES

The Contractor is to provide temporary mailboxes and reset or replace any existing mailboxes disturbed by the construction. Arrangements are to be made with the US Post Office to allow for delivery of mail.

The Contractor is to provide trash collection services if the construction activities prohibit regular trash collection.

The Contractor is to provide ingress/egress access to all property owners at all times by whatever temporary means is available.

These items shall be incidental and the Contractor will not receive any direct payment for these items.

9. DAMAGE TO EXISTING IMPROVEMENTS NOT TO BE DISTURBED

The Contractor shall be responsible for the replacement of all items damaged outside the construction limits or not noted to be removed or adjusted. Any area beyond the temporary construction easement that is disturbed shall be sodded at contractor's sole expense. There is no direct payment for this work; it shall be subsidiary to the bid items.

TECHNICAL SPECIFICATIONS

No direct payment will be made for incidental items necessary to complete the work as described unless specifically provided as a pay item in the contract. Missouri Standard Specifications for Highway Construction shall be utilized except as amended in the Job Special Provisions or the technical specifications below.

ITEM NO. 1 INSTALLATION OF 8”X8”X16” SPLIT FACE CONCRETE MASONRY UNITS - COMPLETE

This work shall be performed in accordance with the attached technical specifications. This item shall include the installation of concrete masonry units complete. This item is to include all labor and equipment for a completed installation on previously prepared foundation and slab. This item shall be paid per concrete masonry unit installed.

ITEM NO. 2 INSTALLATION OF 8”X8”X16” STANDARD CONCRETE MASONRY UNITS - COMPLETE

This work shall be performed in accordance with the attached technical specifications. This item shall include the installation of concrete masonry units complete. This item is to include all labor and equipment for a completed installation on previously prepared foundation and slab. This item shall be paid per concrete masonry unit installed.

TECHNICAL SPECIFICATIONS

City of Sullivan
North Side
Park Restroom
Sullivan, Missouri
Project No. 16012

January 2018

210 West Washington
Sullivan, Missouri 63080
Telephone: 573-468-8965
Fax: 573-468-8964

TABLE OF CONTENTS

SECTION 02920 – FINISH GRADING AND HYDROSEEDING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Seeding.

1.2 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.

B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

E. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

1. Seed Mixes
2. Mulches
3. Binders/Tackifiers
4. Fertilizers

B. Certification of grass seed.

1. Certification of each seed mixture for turfgrass sod.

C. Product certificates.

D. Planting Schedule: Indicating anticipated planting dates for each type of planting.

1.5 QUALITY ASSURANCE

A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.

1. Report suitability of topsoil for lawn growth. State-recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

1.6 MAINTENANCE SERVICE

A. Initial Lawn Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:

1. Stabilized Lawns: 60 days from date of Substantial Completion.

a. When initial maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

PART 2 PRODUCTS

2.1 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with United States Department of Agriculture Rules and Regulations under the Federal Seed Act. for purity and germination tolerances.

B. Seed Species: State-certified seed of grass species, as follows:

1. Proportioned by weight as follows:
   a. 20% Falcon Fescue
   b. 20% Calahari Fescue
   c. 20% Scorpion Fescue
   d. 20% Ultimate Fescue
   e. 20% Fine Lawn Elite Fescue

2.2 TOPSOIL

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.

B. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.

C. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient.

2.3 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C 602, agricultural limestone containing a minimum of 80 percent calcium carbonate equivalent and as follows:

1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.

B. Perlite: Horticultural perlite, soil amendment grade.

C. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate.

D. Sand: Clean, washed, natural or manufactured, free of toxic materials.

2.4 ORGANIC SOIL AMENDMENTS

A. Peat: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.

B. Peat: Finely divided or granular texture, with a pH range of 6 to 7.5, containing partially decomposed moss peat, native peat, or reed-sedge peat and having a water-absorbing capacity of 1100 to 2000 percent.

2.5 FERTILIZER

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

B. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.

C. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

D. Composition: 12 percent nitrogen, 12 percent phosphoric acid, and 10 percent potash, by weight.

2.6 MULCHES

A. Mulch shall be composed of cellulose or wood fiber products with no growth or germination inhibiting substances, and shall be manufactured in such a manner that when thoroughly mixed with seed, fertilizer, organic stabilizer, and water, in the proportions specified, will form homogeneous slurry which is capable of being sprayed to form a porous mat. The fibrous mulch in its air-dry state shall contain no more than 15% by weight of water. The fiber shall have a temporary green dye and shall be accompanied by a certificate of compliance stating that the fiber conforms to those specifications.

2.7 ORGANIC STABILIZER/TACKIFIER

A. Shall be an organic substance supplied in powder form and shall be psilium-based and packed in clearly marked bags stating the contents of each package. The California Department of Food and Agriculture shall certify the material as an Auxiliary Soil Chemical.

2.8 EQUIPMENT

A. Equipment used for application of slurry shall be commercial-type Hydro-Seeder and have a built-in agritation system with an operation capacity sufficient to agitate, suspend and homogeneously mix slurry. Tank capacity shall be a minimum of 1,500 gallons and shall be mounted on a truck to allow access to the site.
   1. Distribution Lines: Large enough to prevent stoppage and allow for eve distribution of slurry over the site.
   2. Pump: Shall be able to generate 150 psi at the nozzle.

2.9 WATER

A. Water will be provided after Contractor applies for a Hydrant Use Permit.

PART 3 - EXECUTION

3.1 GENERAL

A. Areas to receive seeding treatments include all turfgrass areas as shown on the site plan, and other areas as determined by the Owner..

B. Contractor shall be available to retreat areas disturbed by ongoing activities by the Owner. Cost of retreatment shall be the responsibility of the Owner.

3.2 SOIL PREPARATION

A. Verify that all areas of turf seeding treatments are free of vegetation, and other objectionable material.

B. Verify that grades are final within standards specified.

C. All turf areas shall be uniformly compacted.

D. Perform soil tests and amend soils as necessary.

3.3 SEEDED TURFGRASS AREAS

A. Hydroseeding Preparation: Do all slurry preparation at the job site:
   1. Water, mulch, fertilizer, binder and other ingredients shall be added to the tank simultaneously so that the finished load is a homogenous mix of the specified ingredients.
   2. Seed shall be added last and shall be discharged within 2 hours. Loads held over 2 hours will be recharged with ½ the seed rate before application.
   3. Once fully loaded, the complete slurry shall be agitated for 3-5 minutes to allow for uniform mixing.

B. HydroSeeding Application: One Step Hydroseed

LBS/AC	MATERIAL
2,000 lbs	100% Cellulose or Wood Fiber
500 lbs	Fertilizer (2.06 Fertilizer 6-24-24)

150 lbs	Seed as per Section 2.1 Seed

1. General: All hydroseed applications are to be applied in a sweeping motion to form a uniform application n dorm a mat at the specified rates.
2. Unused Loads: If mixture remains in tank for more than 8 hours it shall be removed from the job site at Contractor's expense.
3. Reseeding: After "Final Acceptance", reseeding will be done at the request of the Owner and shall be considered extra.

3.4 CLEAN-UP

A. General: All turf areas and staging areas shall be maintained in a neat and orderly condition. Keep paved area free of soil.
B. Hydro-Seeding Overspray: Installing Contractor is responsible for washing or otherwise cleaning excess material off all area not intended to receive treatment.
C. Debris: Clean up and remove associated materials and debris from project site before Final Acceptance.

3.5 LAWN MAINTENANCE

A. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.

B. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings.

3.4 SATISFACTORY LAWNS

A. Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any and bare spots not exceeding 5 by 5 inches.

B. Use specified materials to reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

END SECTION 02920

SECTION 03300 – CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

B. See Division 2 Section "Earthwork" for drainage fill under slabs-on-grade.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture.

C. Material Certificates.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specification for Structural Concrete."

2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

B. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.

C. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice."

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I or II

B. Normal-Weight Aggregates: ASTM C 33, graded, 3/4-inch, nominal maximum coarse-aggregate size.

1. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C 94/C 94M and potable.

D. Air-Entraining Admixture: ASTM C 260.

E. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.4 VAPOR RETARDERS

A. Plastic Vapor Retarder: ASTM E 1745, Class C, or polyethylene sheet, ASTM D 4397, not less than 10 mils thick. Include manufacturer's recommended adhesive or pressure-sensitive joint tape.

2.5 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.

F. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

G. All cure and seal compounds shall be USDA approved.

2.6 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber. Provide with ½” thick removable “cap” to allow installation of caulk.

2.7 CONCRETE MIXTURES

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, according to ACI 301.

B. Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 4000 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.40.
3. Slump Limit: 4 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch.
4. Air Content for Exterior Exposed Concrete: 6 percent plus or minus 1 percent.
5. Air Content for Interior Exposed Concrete: 4.0 percent plus or minus 0.5 percent.
6. Air Content: Do not allow air content of troweled finished floors to exceed 2.5 percent.

2.8 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.9 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork according to ACI 301 to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Chamfer exterior corners and edges of permanently exposed concrete.

3.2 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. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR RETARDERS

A. Plastic Vapor Retarders: Place, protect, and repair vapor retarders according to ASTM E 1643 and manufacturer's written instructions.

1. Lap joints 6 inches and seal with manufacturer's recommended tape.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.5 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

D. Isolation Joints in Slabs-on-Grade: 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.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

C. Cold-Weather Placement: Comply with ACI 306.1.

D. Hot-Weather Placement: Comply with ACI 301.

3.7 FINISHING FORMED SURFACES

A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities. Grind patched areas smooth.

1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, to be covered with a coating or covering material applied directly to concrete.

3.8 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces indicated to receive trowel finish.

C. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces indicated 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.

2. Finish and measure surface so gap at any point between concrete surface and an unleveled, freestanding, 10-foot-long straightedge resting on 2 high spots and placed anywhere on the surface does not exceed 1/8 inch.

D. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.

3.9 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for 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, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

a. After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.

4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.10 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

3.11 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

1. Testing Services: Tests shall be performed according to ACI 301.

END OF SECTION 03300

SECTION 04810 - UNIT MASONRY ASSEMBLIES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes unit masonry assemblies consisting of the following:

1. Concrete masonry units (CMUs).

B. See Division 5 Section "Metal Fabrications" for furnishing steel lintels and shelf angles for unit masonry.

C. See Division 7 Section "Sheet Metal Flashing and Trim" for furnishing manufactured reglets installed in masonry joints for metal flashing, and “Water Repellants” that are applied to the exterior face of CMU.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Material Certificates: For each type of product indicated. Include statements of material properties indicating compliance with requirements including compliance with standards and type designations within standards.

1. For masonry units include material test reports substantiating compliance with requirements.

C. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1.3 QUALITY ASSURANCE

A. Preconstruction Testing Service: Owner will engage a qualified independent testing agency to perform preconstruction testing indicated below. Payment for these services will be made by Owner.
1. Mortar Test (Property Specification): For each mix required, per ASTM C 780.
2. Grout Test (Compressive Strength): For each mix required, per ASTM C 1019.

1.4 PROJECT 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 ACI 530.1/ASCE 6/TMS 602.

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

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.

2.2 CONCRETE MASONRY UNITS (CMUs)

A. Shapes: Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.

B. Concrete Masonry Units: ASTM C 90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2,000 psi.
2. Weight Classification: Normal weight.

2.3 MORTAR AND GROUT MATERIALS

A. Mortar Mix: Mastercraft Type S or approved equal.

B. Core Fill Masonry Grout: Spec Mix or approved equal.

C. Aggregate for Mortar: ASTM C 144.

1. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.

D. Aggregate for Grout: ASTM C 404.

E. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

1. Products:

a. Addiment Incorporated; Mortar Kick.
b. Euclid Chemical Company (The); Accelguard 80.
c. Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Morset.
d. Sonneborn, Div. of ChemRex; Trimix-NCA.

F. Water: Potable.

2.4 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

B. Masonry Joint Reinforcement: ASTM A 951; mill galvanized, carbon-steel wire for interior walls and hot-dip galvanized, carbon-steel wire for exterior walls.

1. Wire Size for Side Rods: W1.7 or 0.148-inch diameter.
2. Wire Size for Cross Rods: W1.7 or 0.148-inch diameter.
3. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches o.c.
4. Single-Wythe Masonry: Either ladder or truss type with single pair of side rods.

2.5 EMBEDDED FLASHING MATERIALS

A. Metal Flashing: Provide metal flashing**,** where flashing is exposed or partly exposed and where indicated, complying with Division 7 Section "Sheet Metal Flashing and Trim."

2.6 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; formulated from neoprene.

B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 and designed to fit standard sash block and to maintain lateral stability in masonry wall.

C. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).

2.7 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains from new masonry without damaging masonry. Use product approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

1. Manufacturers:

a. Diedrich Technologies, Inc.
b. EaCo Chem, Inc.
c. ProSoCo, Inc.

2.8 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Limit cementitious materials in mortar for exterior and reinforced masonry to Portland cement and lime.
3. 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. Mortar for Unit Masonry: Comply with ASTM C 270, Property Specification.

1. For reinforced masonry, use Type S.

C. Grout for Unit Masonry: Comply with ASTM C 476 and referenced unit masonry standard.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Use full-size units without cutting if possible. If cutting is required, 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.

B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.

C. Comply with tolerances in ACI 530.1/ASCE 6/TMS 602 and with the following:

1. 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, 1/4 inch in 20 feet, or 1/2 inch 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, 1/4 inch in 20 feet, or 1/2 inch maximum.

3.2 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 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. Fill cores in hollow concrete masonry units with grout 24 inches under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.

3.3 MORTAR BEDDING AND JOINTING

A. Lay solid masonry units 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.

B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.

C. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint), unless otherwise indicated.

3.4 MASONRY JOINT REINFORCEMENT

A. General: Install in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.

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.

3.5 REINFORCED UNIT MASONRY INSTALLATION

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other temporary loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

C. 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 ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than four feet.

3.6 FIELD QUALITY CONTROL

A. Inspectors: Owner will engage qualified independent inspectors to perform inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.

1. Place grout only after inspectors have verified compliance of grout spaces and grades, sizes, and locations of reinforcement.

B. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections indicated below and prepare test reports:

C. Concrete Masonry Unit Test: For each type of unit provided, per ASTM C 140.

D. Mortar Test (Property Specification): For each mix provided, per ASTM C 780. Test mortar for mortar air content and compressive strength.

E. Grout Test (Compressive Strength): For each mix provided, per ASTM C 1019.

3.7 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. Protect adjacent surfaces from contact with cleaner.
3. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
4. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
5. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
6. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

3.8 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 of finished grade.
2. Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04810

SECTION 05500 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Miscellaneous steel framing and supports.
2. Metal bollards.

B. Products furnished, but not installed, under this Section:

1. Loose steel lintels.
2. Anchor bolts, to be cast into concrete or built into unit masonry.

1.2 PERFORMANCE REQUIREMENTS

A. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

PART 2 - PRODUCTS

2.1 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces without blemishes.

2.2 FERROUS METALS

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Steel Pipe: ASTM A 53/A 53M, standard weight (Schedule 40) unless otherwise indicated.

2.3 FASTENERS

A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941, at exterior walls.

1. Provide stainless-steel fasteners for fastening aluminum.
2. Provide stainless-steel fasteners for fastening stainless steel.

B. Cast-in-Place Anchors in Concrete: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.

2.4 MISCELLANEOUS MATERIALS

A. Zinc rich primer.

B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

2.5 FABRICATION, GENERAL

A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.

C. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

2. Obtain fusion without undercut or overlap.

3. Remove welding flux immediately.

4. At exposed connections, finish exposed welds and surfaces smooth and blended.

D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Locate joints where least conspicuous.

E. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

F. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors not less than 24 inches o.c.

2.6 METAL BOLLARDS

A. Fabricate metal bollards from Schedule 40 steel pipe.

B. Drill plates to receive anchor bolts and for grouting.

2.7 LOOSE STEEL LINTELS

A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated.

B. Galvanize loose steel lintels located in exterior walls.

C. Prime loose steel lintels located in interior walls with zinc-rich primer.

2.8 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish metal fabrications after assembly.

2.9 STEEL AND IRON FINISHES

A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.

B. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.

1. Shop prime with zinc rich primer.

C. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning" and SSPC-SP 3, "Power Tool Cleaning." Requirements indicated below:

1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

2. Other Items: SSPC-SP 3, "Power Tool Cleaning."

D. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

C. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

2. Obtain fusion without undercut or overlap.

3. Remove welding flux immediately.

4. At exposed connections, finish exposed welds and surfaces smooth and blended.

D. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

3.2 INSTALLING METAL BOLLARDS

A. Anchor bollards in place with concrete footings. Place concrete and vibrate or tamp for consolidation. Support and brace bollards in position until concrete has cured.

B. Fill bollards solidly with concrete, mounding top surface to shed water.

3.3 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION 05500

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Framing with dimension lumber.
2. Wood blocking and nailers.
3. Wood furring.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded 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. Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA C2.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.

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, and similar concealed members in contact with masonry or concrete.

2.3 DIMENSION LUMBER FRAMING

A. Maximum Moisture Content: 19 percent.

B. Framing other than Non-Load-Bearing Interior Partitions: No. 2 grade of any of the following species:

1. Hem-fir (north); NLGA.
2. Southern pine; SPIB.
3. Douglas fir-larch; WCLIB or WWPA.

4. Mixed southern pine; SPIB.
5. Spruce-pine-fir; NLGA.
6. Douglas fir-south; WWPA.
7. Hem-fir; WCLIB or WWPA.
8. Douglas fir-larch (north); NLGA.
9. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Furring.

B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of any species.

C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine, No. 2 grade; SPIB.
2. Eastern softwoods, No. 2 Common grade; NeLMA.
3. Northern species, No. 2 Common grade; NLGA.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified.

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 A 153/A 153M of Type 304 stainless steel.

B. Power-Driven Fasteners: NES NER-272.

C. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

2.6 METAL FRAMING ANCHORS

A. Basis-of-Design Products: Subject to compliance with requirements, provide products as indicated on the drawings as manufactured by Simpson Strong-Tie Company, Inc.

B. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

2.7 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than **0.025 inch**.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

C. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.

D. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.

E. Do not splice structural members between supports, unless otherwise indicated.

F. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

G. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. NES NER-272 for power-driven fasteners.

2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

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.

END OF SECTION 06100

SECTION 06160 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Roof sheathing.

1.2 DELIVERY, STORAGE, AND HANDLING

A. Stack plywood and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS, GENERAL

A. Plywood: Either DOC PS 1 or DOC PS 2, unless otherwise indicated.

B. Oriented Strand Board: DOC PS 2.

2.2 ROOF SHEATHING

A. Plywood Roof Sheathing: Exposure 1, Structural I sheathing.

B. Oriented-Strand-Board Roof Sheathing: Exposure 1, Structural I sheathing.

2.3 FASTENERS

A. General: Provide fasteners of size and type indicated.

1. For wall and roof sheathing panels, provide fasteners with corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117.

2.4 WEATHER-RESISTANT SHEATHING PAPER

A. Building Paper: ASTM D 226, Type 1 (No. 15 asphalt-saturated organic felt), unperforated.

2.5 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than 0.025 inch.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

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

1. NES NER-272 for power-driven fasteners.

2. Table 2304.9.1, "Fastening Schedule," in ICC's "International Building Code."

B. Coordinate sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that exclude exterior moisture.

C. 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. E30K, "APA Design/Construction Guide: Residential & Commercial."

1. Comply with "Code Plus" installation provisions in guide referenced in paragraph above.

B. Fastening Methods: Fasten panels as indicated below:

1. Roof Sheathing:
   a. Nail to wood framing.

3.3 WEATHER-RESISTANT SHEATHING-PAPER INSTALLATION

A. General: Cover sheathing with weather-resistant sheathing paper as follows:

1. Cut back barrier 1/2 inch on each side of the break in supporting members at expansion- or control-joint locations.

2. Apply barrier to cover vertical flashing with a minimum 4-inch overlap, unless otherwise indicated.

B. Building Paper: Apply horizontally with a 2-inch overlap and a 6-inch end lap; fasten to sheathing with galvanized staples or roofing nails.

3.4 FLEXIBLE FLASHING INSTALLATION

A. Apply flexible flashing where indicated to comply with manufacturers written instructions.

1. Lap seams and junctures with other materials at least 4 inches, except that at flashing flanges of other construction, laps need not exceed flange width.

2. Lap flashing over weather-resistant building paper at bottom and sides of openings.

3. Lap weather-resistant building paper over flashing at heads of openings.

4. After flashing has been applied, roll surfaces with a hard rubber or metal roller.

END OF SECTION 06160

SECTION 07411 - METAL ROOF & WALL PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exposed-fastener, lap-seam metal roof and wall panels.

1.2 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide metal roof panel assemblies capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated, based on testing according to ASTM E 1592:

1. Wind Loads: Determine loads based on the following minimum design wind pressures:

a. Uniform pressure of 30 lbf/sq. ft., acting inward or outward.

2. Snow Loads: 30 lbf/sq. ft.

3. Deflection Limits: Metal roof panel assemblies shall withstand wind and snow loads with vertical deflections no greater than 1/240 of the span.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication and installation layouts of metal roof panels; details of edge conditions, side-seam and end lap joints, panel profiles, corners, anchorages, trim, flashings, closures, and accessories; and special details. Distinguish between factory- and field-assembled work.

C. Samples: For each type of exposed finish required.

D. Coordination Drawings: Roof plans, drawn to scale, based on input from installers of the items involved.

E. Warranties: Samples of special warranties.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

1.5 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace metal roof panel assemblies that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Ten years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal roof panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANEL MATERIALS

A. Metallic-Coated Steel Sheet: Restricted flatness steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.
2. Surface: Smooth, flat finish.
3. Exposed Coil-Coated Finish:
a. 3-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat.

4. Concealed Finish: Manufacturer's standard white or light-colored acrylic or polyester backer finish.

B. Panel Sealants:

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
2. Joint Sealant: ASTM C 920; as recommended in writing by metal roof panel manufacturer.
3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.2 UNDERLAYMENT MATERIALS

A. Felts: ASTM D 226, Type II (No. 30) asphalt-saturated organic felts.

B. Slip Sheet: Manufacturer's recommended slip sheet, of type required for application.

2.3 MISCELLANEOUS MATERIALS

A. Panel Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal roof panels by means of plastic caps or factory-applied coating. Provide EPDM, PVC, or neoprene sealing washers.

B. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.4 EXPOSED-FASTENER, LAP-SEAM METAL ROOF & WALL PANELS

A. General: Provide factory-formed metal roof panels designed to be installed by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.
1. Basis-of-Design Product: Subject to compliance with requirements, provide R-Panel by Metal Sales or comparable product by one of the following:

a. Alcoa Inc.

b. Berridge Manufacturing Company.
c. Butler Manufacturing; a BlueScope Steel company.
d. Copper Sales, Inc.
e. MBCI; a division of NCI Building Systems, L. P.
f. McElroy Metal, Inc.
g. Metecno-Morin Corporation; Division of Metecno Inc.

2. Profile: Trapezoidal rib as indicated on Drawings.
3. Material: Zinc-coated (galvanized) steel sheet, 24 gauge.

a. Exterior Finish: KYNAR 500.
b. Color: Match adjacent Menard's facility.

4. Major-Rib Spacing: 12" o.c.
5. Panel Coverage: 36".

2.5 ACCESSORIES

A. Panel Accessories: Provide components approved by panel manufacturer and as required for a complete metal panel assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal roof panels.
2. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
3. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.

B. Flashing and Trim: Formed from same material as panels, prepainted with coil coating, minimum 0.018 inch thick. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal roof panels.

2.6 FABRICATION

A. Fabricate and finish metal roof and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

C. Fabricate metal panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weathertight and minimize noise from movements within panel assembly.

D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

PART 3 - EXECUTION

3.1 PREPARATION

A. Substrate Board: Install substrate boards over roof sheathing on entire roof surface. Attach with substrate-board fasteners.

1. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.

B. Miscellaneous Framing: Install subpurlins, eave angles, furring, and other miscellaneous roof panel support members and anchorage according to metal panel manufacturer's written instructions.

3.2 UNDERLAYMENT INSTALLATION

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated on Drawings, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days.

B. Felt Underlayment: Apply at locations indicated on Drawings, in shingle fashion to shed water, and with lapped joints of not less than 2 inches.

C. Apply slip sheet over underlayment before installing metal roof panels.

D. Install flashings to cover underlayment to comply with requirements specified in Division 7 Section "Sheet Metal Flashing and Trim."

3.3 METAL PANEL INSTALLATION

A. Lap-Seam Metal Panels: Fasten metal panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.

1. Apply panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.
2. Lap ribbed or fluted sheets one full rib corrugation.
3. Provide metal-backed neoprene or EPDM washers under heads of exposed fasteners bearing on weather side of metal roof panels.
4. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
5. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.
6. Provide sealant tape at lapped joints of metal roof panels and between panels and protruding equipment, vents, and accessories.
7. Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on end laps, and on side laps of nesting-type panels; on side laps of corrugated nesting-type, ribbed, or fluted panels; and elsewhere as needed to make panels weatherproof to driving rains.
8. At panel end splices, nest panels with minimum 6-inch end lap, sealed with butyl-rubber sealant and fastened together by interlocking clamping plates.

3.4 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
2. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

3.5 CLEANING

A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain in a clean condition during construction.

END OF SECTION 07411

SECTION 07620 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Rake trim.
2. Gutters.
3. Downspouts.

1.2 SUBMITTALS

A. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.

1.4 WARRANTY

A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.

B. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required.

2.2 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
   1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
      a. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
   2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
   3. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
   4. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329 or Series 300 stainless steel.

C. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

2.3 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.
   1. Obtain field measurements for accurate fit before shop fabrication.
   2. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
   3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.

B. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant.

C. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

D. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

E. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints where necessary for strength.

2.4 GUTTERS AND DOWNSPOUTS

A. Hanging Gutters: Provide 5” Ogee gutter, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch long sections. Furnish flat-stock gutter spacers and gutter brackets fabricated from same metal as gutters, of size recommended by SMACNA but not less than twice the gutter thickness. Fabricate expansion joints and gutter accessories form same metal as gutters.

B. Downspouts: Provide 4” corrugated, rectangular downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, and anchors. Provide concrete splash block at downspout discharge.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement so that completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
   1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
   2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
   3. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
   4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
   5. Install sealant tape where indicated.
   6. Torch cutting of sheet metal flashing and trim is not permitted.

B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.

C. Fastener Sizes: Use fasteners of sizes that will penetrate wood sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

D. Seal joints as shown and as required for watertight construction.

3.2 GUTTER AND DOWNSPOUT INSTALLATION

A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.

B. Hanging Gutters: Join sections with riveted and soldered joints or with lapped joints sealed with sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchored gutter brackets spaced not more than 36 inches apart. Provide end closures and seal watertight with sealant. Slope to downspouts.

C. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate at top and bottom and at approximately 60 inches o.c. in between.

3.3 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturers written installation instructions.

END OF SECTION 07620

SECTION 07920 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes sealants for the following applications, including those specified by reference to this Section:

B. This Section includes sealants for the following applications:

1. Exterior joints in the following vertical surfaces and nontraffic horizontal surfaces:
    a. Perimeter joints between materials listed above and frames of doors and windows.
2. Exterior joints in the following horizontal traffic surfaces:
    a. Control, expansion, and isolation joints in cast-in-place concrete slabs.
    b. Joints between different materials listed above.
3. Interior joints in the following vertical surfaces and horizontal nontraffic surfaces:
    a. Perimeter joints of exterior openings where indicated.
    b. Perimeter joints between interior wall surfaces and frames of interior doors, and windows.
    c. Joints between plumbing fixtures and adjoining walls, floors, and counters.
4. Interior joints in the following horizontal traffic surfaces:
    a. Control and expansion joints in cast-in-place concrete slabs.

1.3 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.4 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Samples for Verification: For each type and color of joint sealant required. Install joint sealants in 1/2-inch wide joints formed between two 6-inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Product Certificates: Signed by manufacturers of joint sealants certifying that products furnished comply with requirements and are suitable for the use indicated.

E. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.

B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.

B. Store and handle materials in compliance with manufacturers written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer.
2. When joint substrates are wet.

B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.8 WARRANTY

A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Special Installer's Warranty: Written warranty, signed by Installer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

C. Special Manufacturer's Warranty: Written warranty, signed by elastomeric sealant manufacturer agreeing to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.

D. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:

1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
2. Disintegration of joint substrates from natural causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.

4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 PRODUCTS AND MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified in the sealant schedules at the end of Part 3.

2.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range for this characteristic.

2.3 ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealant Standard: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant in the Elastomeric Joint-Sealant Schedule at the end of Part 3, including those referencing ASTM C 920 classifications for type, grade, class, and uses.

B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified in the Elastomeric Joint-Sealant Schedule to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

2.4 LATEX JOINT SEALANTS

A. Latex Sealant Standard: Comply with ASTM C 834 for each product of this description indicated in the Latex Joint-Sealant Schedule at the end of Part 3.

2.5 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:

1. Type C: Closed-cell material with a surface skin.

C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F (minus 32 deg C). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.

D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include the following:
    a. Concrete.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
    a. Metal.
    b. Glass.
    c. Porcelain enamel.

B. Joint Priming: Prime joint substrates where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Acoustical Sealant Application Standard: Comply with recommendations of ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.

D. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

E. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.

F. Install sealants by proven techniques to comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses provided for each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field-test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed elastomeric sealant joints as follows:
   a. Perform 10 tests for the first 1000 feet (300 m) of joint length for each type of elastomeric sealant and joint substrate.
   b. Perform one test for each 1000 feet (300 m) of joint length thereafter or one test per each floor per elevation.
2. Test Method: Test joint sealants by hand-pull method described below:
   a. Make knife cuts from one side of joint to the other, followed by two cuts approximately 2 inches long at sides of joint and meeting cross cut at one end. Place a mark 1 inch from cross-cut end of 2-inch piece.
   b. Use fingers to grasp 2-inch piece of sealant between cross-cut end and 1-inch mark; pull firmly at a 90-degree angle or more in direction of side cuts while holding a ruler along side of sealant. Pull sealant out of joint to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for 10 seconds.
   c. For joints with dissimilar substrates, check adhesion to each substrate separately. Do this by extending cut along one side, checking adhesion to opposite side, and then repeating this procedure for opposite side.
3. Inspect joints for complete fill, for absence of voids, and for joint configuration complying with specified requirements. Record results in a field adhesion test log.

4. Inspect tested joints and report on the following:
    a. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field- adhesion hand-pull test criteria.
    b. Whether sealants filled joint cavities and are free from voids.
    c. Whether sealant dimensions and configurations comply with specified requirements.
5. Record test results in a field adhesion test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
6. Repair sealants pulled from test area by applying new sealants following same procedures used to originally seal joints. Ensure that original sealant surfaces are clean and new sealant contacts original sealant.

B. Evaluation of Field-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements, will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

3.7 ELASTOMERIC JOINT-SEALANT SCHEDULE

A. Low-Modulus Nonacid-Curing Silicone Sealant [ES-#1]: Where joint sealants of this type are indicated, provide products complying with the following:
    1. Products: Available products include the following:
        a. 790; Dow Corning.
        b. Spectrem 3; Tremco.
    2. Type and Grade: S (single component) and NS (nonsag).
    3. Class: 25.
    4. Use Related to Exposure: NT (nontraffic).
    5. Uses Related to Joint Substrates: M, A, and, as applicable to joint substrates indicated, O.
        a. Use O Joint Substrates: Color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, limestone.
    6. Stain-Test-Response Characteristics: Nonstaining to porous substrates per ASTM C 1248.
    7. Applications: Window and door perimeters.

B. Single-Component Pourable Urethane Sealant [ES-#2]: Where joint sealants of this type are indicated, provide products complying with the following:

1. Products: Available products include the following:
    a. Vulkem 116; Mameco International.
    b. NP 1; Sonneborn Building Products Div., ChemRex Inc..
2. Type and Grade: S (single component) and NS (nonsag).
3. Uses Related to Exposure: T (traffic) and NT (nontraffic).
4. Uses Related to Joint Substrates: M, A, and, as applicable to joint substrates indicated, O.
    a. Use O Joint Substrates: Color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, limestone.
5. Applications: CMU control joints and other non-traffic joints.

C. Single-Component Pourable Urethane Sealant [ES-#3]: Where joint sealants of this type are indicated, provide products complying with the following:
1. Products: Available products include the following:
    a. Vulkem 45; Mameco International.
    b. SL 1; Sonneborn Building Products Div., ChemRex Inc.
    c. Or approved equal.
2. Type and Grade: S (single component) and P (pourable).
3. Class: 25.
4. Use Related to Exposure: T (traffic).
5. Uses Related to Joint Substrates: M, A, and, as applicable to joint substrates indicated, O.
    a. Use O Joint Substrates: Color anodic aluminum, aluminum coated with a high-performance coating, galvanized steel, limestone.
6. Applications: Install in expansion and control joints in floor slabs, sidewalks and curbs.

3.8 LATEX JOINT-SEALANT SCHEDULE

A. Latex Sealant LS-1: Where joint sealants of this type are indicated, provide products complying with the following:
1. Products: Provide one of the following:
    a. Chem-Calk 600; Bostik Inc.
    b. NuFlex 330; NUCO Industries, Inc.
    c. LC 160 All Purpose Acrylic Caulk; Ohio Sealants, Inc.
    d. AC-20; Pecora Corporation.
    e. PSI-701; Polymeric Systems, Inc.
    f. Sonolac; Sonneborn Building Products Div., ChemRex, Inc.
    g. Tremflex 834; Tremco.
2. Applications: Interior sealant applications.

END OF SECTION 07920

SECTION 08110 - STEEL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Standard hollow metal doors and frames.

2. Standard hollow metal framed windows.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include elevations, door edge details, frame profiles, metal thicknesses, preparations for hardware, and other details.

C. Schedule: Prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Amweld Building Products, LLC.
2. Ceco Door Products; an Assa Abloy Group company.
3. Curries Company; an Assa Abloy Group company.
4. Kewanee Corporation (The).
5. Mesker Door Inc.
6. Steelcraft; an Ingersoll-Rand company.

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS, Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, CS, Type B.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum A60 metallic coating.

D. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.

E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

F. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.

G. Mineral-Fiber Insulation: ASTM C 665, Type I.

H. Glazing: Division 8 Section "Glazing."

I. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat.

2.3 STANDARD HOLLOW METAL DOORS

A. General: Comply with ANSI/SDI A250.8.

1. Design: Flush panel.
2. Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core.
   a. Thermal-Rated (Insulated) Doors: R-value of not less than 12.3 deg F x h x sq. ft./Btu (2.166 K x sq. m/W) when tested according to ASTM C 1363.

3. Vertical Edges for Single-Acting Doors: Manufacturer's standard.
4. Top and Bottom Edges: Closed with flush or inverted 0.042-inch- thick, end closures or channels of same material as face sheets.
5. Tolerances: SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."

B. Exterior Doors: Face sheets fabricated from A60 galvanneal metallic-coated steel sheet. Comply with ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
1. Level 3 and Physical Performance Level A (Extra Heavy Duty), Model 1 (Full Flush), Model 2 (Seamless), 16 gauge.

C. Interior Doors: Face sheets fabricated from cold-rolled steel sheet[. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:

1. Level 2 and Physical Performance Level B (Heavy Duty), Model 1 (Full Flush), Model 2 (Seamless), 18 gauge.

2.4 STANDARD HOLLOW METAL FRAMES

A. General: Comply with ANSI/SDI A250.8.

B. Exterior Frames: Fabricated from metallic-coated steel sheet.

1. Fabricate frames with mitered or coped corners.
2. Fabricate frames as full profile welded unless otherwise indicated.
3. Frame sheet steel shall be 16 gauge.
4. Frames shall have an A60 galvanneal finish.

C. Interior Frames: Fabricated from cold-rolled steel sheet.

1. Fabricate frames with mitered or coped corners.
2. Fabricate frames as full profile welded unless otherwise indicated.
3. Frame sheet steel shall be 16 gauge.

D. Hollow Metal Framed Windows.

1. Fabricate frames with mitered corners.
2. Fabricate frames as full profile welded.

3. Frame sheet steel shall be 16 gauge.

E. Hardware Reinforcement: ANSI/SDI A250.6.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch (4.5 mm) thick.

B. Floor Anchors: Formed from same material as frames, not less than 0.042 inch thick, and as follows:

1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.6 STOPS AND MOLDINGS

A. Moldings for Glazed Lites in Doors: Minimum 0.032 inch thick, same material as door face sheet.

B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch high unless otherwise indicated.

C. Loose Stops for Glazed Lites in Frames: Minimum 0.032 inch thick, same material as frames.

2.7 ACCESSORIES

A. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

2.8 FABRICATION

A. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.

B. Hollow Metal Doors:

1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors. Seal joints in top edges of doors against water penetration.
2. Glazed Lites: Factory cut openings in doors.

C. Hollow Metal Frames: Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
5. Jamb Anchors: Provide number and spacing of anchors as follows:

a. Masonry Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:

1) Two anchors per jamb up to 60 inches high.
2) Three anchors per jamb from 60 to 90 inches high.
3) Four anchors per jamb from 90 to 120 inches high.
4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.

D. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware according to the Door Hardware Schedule and templates furnished as specified in Division 8 Section "Door Hardware."

1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
2. Reinforce doors and frames to receive nontemplated, mortised and surface-mounted door hardware.
3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 16 electrical Sections.

E. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints.

1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow metal work.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
4. Provide loose stops and moldings on inside of hollow metal work.
5. Coordinate rabbet width between fixed and removable stops with type of glazing and type of installation indicated.

2.9 STEEL FINISHES

A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.

1. Shop Primer: ANSI/SDI A250.10.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Hollow Metal Frames: Comply with ANSI/SDI A250.11.

1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
   a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
   b. Install frames with removable glazing stops located on secure side of opening.
   c. Remove temporary braces necessary for installation only after frames have been properly set and secured.
   d. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
   e. Field apply bituminous coating to backs of frames that are filled with grout containing antifreezing agents.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.

    a. Floor anchors may be set with powder-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
4. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:

    a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch,, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

B. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Standard Steel Doors:

    a. Jambs and Head: 1/8 inch plus or minus 1/16 inch).
    b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
    c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
    d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.

C. Glazing: Comply with installation requirements in Division 8 Section "Glazing" and with hollow metal manufacturer's written instructions.

1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

3.2 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

C. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 08110

SECTION 08331 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:
   1. Insulated service doors.

B. Related Section:

   1. Division 5 Section "Metal Fabrications" for miscellaneous steel supports.

1.2 PERFORMANCE REQUIREMENTS

A. Structural Performance, Exterior Doors: Exterior overhead coiling doors shall withstand the wind loads, the effects of gravity loads, and loads and stresses within limits and under conditions indicated according to ASCE 7.

   1. Wind Loads: [Uniform pressure (velocity pressure) of 20 lbf/sq. ft., acting inward and outward.

B. Windborne-Debris-Impact-Resistance Performance: Provide overhead coiling doors that pass missile-impact and cyclic-pressure tests when tested according to ASTM E 1886 and ASTM E 1996.

1.3 SUBMITTALS

A. Product Data: For each type and size of overhead coiling door and accessory.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data. Include plans, elevations, sections, details, and attachments to other work.

   1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for both installation and maintenance of units required for this Project.

PART 2 - PRODUCTS

2.1 DOOR CURTAIN MATERIALS AND CONSTRUCTION

A. Door Curtains: Fabricate overhead coiling-door curtain of interlocking metal slats, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated, and as follows:
   1. Insulation: Fill slats for insulated doors with manufacturer's standard thermal insulation complying with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, according to ASTM E 84. Enclose insulation completely within slat faces.

2. Metal Interior Curtain-Slat Facing: Match metal of exterior curtain-slat face.

B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent over travel of curtain.

2.2 HOOD

A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.

2.3 LOCKING DEVICES

A. Bottom bar cylinder lock.

2.4 CURTAIN ACCESSORIES

A. Weatherseals: Equip each exterior door with weather-stripping gaskets fitted to entire perimeter of door for a weathertight installation, unless otherwise indicated.

B. Push/Pull Handles: Equip each push-up-operated or emergency-operated door with lifting handles on each side of door, finished to match door.

2.5 COUNTERBALANCING MECHANISM

A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.

B. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.6 MANUAL DOOR OPERATORS

A. Push-up Door Operation: Design counterbalance mechanism so required lift or pull for door operation does not exceed 25 lbf.

2.7 DOOR ASSEMBLY

A. Insulated Service. Overhead coiling door formed with curtain of interlocking metal slats.

1. Manufacturers: Subject to compliance with requirements.

2. Available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. C.H.I. Overhead Doors.
b. Cookson Company.

c. Mahon Door Corporation.
d. Overhead Door Corporation.
e. Raynor.
f. Wayne-Dalton Corp.

B. Operation Cycles: Not less than 10,000.

C. Curtain R-Value: 6.0 deg F x h x sq. ft./Btu.

D. Door Curtain Material: [Galvanized steel] [Stainless steel] [Aluminum].

E. Door Curtain Slats: Flat profile slats of 3-1/4-inch (83-mm) center-to-center height.
1. Insulated-Slat Interior Facing: Metal.

F. Curtain Jamb Guides: Galvanized steel with exposed finish matching curtain slats.

G. Hood: Match curtain material and finish.

1. Shape: As shown on Drawings.
2. Mounting: As shown on Drawings.

H. Locking Devices: Equip door with locking device assembly.

I. Manual Door Operator: Push-up operation.

J. Door Finish:

1. Baked-Enamel or Powder-Coated Finish: White
2. Interior Curtain-Slat Facing: Match finish of exterior curtain-slat face.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

B. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion. Lubricate bearings and sliding parts as recommended by manufacturer. Adjust seals to provide weathertight fit around entire perimeter.

END OF SECTION 08331

SECTION 08710 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Commercial door hardware.

B. See Division 8 door sections for astragals and door silencers.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Other Action Submittals:

1. Door Hardware Sets: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as procedures and diagrams.

a. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
b. Content: Include the following information:

1) Identification number, location, hand, fire rating, and material of each door and frame.
2) Type, style, function, size, quantity, and finish of each door hardware item. Include description and function of each lockset and exit device.
3) Complete designations of every item required for each door or opening including name and manufacturer.

2. Keying Schedule: Prepared by or under the supervision of Installer, detailing Owner's final keying instructions for locks.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.

1. Installer's responsibilities include supplying and installing door hardware and providing a qualified Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.

B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.

C. Keying Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

B. Deliver keys and permanent cores to General Contractor by registered mail or overnight package service.

1.5 COORDINATION

A. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five (5) years from date of Substantial Completion, except as follows:

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in this Section and door hardware sets indicated in door schedule.

1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products equivalent in function and comparable in quality to named products.

2.2 HINGES, GENERAL

A. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.

B. Hinge Base Metal: Unless otherwise indicated, provide the following:

1. Exterior Hinges: Stainless steel, with stainless-steel pin.

C. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for outswinging exterior doors.

D. Fasteners: Comply with the following:

1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.

E. Manufacturers

1. Hager
2. Ives

2.3 LOCKS AND LATCHES, GENERAL

A. Accessibility Requirements: Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22 N).

B. Latches and Locks for Means of Egress Doors: Comply with NFPA 101. Latches shall not require more than 15 lbf (67 N) to release the latch. Locks shall not require use of a key, tool, or special knowledge for operation.

C. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors.

D. Backset: 2-3/4 inches, unless otherwise indicated.

E. Strikes: Manufacturer's standard strike with strike box for each latchbolt or lock bolt, with curved lip extended to protect frame, finished to match door hardware set.

F. Manufacturers

1. Schlage
2. Yale

2.4 LOCK CYLINDERS

A. Standard Lock Cylinders: BHMA A156.5, Grade 1.

B. High-Security Lock Cylinders: BHMA A156.30, Grade 1.

1. Key Control Level: Category A.
2. Destructive Test Level: Category A.
3. Surreptitious Entry Resistance Level: Category A.

C. Cylinders: Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:

1. Number of Pins: Five.
2. High-Security Grade: BHMA A156.5, Grade 1A, listed and labeled as complying with pick- and drill-resistant testing requirements in UL 437 (Suffix A).

D. Permanent Cores: Manufacturer's standard; finish face to match lockset; with interchangeable cores.

E. Construction Keying: Comply with the following:

1. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.
2. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.

a. Furnish permanent cores to General Contractor for installation.

F. Manufacturer: Same manufacturer as for locks and latches.

G. Manufacturers:

1. Best Access Systems; Div. of The Stanley Works (BAS).
2. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company (CR).
3. Falcon Lock; an Ingersoll-Rand Company (FAL).
4. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
5. Schlage Commercial Lock Division; an Ingersoll-Rand Company (SCH).

6. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

2.5 KEYING

A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference into existing key system.

1. Existing System: Master key or grand master key locks to Owner's existing system.

B. Keys: Nickel silver. ; permanently inscribed with a visual key control number and including the notation "DO NOT DUPLICATE."

1. Quantity: In addition to one extra key blank for each lock, provide three cylinder change keys and five master keys.

2.6 OPERATING TRIM

A. Standard: BHMA A156.6.

B. Materials: Fabricate from stainless steel, unless otherwise indicated.

C. Manufacturers:

1. Hager Companies (HAG).
2. IVES Hardware; an Ingersoll-Rand Company (IVS).
3. Rockwood Manufacturing Company (RM).

2.7 CLOSERS

A. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than 30 lbf to set door in motion and not more than 15 lbf (67 N) to open door to minimum required width.

B. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

C. Surface Closers: BHMA A156.4, Grade 1. Provide type of arm required for closer to be located on non-public side of door, unless otherwise indicated.

1. Manufacturers:

a. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company (CR).
b. LCN Closers; an Ingersoll-Rand Company (LCN).
c. Norton Door Controls; an ASSA ABLOY Group company (NDC).
d. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
e. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

D. Coordinators: BHMA A156.3.

2.8 DOOR GASKETING

A. Standard: BHMA A156.22.

B. General: Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
2. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
3. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

C. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated, based on testing according to ASTM E 1408.

D. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

E. Gasketing Materials: ASTM D 2000 and AAMA 701/702.

F. Manufacturers:

1. Hager Companies (HAG).
2. National Guard Products (NGP).
3. Pemko Manufacturing Co. (PEM).

2.9 THRESHOLDS

A. Standard: BHMA A156.21.

B. Accessibility Requirements: Bevel raised thresholds with a slope of not more than 1:2. Thresholds for Means of Egress Doors: Comply with NFPA 101. Maximum 1/2 inch high.

C. Manufacturers:

1. Hager Companies (HAG).
2. National Guard Products (NGP).
3. Pemko Manufacturing Co. (PEM).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Steel Doors and Frames: Comply with DHI A115 Series. Drill and tap doors and frames for surface-applied door hardware according to ANSI A250.6.

B. Mounting Heights: Mount door hardware units at heights indicated as follows unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."

C. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.

END OF SECTION 08710

SECTION 09911 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes surface preparation and the application of paint systems on the following exterior substrates:
   1. Steel.
   2. Galvanized metal.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

1.3 EXTRA MATERIALS

A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.

   1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

A. Material Compatibility:

   1. Provide materials for use within each paint system that are 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, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Colors: As schedule on the Architectural Drawings. All finishes shall be verified by the Owner prior to ordering materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION AND APPLICATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.

C. 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.

D. 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.

E. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 09911

SECTION 09912 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes surface preparation and the application of paint systems on the following interior substrates:
   1. Concrete masonry units (CMU).
   2. Steel.
   3. Galvanized metal.
   4. Water Piping.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

1.3 EXTRA MATERIALS

A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.

   1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

A. Material Compatibility:

   1. Provide materials for use within each paint system that are 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, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Colors: As scheduled on the Architectural Drawings. All .finished shall be verified by the Owner prior to ordering materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Masonry: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION AND APPLICATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

B. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.

C. 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.

D. Painting Mechanical and Electrical Work: Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:

1. Mechanical Work:

a. Uninsulated metal piping.
b. Uninsulated plastic piping.
c. Pipe hangers and supports.
d. Tanks that do not have factory-applied final finishes.
e. Mechanical equipment that is indicated to have a factory-primed finish for field painting.

2. Electrical Work:

a. Panelboards.
b. Electrical equipment that is indicated to have a factory-primed finish for field painting.
c. Conduits and outlet boxes.

E. 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.

F. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 09912

SECTION 10523 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."

B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

1.4 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Failure of hydrostatic test according to NFPA 10.
b. Faulty operation of valves or release levers.

2. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

A. Fire Extinguishers: Type, size, and capacity for each mounting bracket indicated.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Amerex Corporation.
b. Ansul Incorporated; Tyco International Ltd.
c. Badger Fire Protection; a Kidde company.
d. Buckeye Fire Equipment Company.
e. Fire End & Croker Corporation.
f. J. L. Industries, Inc.; a division of Activar Construction Products Group.
g. Kidde Residential and Commercial Division; Subsidiary of Kidde plc.
h. Larsen's Manufacturing Company.

i. Moon-American.
j. Pem All Fire Extinguisher Corp.; a division of PEM Systems, Inc.
k. Potter Roemer LLC.
l. Pyro-Chem; Tyco Safety Products.

2. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B.

B. Multipurpose Dry-Chemical Type: UL-rated 2Kg nominal capacity, with monoammonium phosphate-based dry chemical in manufacturer's standard enameled container.

2.2 MOUNTING BRACKETS

A. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or red baked-enamel finish.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Amerex Corporation.
b. Ansul Incorporated; Tyco International Ltd.
c. Badger Fire Protection; a Kidde company.
d. Buckeye Fire Equipment Company.
e. Fire End & Croker Corporation.
f. J. L. Industries, Inc.; a division of Activar Construction Products Group.
g. Larsen's Manufacturing Company.
h. Potter Roemer LLC.

B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.

1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.

a. Orientation: Vertical

PART 3 - EXECUTION

3.1 INSTALLATION

A. Examine fire extinguishers for proper charging and tagging.

1. Remove and replace damaged, defective, or undercharged fire extinguishers.

B. Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.

1. Mounting Brackets: 54 inches above finished floor to top of fire extinguisher.

C. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

END OF SECTION 10523

SECTION 16100 – ELECTRICAL

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The work covered by this section of the specification consists of providing all the materials, labor, equipment, and services necessary for a complete electrical installation as specified herein. Work in this section includes, but is not necessarily limited to the following items:

1. Service
2. Grounding system
3. Temporary service
4. All conduits, wire, and outlet boxes
5. Lighting fixtures, receptacles, and toggle switches
6. Nameplates
7. Excavating and backfilling for electrical work
8. Cutting and patching for electrical work
9. Connect heating, ventilating, and air conditioning equipment including control wiring
10. Underground service shall be verified by the Utility Company for their part of the work.
11. Connection of equipment supplied by others
12. Disconnect Switches

1.2 CODES

A. All electrical work shall be done in strict accordance with the latest edition of the National Electrical Code and all regulations, laws, and ordinances which may be applicable. Electrical Contractor shall obtain and pay for all permits and inspection fees required for his work.

1.3 ELECTRICAL SERVICE

A. Electrical service shall be supplied underground at 480 volt, three phase, three wire.

B. The Contractor shall obtain from the Utility Company and pay all charges for the proper size meter cabinet to hold the required meters. He shall mount the cabinet and/or meters and make necessary wiring connections as directed by Utility.

1.4 GROUNDING SYSTEM

A. Furnish and install a grounding system including all fittings, clamps, conduit, and wire of the proper size to make ground connections between all apparatus, neutral bus, conduits, etc. and the incoming water service as required by the latest edition of the National Electrical Code, and according to the requirement of the local Utility Company.

1.5 FIELD CONDITIONS AND MEASUREMENTS

A. The Contractor shall visit the site of the work and familiarize himself with all available information concerning the nature of the structural excavations, and the location conditions bearing on transportation, handling, and storage of materials. The Contractor shall make his own estimate of the facilities needed and difficulties attending the execution of the contract including local conditions, availability of labor, uncertainties of weather, transportation, and other contingencies. In no event will the Engineer assume any responsibility whatsoever for any interpretation, deduction, or conclusion drawn from the examination of the site. Failure of the contractor to acquaint himself with all available information concerning these conditions will not relieve him of responsibility for estimating the difficulties and costs or successfully performing his work.

B. The Contractor shall verify in the field, all measurements necessary for his work and shall assume responsibility for their accuracy.

PART 2 – PRODUCTS

2.1 CONDUIT

A. In general, unless noted otherwise, conduit shall be “Thinwall” electrical metallic tubing. Tubing shall be welded cold rolled steel, galvanized with coated interior.

A. “Heavywall” rigid conduit shall be used in all locations exposed to the weather, and in the earth, or below vapor barrier of concrete slabs on grade. Heavywall conduit shall be steel, hot dipped galvanized with coated interior. All the above-mentioned conduits shall have all joints red leaded, and all conduits in the earth shall be coated with two coats of bituminous paint. PVC conduit may be used in lieu of Heavywall conduit, except where exposed to the weather. Where conduits leave slab or earth they shall be Heavywall conduit transitioned below grade or floor slab. Install ground wire in all PVC conduits as required by Codes.

2.2 WIRE AND CABLE

A. All wire and cable, including building, site and well cable, with 600-volt insulation shall be 98% conductivity copper unless noted otherwise. The minimum size conductor for lighting and power shall be no. 12 AWG.

B. Conductors sized no. 10 AWG and smaller shall be type “TW” solid or stranded as required, unless noted otherwise; sized no. 8 AWG and larger shall be type “THWN” stranded, unless noted otherwise.

C. Type “AC”, “BX, and non-metallic sheathed cable shall not be used on this project. “MC” cable can be used for light fixture whips and/or concealed within walls ONLY.

D. All branch circuit wiring shall be minimum of #12 AWG/THWN(THHN) unless otherwise noted. For runs exceeding 50 feet, wiring shall be minimum #10 AWG/THWN(THHN). This contractor shall size wiring in accordance with the latest edition of the National Electrical Code: NEC Article 210-19, 215-2, 310-15 and 410 for voltage drop and table B310-11 for derating factors. This contractor is to increase conduit sizes as required for compliance with NEC criteria.

2.3 OUTLET BOXES

A. Outlet boxes for concealment in the ceiling or walls inside the building shall be galvanized stamped steel. Outlet boxes for work exposed to weather, in floors, and other exposed locations shall be of the cast type. Boxes shall be designed for metallic conduit. Conduit fittings may be used in lieu of outlet boxes where applicable.

B. Outlet boxes shall be of the size and type to accommodate the structural conduit, size and number of raceways, conductors or cables entering, and device or fixture for which box is required. Install blank plates on all outlet boxes where apparatus is installed which does not in itself provide a cover for the box. Plaster rings shall be provided as required.

C. Special care shall be taken to set all boxes square and true with the building finish. When possible, all wall outlets shall be secured to the building structure or steel by adjustable supports which shall be buried in.

D. The exact location of all outlets and switches in finished rooms shall be obtained from the Drawings. Generally, switches are to be grouped with a gang cover plate and installed at the strike side of the door opposite the hinge side. Final correct readjustment shall be to outlets, if necessary to give proper centering. In centering of outlets and location of outlet boxes, allow for overhead pipes, ducts, and other mechanical equipment, and for variations in arrangement and thickness of walls, fireproofing, plastering, window trim, paneling, hung ceiling, and the like. Any inaccuracy resulting from failure to take the above consideration shall be corrected by the Contractor without expense to the owner.

2.4 TOGGLE SWITCHES

A. Toggle switches shall be quiet type rated 15 ampere, 120/277 volt, AC type with ivory handles, unless noted otherwise, as follows:

1. Single Pole Hubbell #1201-I
2. Two Pole Hubbell #1202-I
3. Three way Hubbell #1203-I
4. Four way Hubbell #1204-I

B. Toggle switches shall be mounted 4'-0" above finished floor to the center of the mounting plate, unless noted otherwise.

C. Toggle switches shall be installed so that they shall bear evenly and truly and be secured on the axis of the supporting member. No wooden wedges, shims, or blocks shall be used to true up toggle switches.

D. The following are approved manufacturers. Other manufacturers shall be approved by the Engineer.

1. Bryant
2. Hubbell
3. Leviton

2.5 CONVENIENCE OUTLETS

A. Duplex outlets shall be grounding type, flush mounted rated 20 amperes, 125 volt with ivory molded face, unless noted otherwise. Hubbell #5362-I or approved equal.

B. Duplex receptacle GCFI type, flush mounted rated 20 amperes, 125 volt with ivory face, unless noted otherwise. Hubbell #GF5352-I or approved equal.

C. Receptacles shall be mounted 18" above finished floor to centerline, unless noted otherwise.

D. The following are approved manufacturers:

1. Bryant
2. Hubbell
3. Levition

2.6 DEVICE PLATES

A. Device plates shall be heavy-duty stainless steel unless noted otherwise.

B. This contractor shall examine the plaster, block, brick, wood, drywall, painting, and other finishes before making his installation to insure that his accessories, when installed, will fit and leave no open or unfinished surfaces exposed. Deficiencies shall be promptly reported top the Engineer so that corrections can be made prior to proceeding with the installation of the device plates.

C. Contractor shall review drawings and check with Engineer for rooms that are to have device plates of different color and/or type.

2.7 LIGHTING FIXTURES

A. Furnish and install lighting fixtures selected in accordance with the Drawings.

B. Fixtures shall be completely wired and constructed to comply with the National Electrical Code and Underwriters Laboratories Standard for Electric Lighting Fixtures. Fixtures shall bear the factory inspection label of the Underwriters' Laboratory.

C. Ferrous metal used in fixture manufacture shall be bonderized, galvanized, or treated with an approved rust inhibiting coating to provide a rustproof base application of finish. Rust proofing must be applied after all forming or punching operations. Painted light reflection surfaces shall be finished in porcelain

or baked with enamel having a reflection factor of not less than 85%. All parts of the reflector shall be completely covered by finish and free from irregularities. Non-reflecting surfaces shall be finished in a baked enamel finish, unless noted otherwise. All post-painted units.

D. Furnish and install all lamps for all lighting equipment covered in this specification.

2.8 ELECTRIC DISCONNECT SWITCH

A. MANUFACTURERS. Switches shall be manufactured by Square D Company or approved equal.

B. SWITCH INTERIOR.
1. Switch shall have switchblades, which are visible, when the switch is OFF and the cover is open.
2. Lugs shall be front removable and UL Listed for 75º C conductors (200-1200 ampere)
3. All current carrying parts shall be plated to resist corrosion.
4. Switches shall have removable arc suppressors to facilitate easy access to line side lugs.
5. Switches shall have provisions for a field installable electrical interlock.

C. SWITCH MECHANISM
1. Switch operating mechanism shall be quick-make, quick-break such that, during normal operation of the switch, the operation of the contacts shall not be capable of being restrained by the operating handle after the closing or opening action of the contacts has started.
2. The operating handle shall be an integral part of the box, not the cover.
3. Provisions for padlocking the switch in the OFF position with at least three padlocks shall be provided.
4. The handle position shall travel at least 90° between OFF and ON positions to clearly distinguish and indicate handle position.
5. Switch shall have a dual cover interlock mechanism to prevent unintentional opening of the switch cover when the switch is ON and prevent turning the switch ON when the cover is open. The cover interlock mechanism shall have an externally operated override but the override shall not permanently disable the interlock mechanism. The tool used to override the cover interlock mechanism shall not be required to enter the enclosure in order to override the interlock.

D. SWITCH ENCLOSURES

1. Switch covers shall be top hinged, attached with removable screws and securable in the open position (Type 3R).
2. The enclosure shall be finished with gray baked enamel paint which is electrodeposited on cleaned, phosphate pre-treated galvannealed steel.
3. The enclosure shall have ON and OFF markings stamped into the cover.
4. The operating handle shall be provided with a dual colored, red/black position indication.
5. Switch shall have provisions to accept up to three 3/8 inch hasp padlocks to lock the operating handle in the OFF position.
6. Enclosures for Type 3R switches through 200 ampere shall have provisions for interchangeable bolt-on hubs in the top endwall. Hubs shall be Square D B-Type hubs sized as indicated on the plans.

E. SWITCH RATINGS

1. Switches shall be horsepower rated for ac and/or dc as indicated on the plans.
2. Switches located at the service entrance into the building shall be service entrance rated and fused.

PART 3 – EXECUTION

3.1 INSTALLATION OF LIGHTING FIXTURES

A. Fixtures shall be installed at the mounting heights shown and as detailed on the drawings or as directed.

B. Fixtures and/or fixture outlet boxes shall be provided with hangers to adequately support the complete weight of the fixture. Fixtures mounted on outlet boxes shall be rigidly secured to a fixture stud in the outlet box. Hickies or extension pieces shall be installed where required to facilitate proper installation.

C. Fixture housing, frame, or canopy shall provide a suitable cover for the fixture outlet box or fixture opening.

D. Fixtures located outside the building shall be installed with stainless steel or non-ferrous metal screws finished to match fixture trim.

E. All lighting fixtures shall be installed by experienced mechanics. Fixtures shall be installed after finished coat of paint has been applied to walls and ceiling, and when paint is dry.

F. Upon completion of the installation of the lighting fixtures and other lighting equipment, they must be clean and in first-class operating order and in perfect condition as to finish, hardware, glassware, etc. At the time of final inspection, all fixtures shall be properly lamped and directed to give desired illumination. Any fixture reflector, glassware, etc. which is broken or lamp burnouts, which occur prior to the turning over of the installation to the Owner, shall be replaced without cost to the Owner.

3.2 FUSES

A. Furnish and install all fuses indicated. Cartridge fuses shall be one time Bussmann “Fusetron”, “Low-peak”, or “Hi-cap”, sized according to the load or as indicated on the drawing or approved equal.

3.4 POWER AND CONTROL WIRING

A. The Contractor shall consult the heating, ventilation, air conditioning, plumbing, and electrical drawings, and specifications for the number and type of all motors, controls, and starting equipment which will be furnished under these headings. The Contractor shall connect all motors and controls, and all temperature controls, complete and ready for operation.

3.5 TEMPORARY POWER

A. If necessary, the Contractor shall arrange with the local Utility Company for temporary service necessary for construction purposes. Furnish, install and maintain the temporary power system on a pole furnished by General Contractor, and consisting of service, panelboard, grounding system and receptacle outlets required on pole. General Contractor shall pay for all metered charges by the Utility. Service shall be 600 ampere, 480 volt, three phase, three wire. The Electrical Contractor shall provide and maintain throughout the construction period temporary lighting to meet all OSHA requirements.

3.6 EXCAVATION AND BACKFILL

A. The Contractor shall provide all excavation and backfilling required for his work. Backfill shall be with clean earth and shall be done in layers of 6” or less with each layer tampered. It shall be the Contractor’s responsibility to maintain all of his areas of backfill and to re-backfill all areas of settlement. The Contractor shall remove all of his excess excavation materials in accordance with 02300-Earthwork. In general all conduits shall be buried 3’-0” below grade. Installation of cable directly into the trench is prohibited.

3.7 SEISMIC RESTRAINS ON ELECTRICAL EQUIPMENT

A. All electrical equipment shall be provided with seismic restraining services as required by local building Codes. Contractor shall have local building office review each piece of equipment when installed and the Contractor shall install all required tie down, anchors, straps or other devices required.

3.8 CONNECTION OF TRADE EQUIPMENT

A. When equipment arrives on-site this contractor shall help unload, uncrate, assemble, set in place, install and electrically connect all equipment complete and ready for operations as required by all local area work rules and regulations.

B. The Contractor is to pull feeders indicated for equipment, but is to wait for arrival of equipment to install device. Once equipment arrives, then a device can be installed that matches cord/cap requirements.

3.10 GUARANTEE

Contractor guarantees by his acceptance of the contract, that all work installed will be free from any and all defects in workmanship and/or materials and that all apparatus will develop capacities and characteristics specified, and that if, during the period of one year from date of certificate of completion and acceptance of work, any such defects in workmanship, materials, or performance appear, he will, without cost to the Owner, remedy such defects within a reasonable time to be specified in the notice from the Engineer. In default thereof, Owner may have such work done and charge cost to this contractor.

3.11 INSTALLATION OF CONDUIT AND WIRE

A. Conduits shall be continuous from outlet to outlet and from outlet to cabinets, junction or pull boxes, and shall enter and be secured to all boxes in such a manner that each system shall be electrically continuous from services to all outlets. Terminals of Heavywall conduits shall be furnished with double lock nuts and bushings. Thinwall box connectors and couplings shall be raintight. Pressure indent type of thinwall box connectors and couplings shall not be acceptable. Bushings on Heavywall conduits larger than 1 1/4" shall be plastic reinforced with metal.

B. In general, all conduits shall be run concealed, unless indicated otherwise to be run exposed. Exposed conduit shall be installed perpendicular or parallel to building walls. Where more than one exposed conduit in a conduit bank changes direction, all bends shall be concentric. Conduits concealed inside floors, walls, or ceilings shall be run to clear depressions in floors, walls, ducts, plumbing, or heating pipes. This contractor shall consult all other trades' drawings to ascertain where conflicts will occur.

C. Conduit shall be supported on approved types of galvanized brackets, ceiling trapeze or pipe straps of hangers secured by means of toggle bolts on hollow masonry, expansion bolts in concrete or bricks, machine screws on metal surfaces, or wood screws on wood construction. Nails shall not be used as a means of fastening boxes or conduits. Perforated flat steel straps shall not be used for supporting conduits.

D. The final 12" of conduit feeding motors, air-conditioning equipment, exhaust fans, etc. shall be "Seal-Tite" flexible conduit with proper connectors and ground wires.

E. Taps and splices will not be permitted in either feeders or branch circuits except at outlets or accessible junction boxes. Splices and taps in wire size no. 8 AWG and smaller shall be made with "Wire Nuts". Installing covers of equivalent conductor shall install be applied so that no bare wire or cable will be exposed. Taps and splices in wire and cable size no. 6 AWG and larger shall be of the bolted pressure or hydraulic pressure type. Connectors shall be a non-ferrous material applied to the conductor by clamping with a minimum of two bolts for bolted pressure type, and provided with a phenolic insulating cover.

3.12 CLEAN UP

A. The Contractor shall have all electrical rubbish and debris removed to a location on the premises as directed by the Owner. The Owner shall remove all rubbish and debris from the premises.

All electrical equipment and materials installed by the Contractor shall be thoroughly cleaned and ready for use upon completion of the work.

3.13 TESTING

A. The entire system shall be tested, demonstrated, and explained to such persons as the Owner and Engineer shall designate.

B. The Contractor will be required to make the following checks, and tests with his instruments as required:

1. Test to make sure that accidental grounds do not exist on any portion of the system before energizing the circuits.
2. The correctness of lighting circuits to be in conformity with the branch circuitry shown on the drawings.

3. Motors shall be checked for proper direction of rotation and corrected if necessary.
4. Grounds shall be checked and the resistance to ground shall not be more than outlined in the National Electrical Code.

END OF SECTION 16100

Missouri
Division of Labor Standards

WAGE AND HOUR SECTION

ERIC R. GREITENS, Governor

Annual Wage Order No. 24

Section 036

FRANKLIN COUNTY

In accordance with Section 290.262 RSMo 2000, within thirty (30) days after a certified copy of this Annual Wage Order has been filed with the Secretary of State as indicated below, any person who may be affected by this Annual Wage Order may object by filing an objection in triplicate with the Labor and Industrial Relations Commission, P.O. Box 599, Jefferson City, MO 65102-0599. Such objections must set forth in writing the specific grounds of objection. Each objection shall certify that a copy has been furnished to the Division of Labor Standards, P.O. Box 449, Jefferson City, MO 65102-0449 pursuant to 8 CSR 20-5.010(1). A certified copy of the Annual Wage Order has been filed with the Secretary of State of Missouri.

Original Signed by
Tammy Cavender
Acting Department Director
Division of Labor Standards

This Is A True And Accurate Copy Which Was Filed With The Secretary of State: **March 10, 2017**

Last Date Objections May Be Filed: **April 10, 2017**

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	** Date of Increase	*	Basic Hourly Rates	Over-Time Schedule	Holiday Schedule	Total Fringe Benefits
Asbestos Worker (H & F) Insulator			$18.00	FED		$1.44
Boilermaker			$35.41	126	7	$30.38
Bricklayer and Stone Mason	6/17		$33.00	72	5	$22.56
Carpenter	6/17	d	$37.29	93	42	$17.05
Cement Mason	6/17		$31.91	80	6	$18.45
Communication Technician			$32.22	44	47	$9.53 + 32.75%
Electrician (Inside Wireman)			$35.70	82	71	$10.84 + 38.5%
Electrician (Outside-Line Construction\Lineman)			$43.50	43	45	$5.50 + 36%
Lineman Operator			$37.48	43	45	$5.50 + 36%
Groundman			$28.86	43	45	$5.50 + 36%
Elevator Constructor	6/17	a	$47.07	26	54	$33.275
Glazier			$33.40	87	31	$24.80
Ironworker			$33.43	11	8	$24.775
Laborer (Building):						
General		c	$27.06	113	3	$12.44
First Semi-Skilled		b	$27.26	113	3	$12.44
Second Semi-Skilled		b	$27.26	113	3	$12.44
Lather			USE CARPENTER RATE			
Linoleum Layer and Cutter			$31.83	92	26	$16.00
Marble Mason			$31.83	76	51	$14.62
Marble Finisher			$26.42	76	51	$13.95
Millwright	6/17		$37.35	77	41	$17.05
Operating Engineer						
Group I	6/17		$32.66	3	66	$26.14
Group II	6/17		$32.66	3	66	$26.14
Group III	6/17		$30.76	3	66	$26.14
Group III-A	6/17		$32.66	3	66	$26.14
Group IV	6/17		$27.30	3	66	$26.14
Group V	6/17		$27.30	3	66	$26.14
Painter			$32.50	104	12	$14.06
Pile Driver			USE CARPENTER RATE			
Pipe Fitter			$38.00	91	69	$26.93
Plasterer			$31.56	67	3	$17.98
Plumber			$38.00	91	69	$26.93
Roofer \ Waterproofer	6/17		$32.00	15	73	$17.57
Sheet Metal Worker			$40.89	32	25	$21.96
Sprinkler Fitter - Fire Protection			$34.79	33	19	$20.17
Terrazzo Worker			$32.30	116	5	$13.79
Terrazzo Finisher			$30.54	116	5	$12.26
Tile Setter			$31.83	76	51	$14.62
Tile Finisher			$26.42	76	51	$13.95
Traffic Control Service Driver			$28.775	22	55	$9.045
Truck Driver-Teamster			$30.41	35	36	$10.82

Fringe Benefit Percentage is of the Basic Hourly Rate

**Annual Incremental Increase

OCCUPATIONAL TITLE	** Date of Increase	Basic Hourly Rates	Over-Time Schedule	Holiday Schedule	Total Fringe Benefits

* Welders receive rate prescribed for the occupational title performing operation to which welding is incidental.

Use Building Construction Rates on Building construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(2).

Use Heavy Construction Rates on Highway and Heavy construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(3).

a - Vacation: Employees over 5 years - 8%; Employees under 5 years - 6%
b - Projects over $500,000 - $27.26; Projects under $500,000 - $25.76
c - Projects over $500,000 - $27.06; Projects under $500,000 - $25.56
**d - Projects over $2 Million - $37.29; Projects under $2 Million - $24.51

FRANKLIN COUNTY
BUILDING CONSTRUCTION - OVERTIME SCHEDULE

FED: Minimum requirement per Fair Labor Standards Act means time and one-half (1 ½) shall be paid for all work in excess of forty (40) hours per work week.

NO. 3: Means the regular workday shall consist of eight (8) consecutive hours, exclusive of a thirty (30) minute lunch period, with pay at the straight time rate. The regular workday shall begin between the hours of 6:00 a.m. and 9:00 a.m. The Employer may have the option to schedule the work week from Monday through Thursday at ten (10) hours per day at the straight time rate of pay with all hours in excess of ten (10) hours in any one day to be paid at the applicable overtime rate. If the Employer elects to work from Monday through Thursday and is stopped due to inclement weather, holiday or other conditions beyond the control of the Employer, they shall have the option to work Friday at the straight time rate of pay to complete the forty (40) hours for the workweek. All overtime work performed on Monday through Saturday shall be paid at time and one-half (1½) the hourly rate plus an amount equal to one-half (½) of the hourly Total Indicated Fringe Benefits. All work performed on Sundays and recognized holidays shall be paid at double (2) the hourly rate plus an amount equal to the hourly Total Indicated Fringe Benefits. Shifts may be established when considered necessary by the Employer. Shift hours and rates will be as follows. If shifts are established, work on the First Shift will begin between 6:00 a.m. and 9:00 a.m. and consist of eight (8) hours of work plus one-half hour unpaid lunch. Hours worked during the first shift will be paid at the straight time rate of pay. The second shift shall start eight hours after the start of the first shift and consist of eight (8) hours of work plus one-half hour unpaid lunch. Work on the second shift will begin between 2:00 p.m. and 5:00 p.m. and be paid the straight time rate plus $2.50 per hour. The third shift shall start eight hours after the start of the second shift and consist of eight (8) hours plus one-half hour unpaid lunch. Work on the third shift will begin between 10:00 p.m. and 1:00 a.m. and be paid the straight time rate plus $3.50 per hour. The additional amounts that are to be paid are only applicable when working shifts. Shifts that begin on Saturday morning through those shifts which end on Sunday morning will be paid at time and one-half these rates. Shifts that begin on Sunday morning through those shifts which end on Monday morning will be paid at double time these rates.

NO. 11: Means eight (8) hours shall constitute a day's work, with the starting time to be established between 6:00 a.m. and 8:00 a.m. from Monday to Friday. Time and one-half (1½) shall be paid for first two (2) hours of overtime Monday through Friday and the first eight (8) hours on Saturday. All other overtime hours Monday through Saturday shall be paid at double (2) time rate. Double (2) time shall be paid for all time on Sunday and recognized holidays or the days observed in lieu of these holidays.

NO. 15: Means the regular working day shall be scheduled to consist of at least eight (8) hours, but no more than ten (10) consecutive hours, exclusive of the lunch period. The regular working day may be scheduled to commence at any time between the hours of 5:00 a.m. and 10:00 a.m. All work performed in excess of forty (40) hours in one work week, or in excess of ten (10) hours in one work day shall be paid at the rate of one and one-half (1½) times the regular hourly wage scale. Any work performed on a Saturday shall be paid for at the rate of one and one-half (1½) times the regular hourly wage scale unless such Saturday work falls under the category of Saturday Make-Up Day. Any work performed by Employees anywhere on Sunday or recognized holidays, shall be paid for at the rate of double (2) time the regular wage scale. If, during the course of a work week, an Employee is unable to work for any reason, and, as a result, that Employee has not accumulated forty (40) hours of compensable time at the straight time rate, the Employer, at his option may offer the Employee the opportunity to work on Saturday at straight time; provided, however, if during the period worked by said Employee on Saturday, the Employee's compensable time at the straight time rate exceeds forty (40) hours, all time worked in excess of the forty (40) hours will be paid at the rate of one and one-half (1½) times the regular hourly wage scale.

NO. 22: Means a regular work week of forty (40) hours will start on Monday and end on Friday. The regular work day shall be either eight (8) or ten (10) hours. If a crew is prevented from working forty (40) hours Monday through Friday, or any part thereof by reason of inclement weather, Saturday or any part thereof may be worked as a make-up day at the straight time rate. Employees who are part of a regular crew on a make-up day, notwithstanding the fact that they may not have been employed the entire week, shall work Saturday at the straight time rate. A workday is to begin between 6:00 a.m. and 9:00 a.m. However, the project starting time may be advanced or delayed if mutually agreed to by the interest parties. For all time worked on recognized holidays, or days observed as such, double (2) time shall be paid.

FRANKLIN COUNTY
BUILDING CONSTRUCTION - OVERTIME SCHEDULE

NO. 26: Means that the regular working day shall consist of eight (8) hours worked between 6:00 a.m., and 5:00 p.m., five (5) days per week, Monday to Friday, inclusive. Hours of work at each jobsite shall be those established by the general contractor and worked by the majority of trades. (The above working hours may be changed by mutual agreement). Work performed on Construction Work on Saturdays, Sundays and before and after the regular working day on Monday to Friday, inclusive, shall be classified as overtime, and paid for at double (2) the rate of single time. The employer may establish hours worked on a jobsite for a four (4) ten (10) hour day work week at straight time pay for construction work; the regular working day shall consist of ten (10) hours worked consecutively, between 6:00 a.m. and 6:00 p.m., four (4) days per week, Monday to Thursday, inclusive. Any work performed on Friday, Saturday, Sunday and holidays, and before and after the regular working day on Monday to Thursday where a four (4) ten (10) hour day workweek has been established, will be paid at two times (2) the single time rate of pay. The rate of pay for all work performed on holidays shall be at two times (2) the single time rate of pay.

NO. 32: The regular working day shall consist of eight (8) hours of labor on the job between six (6) a.m. and four (4) p.m. and the regular working week shall consist of five (5) consecutive eight (8) hour day's of labor on the job beginning with Monday and ending with Friday of each week. The normal work week is 40 hours. All full-time or part-time labor performed during such hours shall be recognized as regular working hours and paid for at the regular hourly rate. All work performed during regular work hours on Saturdays will be paid at time and one-half (1 ½). All work performed outside of regular working hours and performed during the regular work week, shall be at double (2) times the regular rate, except that the first two (2) hours following the regular work day shall be paid at one and one-half (1½) times the regular rate. An early starting time of 6:00 a.m. may be used mutually agreed upon by the interested parties. SHIFT RATE: Shift work would start after 4:00 p.m. to 6:00 a.m. The first 8 hours would be at 115% of the basic wage rate. Overtime Monday through Friday would be at 1 ½ of base shift rate. Saturday regular work day hours – 1½ of base shift rate. Saturday – work after 8 hours – 2 times the basic wage rate. Sunday and Holidays – 2 times the basic wage rate. All work performed on recognized holidays and Sundays shall be paid double (2) time. Appropriate overtime rates to be based on fifteen minute increments.

NO. 33: Means the standard work day and week shall be eight (8) consecutive hours of work between the hours of 6:00 a.m. and 6:00 p.m., excluding the lunch period Monday through Friday, or shall conform to the practice on the job site. Four (4) days at ten (10) hours a day may be worked at straight time, Monday through Friday and need not be consecutive. All overtime, except for Sundays and holidays shall be at the rate of time and one-half (1½). Overtime worked on Sundays and holidays shall be at double (2) time.

NO. 35: Means a regular work week of forty (40) hours, will start on Monday and end on Friday. The regular work day shall be either eight (8) or ten (10) hours. If a crew is prevented from working forty (40) hours Monday through Friday, or any part thereof by reason of inclement weather, Saturday or any part thereof maybe worked as a make-up day at the straight time rate. Employees who are part of a regular crew on a make-up day, notwithstanding the fact that they may not have been employed the entire week, shall work Saturday at the straight time rate. A work day is to begin between 6:00 a.m. and 9:00 a.m. However, the project starting time maybe advanced or delayed if mutually agreed to by the interested parties. For all time worked on recognized holidays, or days observed as such, double (2) time shall be paid.

NO. 43: Eight (8) hours shall constitute a work day between the hours of 7:00 a.m. and 4:30 p.m. Forty (40) hours within five (5) days, Monday through Friday inclusive, shall constitute the work week. Work performed in the 9th and 10th hour, Monday through Friday, shall be paid at time and one-half (1½) the regular straight time rate of pay. Contractor has the option to pay two (2) hours per day at the time and one-half (1½) the regular straight time rate of pay between the hours of 6:00 a.m. and 5:30 p.m., Monday through Friday. Work performed outside the regularly scheduled working hours and on Saturdays, Sundays and recognized legal holidays, or days celebrated as such, shall be paid for at the rate of double (2) time.

FRANKLIN COUNTY
BUILDING CONSTRUCTION - OVERTIME SCHEDULE

NO. 44: Means forty (40) hours shall constitute a work week, Monday through Friday. Eight (8) hours shall constitute a work day. Hours of work shall be between the hours of 7:00 a.m. and 4:30 p.m. All work performed before 7:00 a.m. and after 4:30 p.m. and all work performed in excess of eight (8) hours in any one work day, over forty (40) hours in any work week and the first eight (8) hours of work on Saturday, shall be paid at the rate of one and one-half (1½) times the regular rate of pay. All hours worked in excess of eight (8) hours on Saturday, all hours worked on Sunday and on holidays, or days that may be celebrated as such, and as designated by the federal government, shall be paid at two (2) times the regular rate of pay. All shifts for work performed between the hours of 4:30 p.m. and 1:00 a.m. shall receive eight (8) hours pay at the regular hourly rate of pay plus two dollars ($2.00) per clock hour. All work performed between the hours of 12:30 a.m. and 9:00 a.m. on a third shift shall receive eight (8) hours pay at the regular hourly rate plus four dollars ($4.00) per clock hour. All overtime work required after the completion of a regular shift shall be paid at one and one-half times (1½ x) the "shift" hourly rate.

NO. 67: Means eight (8) hours shall constitute a day's work, with a flexible starting time to begin between 6:00 a.m. to 8:00 a.m., five (5) days a week, Monday through Friday. Any work over eight (8) hours in any one day shall be at the overtime rate, which is time & one-half (1½). Any work on Saturday shall be at time & one-half (1½), unless a Make-Up Day due to inclement weather is in effect. Any work on Sundays or holidays shall be at double (2) time. Four (4) days, ten (10) hours each day to be worked during Monday through Friday shall be paid at straight time. A Make-Up Day Due To Inclement Weather Only - Employee(s) will be permitted to work an eight (8) hour make-up day on Saturday only, and the employee will receive the regular straight time wage rate.

NO. 72: Means that except as is otherwise provided herein, the work week shall be determined to begin at 8:00 a.m. Wednesday and end at 4:30 p.m. on the following Tuesday. Except as herein provided, working hours are from 8:00 a.m. to 11:55 a.m. and 12:30 p.m. to 4:25 p.m. and no more than the regular hours shall be worked during the forenoon or afternoon at the regular rate. In the case of days of inclement weather starting time and quitting time may be adjusted so long as the hours worked on such days do not exceed eight (8) and do not extend beyond 4:30 p.m. In circumstances where the Employee or Employees have regularly been working overtime on a particular day or days, no adjustment in the starting time shall operate to deprive Employees of overtime pay, which they would have otherwise received but for the change in the starting time. The parties understand that the application of the provisions of the preceding sentence will result in Employees receiving overtime pay even where they have not worked more than with (8) hours on a particular day. Regardless of the staring time, the forenoon working hours shall end at 11:55 a.m. and the afternoon working hours shall begin at 12:30 p.m. and end 8 hours and 25 minutes after the staring time fixed by the Employer for forenoon hours. Work performed by an employee on a non-holiday Saturday, except as hereinafter provided, or at night or before or after regular working hours on a non-holiday weekday, shall be considered overtime work, for which Employees working during such time shall be paid at the rate of one and one-half (1½) times their regular hourly wage rate for each hour or fraction thereof, worked during such time. Work performed on a Sunday or the recognized holidays shall be considered overtime work for which the Employee shall be paid twice the amount of his or her regular hourly wage rate for each hour or fraction thereof worked on any such day.

NO. 76: Means the standard workday shall consist of eight (8) hours of work between the hours of 8:00 a.m. and 4:30 p.m. with a thirty (30) minute unpaid lunch hour occurring in the middle of the shift. The standard workweek shall consist of five standard workdays commencing on Monday and ending on Friday. The normal starting and quitting times may be changed by mutual consent of interested parties. All time worked before and after the established eight (8) hour workday, Monday through Friday, and all time worked on Saturday, shall be paid for at the rate of time & one-half (1½) the hourly base wage rate in effect. All time worked on Sunday and holidays shall be paid at the rate of double (2) the hourly wage in effect. All work done on Saturday will be done at time & one-half (1½), unless Saturday shall be used as a make-up day. If an employee should lose one or more days in a work week and use Saturday as a make-up day the pay shall be at the regular hourly base wage rate and benefits.

FRANKLIN COUNTY
BUILDING CONSTRUCTION - OVERTIME SCHEDULE

NO. 77: Means the regular workday shall consist of eight (8) consecutive hours, exclusive of a thirty (30) minute lunch period, with pay at the regular straight time hourly rate. The regular workday shall begin on the job site between the hours of 6:00 a.m. and 8:00 a.m. with the starting time to be determined by the Employer, unless project owner requires different starting time. This adjustable starting time can, at the Employer's option, be staggered to permit starting portions of the work force at various times within the prescribed hours. The Employer may establish a four (4) ten (10) hour shift exclusive of the thirty (30) minute lunch period at the straight time wage rate. Forty (40) hours per week shall constitute a week's work Monday through Thursday. In the event a job is down due to weather conditions, safety or other conditions beyond the control of the Employer, then Friday may, at the option of the employer, be worked as a make-up day at the straight time wage rate. Straight time is not to exceed ten (10) hours a day or forty (40) hours per week. Time and one-half (1 ½) shall be paid for all overtime hours worked during the week, Monday through Friday and for all work performed on Saturday. Double (2) time shall be paid for all time worked on Sunday and recognized holidays.

NO. 80: Means eight (8) hours shall constitute the regular work day and forty (40) hours a work week, Monday through Friday. The Employer shall establish the starting time between 6:30 a.m. through 9:00 a.m. An Employer may further adjust the starting time up to 9:30 a.m. throughout the year. Time and one-half (1½) shall be paid after eight (8) consecutive hours worked after the established starting time and for hours worked before the established starting time. Time and one-half (1½) shall be paid for work performed on Saturdays. Work performed on Sundays and Holidays shall be paid at the double (2) time rate of pay. The Employer when working on Highway and Road Work may have the option to schedule the work week for his paving crew only from Monday through Thursday at ten (10) hours per day at the straight time rate of pay with all hours in excess of ten (10) hours in any one day to be at the applicable overtime rate of time and one-half (1½). If the Employer elects to work from Monday through Thursday and is stopped due to inclement weather (rain, snow, sleet falling), the Employer shall have the option to work Friday at the straight time rate of pay to complete the forty (40) hours.

NO. 82: Means the work day shall consist of eight (8) hours worked between 7:00 a.m. and 4:30 p.m. Forty (40) hours will constitute the work week from Monday through Friday, inclusive. Up to four (4) hours of overtime work per day performed before or after the assigned normal work day, (twelve (12) continuous hours, starting no earlier than 6:00 a.m., Monday through Friday), shall be paid at a rate of one and one-half times (1.5x) that employee's hourly rate. Any additional overtime, Monday through Friday, shall be paid at two times (2x) the regular rate of pay. The first eight hours of overtime work on Saturday shall be paid at the rate of one and one-half times (1.5x) the regular rate of pay. Hours worked in excess of eight (8) hours on Saturday shall be paid at two times (2x) the regular rate of pay. Double time shall be paid for work performed on Sundays, recognized legal holidays or days that may be celebrated as such as designated by the federal government. All shifts for work performed between the hours of 4:30 p.m. and 1:00 a.m. shall be paid at the regular hourly rate plus two dollars ($2.00) per clock hour. All shifts for work performed between the hours of 12:30 a.m. and 9:00 a.m. shall be paid at the regular hour rate plus four dollars ($4.00) per clock hour. All overtime work required after the completion of a regular shift shall be paid at one and one-half times (1.5x) the "shift" hourly rate.

NO. 87: Means eight (8) hours starting between 6:00 a.m. and 8:00 a.m. and ending between 2:30 p.m. and 4:30 p.m. at the Employers discretion shall constitute a day's work. Any work prior to 6:00 a.m. or after eight (8) hours shall be paid at the overtime rate. Five (5) days from Monday through Friday inclusive shall constitute a regular work week. All hours before and after these regular hours shall be considered overtime and shall be paid for at the rate of double (2) time. All work on Saturday and Sunday shall be paid at double (2) the prevailing scale of wages.

FRANKLIN COUNTY
BUILDING CONSTRUCTION - OVERTIME SCHEDULE

NO. 91: Means eight (8) hours shall constitute a day's work commencing at 7:00 a.m. and ending at 3:30 p.m., allowing one-half (½) hour for lunch. The option exists for the Employer to use a flexible starting time between the hours of 6:00 a.m. and 9:00 a.m. The regular workweek shall consist of forty (40) hours of five (5) workdays, Monday through Friday. The workweek may consist of four (4) ten (10) hour days from Monday through Thursday, with Friday as a make-up day. If the make-up day is a holiday, the employee shall be paid at the double (2) time rate. The employees shall be paid time and one-half (1½) for work performed on Saturdays, before the regular starting time or after the regular quitting time or over eight (8) hours per work day (unless working a 10-hour work day, then time and one-half (1½) is paid for work performed over ten (10) hours a day) or over forty (40) hours per work week. Work performed on Sundays and recognized holidays shall be paid at the double (2) time rate of pay. SHIFT WORK: When it is necessary for the project to operate in shifts, there will be three (3) eight (8) hour shifts commencing at 8:00 a.m. Shift work must continue for a period of not less than three (3) consecutive work days, two (2) days which must be regular work days (Monday through Friday). In the event the second or third shift of any regular work day shall fall into a Saturday or a holiday, such extension into a Saturday or holiday shall be considered as part of the previous workday and employees shall be paid at the regular shift rate. The first day shift shall work a regular eight (8) hour day at regular rates. The second shift shall be eight (8) hours regular time pay plus $2.50 per hour premium for eight (8) hours work. Third shift will be for eight (8) hours regular time pay plus $3.00 per hour premium for eight (8) hours work.

NO. 92: Means all work performed from 8:00 a.m. to 4:30 p.m., Monday through Friday, will be at straight time pay up to forty (40) hours per week. All work performed Monday through Friday before 8:00 a.m. and after 4:30 p.m. will be done at time and one-half (1½). All work done on Saturday will be done at time and one-half (1½), unless the employer and employee agree that Saturday shall be used as a make-up day. The Employer may use a flexible starting time of 7:00 a.m. to 8:00 a.m., and quitting time of 3:30 p.m. to 4:30 p.m., and any such different work starting time shall determine whether wages are payable at the straight rate or the premium rate. All work performed on Saturday shall be paid for at time and one-half (1½), unless the Saturday has been used as a make-up day. All work performed on Sunday and holidays shall be paid for at the rate of double (2) time.

NO. 93: Means the regular workday shall consist of eight (8) consecutive hours, exclusive of a thirty (30) minute lunch period, with pay at the regular straight time hourly rate. The regular workday shall begin on the job site between the hours of 6:00 a.m. and 8:00 a.m. with the starting time to be determined by the Employer, unless project owner requires different starting time. This adjustable starting time can, at the Employer's option, be staggered to permit starting portions of the work force at various times within the prescribed hours. The Employer may establish a four (4) ten (10) hour shift exclusive of the thirty minute unpaid lunch period at the straight time wage rate. Forty (40) hours per week shall constitute a week's work Monday through Thursday. In the event a job is down due to weather conditions, safety or other conditions beyond the control of the Employer, then Friday may, at the option of the Employer, be worked as a makeup day at the straight time wage rate. Straight time is not to exceed ten (10) hours a day or forty (40) hours per week. Starting time will be designated by the Employer. Time and one-half (1 ½) shall be paid for all overtime hours worked during the week, Monday through Friday and for all work performed on Saturday. Double (2) time shall be paid for all time worked on Sunday and all recognized holidays.

NO. 104: Means eight (8) hours per day shall constitute a standard work day between the hours of 6:00 a.m. and 8:00 p.m. The standard work week shall be forty (40) hours between 6:00 a.m. on Monday and ending 8:00 p.m. on Friday. An overtime rate of time and one-half (1½) the base hourly rate shall be paid on all hours in excess of eight (8) hours in a day Monday through Friday. Saturdays shall be considered overtime and work done on Saturday shall be paid at time and one-half (1½) the prevailing scale. Sundays and holidays shall be considered overtime and work done on these days shall be paid at double (2) the prevailing scale.

FRANKLIN COUNTY
BUILDING CONSTRUCTION - OVERTIME SCHEDULE

NO. 113: The regular workday shall consist of eight (8) consecutive hours, exclusive of a thirty (30) minute lunch period, with pay at the regular straight time hourly rate. The regular workday shall begin on the job site between 6:00 a.m. and 9:00 a.m. Overtime rates shall not be broken down into less than thirty (30) minute units of time. The Employer shall have the option of working five (5) eight (8) hour days or four (4) ten (10) hour days, Monday through Friday. If an Employer elects to work five (5) eight (8) hour days during any work week, hours worked more than eight (8) per day or forty (40) per week shall be paid at time and one-half (1½) the hourly rate Monday through Friday. If a crew is prevented from working forty (40) hours Monday through Friday, or any part thereof, by reason of inclement weather, Saturday or any part thereof may be worked as a make-up day at the straight time rate. The Employer may establish a four (4) ten (10) hour shift exclusive of the thirty (30) minute unpaid lunch period at the straight time wage rate. Forty (40) hours per week shall constitute a week's work, Monday through Thursday. In the event a job is down due to weather conditions, holiday, or other conditions beyond the control of the Employer, then Friday may, at the option of the Employer, be worked as a make-up day at the straight time wage rate. Straight time is not to exceed ten (10) hours a day or forty (40) hours per week. If an Employer elects to work eight (8) hour days and loses a day due to inclement weather, he may work ten (10) hour days the remainder of the week at straight time. In the event the Laborer working is assisting another craft being paid overtime wage rates, the laborer will receive time and one-half (1½) for hours worked on Saturday. Sundays and recognized Holidays or days observed as such, shall be paid at the double (2) time rate. Projects That Cannot Be Performed During Regular Workday: If required by owner, the contractor may perform work outside the normal work hours, and employees shall be paid the applicable straight time hourly wage rate plus a premium of ($2.50) per hour for the first eight hours worked. Any hours worked in excess of eight (8) hours shall be paid at the applicable overtime rate plus the ($2.50) per hour premium. Shift work: Shifts shall be established for a minimum of three (3) consecutive workdays. Shift hours will be defined as: First shift eight (8) hours including thirty (30) minutes for lunch. Second shift-eight (8) hours including thirty (30) minutes for lunch. Third shift eight (8) hours including thirty (30) minutes for lunch. The first shift will be paid at eight (8) hours straight time. The second shift will be paid eight (8) hours straight time plus a two dollar and fifty cent ($2.50) per hour premium, and the third shift shall be paid eight (8) hours straight time plus a three dollar and fifty cent ($3.50) per hour premium. Payment for shift work shall be determined by when an Employer first begins his shift operation, i.e., the shifts which begin on Friday morning and end on Saturday morning will be paid at straight time; the shifts which start on Saturday morning and end on Sunday morning will be paid at time and one-half (1½); the shifts which start on Sunday morning and end on Monday morning will be paid at double time. Employees working during the normal workday shall receive first shift pay; employees working predominantly during the evening hours shall receive second shift pay; employees working predominately during the early morning hours shall receive third shift pay.

NO. 116: Means the standard work day shall consist of eight (8) hours of work between the hours of 8:00 a.m. and 4:30 p.m. The standard work week shall consist of five standard work days commencing on Monday and ending on Friday inclusive. All time worked before and after the established eight (8) hour work day, Monday through Friday, and all time worked on Saturdays, shall be paid for at the rate of time & one-half (1½) the hourly base wage rate in effect. All time worked on Sundays and recognized holidays shall be paid for at the rate of double (2) the hourly base wage rate in effect.

NO. 126: Means eight (8) hours per day shall constitute a day's work and forty (40) hours per week, Monday through Friday, shall constitute a week's work. The regular starting time shall be 8:00 a.m. If a second or third shift is used, the regular starting time of the second shift shall be 4:30 p.m. and the regular starting period for the third shift shall be 12:30 a.m. These times may be adjusted by the employer. The day shift shall work a regular eight (8) hours shift as outlined above. Employees working a second shift shall receive an additional $0.25 above the regular hourly rate and perform seven and one-half (7½) hours work for eight (8) hours pay. Third shift employees shall be paid an additional $0.50 above the regular hourly rate and work seven (7) hours for eight (8) hours pay. When circumstances warrant, the Employer may change the regular workweek to four (4) ten-hour days at the regular time rate of pay. All time worked before and after the established workday of eight (8) hours, Monday through Friday, and all time worked on Saturday shall be paid at the rate of time and one-half (1½) except in cases where work is part of an employee's regular Friday shift. All time worked on Sunday and recognized holidays shall be paid at the double (2) time rate of pay except in cases where work is part of an employee's previous day's shift. For all overtime hours worked $29.14 of the fringe benefits portion of the prevailing wage shall be paid at the same overtime rate at which the cash portion of the prevailing wage is to be paid. The remaining $1.24 of the fringe benefit portion of the prevailing wage may be paid at straight time.

FRANKLIN COUNTY
HOLIDAY SCHEDULE – BUILDING CONSTRUCTION

NO. 3: All work done on New Year's Day, Decoration Day, July 4th, Labor Day, Veteran's Day, Thanksgiving and Christmas shall be compensated at the double (2) time rate of pay. When any of these holidays fall on a Sunday, the following Monday shall be observed.

NO. 5: All work that shall be done on New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day shall be paid twice the amount of his or her regular hourly wage rate for each hour or fraction thereof worked on any such day .

NO. 6: The following days are recognized as holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Veterans Day, Thanksgiving Day, Christmas Day and any additional holidays which may be mutually agreed upon. Whenever any such holiday falls on a Sunday, the following Monday shall be recognized and observed as the holiday. Work performed on Sundays and holidays shall be paid at the double time rate of pay. No work shall be performed on Labor Day.

NO. 7: The following days are assigned days and are recognized as holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day. If a holiday falls on a Sunday, it shall be observed on the following Monday. If a holiday falls on a Saturday, it shall be observed on the preceding Friday. No work shall be performed on Labor Day except in case of jeopardy to work under construction. This is applied to protect Labor Day. When a holiday falls during the normal workweek, Monday through Friday, it shall be counted as eight (8) hours toward the forty (40) hour week. However, no reimbursement for these eight (8) hours is to be paid to the workman unless worked. If workman are required to work the above enumerated holidays or days observed as such, or on Sunday, they shall receive double (2) the regular rate of pay for such work.

NO. 8: All work performed on New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day, or the days observed in lieu of these holidays, shall be paid at the double time rate of pay.

NO. 12: All work done on New Year's Day, Decoration Day, Independence Day, Veteran's Day, Thanksgiving Day and Christmas Day shall be paid at the double time rate of pay. Should any of these days fall on Sunday, then the following day shall be observed as the holiday. Under no circumstances shall employees be permitted to work on Labor Day.

NO. 19: All work done on New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day shall be paid at the double time rate of pay. The employee may take off Friday following Thanksgiving Day. However, the employee shall notify his or her Foreman, General Foreman or Superintendent on the Wednesday preceding Thanksgiving Day. When one of the above holidays falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double (2) time rate. When one of the holidays falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double (2) time rate.

NO. 25: All work done on New Year's Day, Martin Luther King Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the day after Thanksgiving, Christmas Day, Presidential Election Day, or days locally observed as such, and Saturday and Sunday shall be recognized as holidays and shall be paid at the double (2) time rate of pay. If a named holiday falls on a Saturday, the holiday will be observed on the preceding Friday. When a named holiday falls on Sunday, the Monday after will be observed as the holiday. Appropriate overtime rates to be based on fifteen minute increments.

NO. 26: All work done on New Year's Day, Memorial Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day shall be paid at the double time rate of pay. When a Holiday occurs on Saturday it shall not be observed on either the previous Friday or the following Monday. Such days shall be regular work days. If such a holiday occurs on Sunday it shall be observed on the following Monday.

NO. 31: All work done on New Year's Day, Presidents Day, Good Friday, Memorial Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, and Employee's Birthday shall be paid at the double time rate of pay. If a holiday falls on Sunday, the following Monday will be observed as the recognized holiday. If a holiday falls on Saturday, the preceding Friday will be observed as the recognized holiday.

FRANKLIN COUNTY
HOLIDAY SCHEDULE – BUILDING CONSTRUCTION

NO. 36: The following days are recognized as holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. If a holiday falls on a Sunday, it shall be observed on the following Monday. No work shall be performed on Labor Day except in case of jeopardy to work under construction. This rule is applied to protect Labor Day. When a holiday falls during the normal work week, Monday through Friday, it shall be counted as eight (8) hours toward the forty (40) hour week; however, no reimbursement for this eight (8) hours is to be paid the workman unless worked. An Employer working a four (4) day, ten (10) hour schedule may use Friday as a make-up day when an observed holiday occurs during the work week. Employees have the option to work that make-up day. If workmen are required to work the above enumerated holidays, or days observed as such, they shall receive double (2) the regular rate of pay for such work.

NO. 41: The following days shall be observed as legal holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day. No work shall be performed on the Fourth of July, Labor Day or Christmas Day. Any work performed on the above holidays shall be paid for at two (2) times the regular straight time rate of pay. When any of the above holidays fall on Sunday, the following Monday shall be observed as such holiday. If a holiday falls on Saturday, it shall not be considered to be observed on the previous Friday or following Monday. Such days shall be regular workdays.

NO. 42: The following days shall be observed as legal holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day. No work shall be performed on the Fourth of July, Labor Day or Christmas Day. Any work performed on the above holidays shall be paid for at two (2) times the regular straight time rate of pay. When any of the above holidays fall on Sunday, the Monday following shall be observed as such holiday. If a holiday falls on Saturday, it shall not be considered to be observed on the previous Friday or following Monday. Such days shall be regular workdays.

NO. 45: All work performed on New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the day after Thanksgiving, the day before Christmas, and Christmas Day, shall be paid at the double time rate of pay.

NO. 47: The following holidays are recognized: New Year's Day, Memorial Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day, the day after Thanksgiving and Christmas Day. When a holiday listed above falls on Saturday, it shall be celebrated on the Friday preceding the holiday. When a holiday falls on Sunday, the following Monday shall be observed. Holidays referred to above shall be paid for at the double (2) time rate of pay when worked.

NO. 51: All time worked on Sundays and recognized holidays shall be paid for at the rate of double (2) the hourly base wage rate in effect. The Employer agrees to recognize the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day. If the holiday falls on Sunday, it shall be recognized on the following Monday. If the holiday falls on a Saturday, it shall be recognized as a Saturday only holiday.

NO. 54: All work performed on New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day shall be paid at the double (2) time rate of pay. When a holiday falls on Saturday, it shall be observed on Friday. When a holiday falls on Sunday, it shall be observed on Monday.

NO. 55: The following days are recognized as holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. If a holiday falls on a Sunday, it shall be observed on the following Monday. No work shall be performed on Labor Day except in case of jeopardy to work under construction. This rule is applied to protect Labor Day. When a holiday falls during the normal work week, Monday through Friday, it shall be counted as eight (8) hours toward the forty (40) hour week; however, no reimbursement for this eight (8) hours is to be paid the workmen unless worked. An Employer working a four (4) day, ten (10) hour schedule may use Friday as a make up day when an observed holiday occurs during the work week. Employees have the option to work that make up day. If workmen are required to work the above enumerated holidays, or days observed as such, they shall receive double (2) the regular rate of pay for such work.

FRANKLIN COUNTY
HOLIDAY SCHEDULE – BUILDING CONSTRUCTION

NO. 66: All work performed on Sundays and the following recognized holidays, or the days observed as such, of New Year's Day, Decoration Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day, shall be paid at double (2) the hourly rate plus an amount equal to the hourly Total Indicated Fringe Benefits. Whenever any such holidays fall on a Sunday, the following Monday shall be observed as a holiday.

NO. 69: All work performed on New Year's Day, Memorial Day, July Fourth, Labor Day, Veteran's Day, Thanksgiving Day or Christmas Day shall be compensated at double (2) their straight-time hourly rate of pay. Friday after Thanksgiving and the day before Christmas are also holidays, however, if the employer chooses to work the normal work hours on these days, the employee will be paid at straight -time rate of pay. If a holiday falls on a Saturday, the holiday will be observed on Saturday; if a holiday falls on a Sunday, the holiday will be observed on the following Monday.

NO. 71: All work performed on the following recognized holidays, or days that may be celebrated as such, shall be paid at the double (2) time rate of pay: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day. If a holiday falls on Sunday, it shall be celebrated on Monday. If a holiday falls on Saturday, it shall be celebrated on the Friday proceeding such Saturday.

NO. 73: The following days are recognized as holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Veteran's Day (or mutually agreed date of the Friday after Thanksgiving Day may be substituted for Veteran's Day), Thanksgiving Day and Christmas Day, or in the event that any of said Holidays falls on Sunday, then the day or days generally recognized as such. Any work performed anywhere on any of the aforesaid Holidays, or on the day or days recognized and observed as such, shall be paid for at double (2) time the regular hourly rate.

OCCUPATIONAL TITLE	* Date of Increase	Basic Hourly Rates	Over-Time Schedule	Holiday Schedule	Total Fringe Benefits
Carpenter	6/17	$34.16	23	16	$16.85
Cement Mason		$31.16	17	11	$17.95
Electrician (Outside-Line Construction\Lineman)		$43.50	9	12	$5.50 + 36%
Lineman Operator		$37.48	9	12	$5.50 + 36%
Lineman - Tree Trimmer		$25.62	32	31	$10.20 + 3%
Groundman		$28.86	9	12	$5.50 + 36%
Groundman - Tree Trimmer		$20.30	32	31	$7.57 + 3%
Laborer					
General Laborer	6/17	$30.36	2	4	$13.52
Skilled Laborer	6/17	$30.96	2	4	$13.52
Millwright	6/17	$34.16	23	16	$16.85
Operating Engineer					
Group I	6/17	$32.66	10	9	$26.14
Group II	6/17	$32.66	10	9	$26.14
Group III	6/17	$31.36	10	9	$26.14
Group IV	6/17	$27.90	10	9	$26.14
Oiler-Driver	6/17	$28.36	10	9	$26.14
Pile Driver	6/17	$34.16	23	16	$16.85
Traffic Control Service Driver		$28.775	26	25	$9.045
Truck Driver-Teamster		$30.41	25	21	$10.82

Use Heavy Construction Rates on Highway and Heavy construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(3).

Use Building Construction Rates on Building construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(2).

If a worker is performing work on a heavy construction project within an occupational title that is not listed on the Heavy Construction Rate Sheet, use the rate for that occupational title as shown on the Building Construction Rate sheet.

REPLACEMENT PAGE
FRANKLIN COUNTY
OVERTIME SCHEDULE - HEAVY CONSTRUCTION

FED: Minimum requirement per Fair Labor Standards Act means time and one-half (1 ½) shall be paid for all work in excess of forty (40) hours per work week.

NO. 2: Means a regular workweek shall be forty (40) hours and will start on Monday and end on Friday. The Employer shall have the option of working five 8-hour days or four 10-hour days Monday through Friday. If an Employer elects to work five 8-hour days during any workweek, hours worked more than eight (8) per day or 40 per week shall be paid at time and one-half the hourly rate Monday through Friday. If an Employer elects to work four 10-hour days in a week, work performed more than ten (10) hours per day or 40 hours per week shall be paid at time and one-half the hourly rate Monday through Friday. When working a five 8-hour day schedule and an Employer is prevented from working forty (40) hours Monday through Friday, or any part thereof, by reason of inclement weather, Saturday or any part thereof may be worked as a make-up day at the straight time rate. If an Employer is working a four 10-hour day schedule and loses a day due to inclement weather, he may work 10 hours Friday at straight time. All hours worked over the 40 hours Monday through Friday will be paid at 1 ½ overtime rate. A workday shift is to begin at the option of the Employer, between 6:00 a.m. and not later than 9:00 a.m. However, the project starting time may be advanced or delayed if required. If workmen are required to work the enumerated holidays or days observed as such or Sundays, they shall receive double (2) the regular rate of pay for such work. Overtime shall be computed at one-half (1/2) hour intervals. Shift: The Contractor may elect to work one, two or three shifts on any work. When operating on more than one shift, the shifts shall be known as the day shift, swing shift, and graveyard shift as such terms are recognized in the industry. When two shifts are worked on any operation, the shifts will consist of eight (8) or ten (10) hours exclusive of lunchtime. When three shifts are worked the first day or day shift will consist of eight (8) hours exclusive of lunchtime. The second or swing shift shall consist of seven and one-half (7 1/2) hours work for eight hours pay, exclusive of lunchtime, and the third or the graveyard shift shall consist of seven (7) hours work for eight (8) hours pay, exclusive of the lunchtime. All time in excess of normal shifts shall be considered overtime. Multiple shift (the two or three shift) operation will not be construed on the entire project if at anytime it is deemed advisable and necessary for the Employer to multiple shift a specific operation. However, no shift shall be started between midnight and six a.m. except the graveyard shift on a three-shift operation, or except in an unusual or emergency situation. If an Employer starts a shift between midnight and 6 a.m. except the graveyard shift on a three-shift operation, he shall reimburse all employees for the entire shift at the double time rate. Completion of the second shift on a two-shift operation or completion of the graveyard shift on a three-shift operation that carries over into Saturday morning, shall be at the straight time rate. Overtime shall be computed at ½ hour intervals.

NO. 9: Eight (8) hours shall constitute a work day between the hours of 7:00 a.m. and 4:30 p.m. Forty (40) hours within five (5) days, Monday through Friday inclusive, shall constitute the work week. Work performed in the 9th and 10th hour, Monday through Friday, shall be paid at time and one-half (1½) the regular straight time rate of pay. Contractor has the option to pay two (2) hours per day at the time and one-half (1½) the regular straight time rate of pay between the hours of 6:00 a.m. and 5:30 p.m., Monday through Friday. Worked performed in the first eight (8) hours on Saturday shall be paid at the rate of one and eight tenths (1.8) the regular straight time rate. Work performed outside these hours and on Sundays and recognized legal holidays, or days celebrated as such, shall be paid for at the rate of double (2) time.

REPLACEMENT PAGE
FRANKLIN COUNTY
OVERTIME SCHEDULE - HEAVY CONSTRUCTION

NO. 10: Means the regular workday for which employees shall be compensated at straight time hourly rate of pay shall, unless otherwise provided for, begin at 8:00 a.m. and end at 4:30 p.m. The regular workweek shall consist of five (5) days, Monday through Friday, beginning at 8:00 a.m. and ending at 4:30 p.m. except as may be modified. The starting time may be either advanced or delayed one hour or two hours at the discretion of the Employer. The Employer may have the option to schedule his work week from Monday through Thursday at ten (10) hours per day at the straight time rate of pay with all hours in excess of ten (10) hours in any one day to be at the applicable overtime rate. If the Employer elects to work Monday through Thursday and is stopped due to inclement weather, holidays or other conditions beyond the control of the Employer, he shall have the option to work Friday at the straight time rate of pay to complete the forty (40) hour workweek. All necessary overtime and work performed on Saturday, shall be paid at time and one-half (1½) the hourly rate, plus an amount equal to one-half (½) of the hourly Total Indicated Fringe Benefits. All work performed on Sundays and recognized holidays shall be paid at double (2) the hourly rate, plus an amount equal to the hourly Total Indicated Fringe Benefits. Shifts may be established when considered necessary by the Employer. Shift hours and rates will be as follows. If shifts are established, work on the First Shift will begin between 6:00 a.m. and 9:00 a.m. and consist of eight (8) hours of work plus one-half hour unpaid lunch. Hours worked during the first shift will be paid at the straight time rate of pay. The second shift shall start eight hours after the start of the first shift and consist of eight (8) hours of work plus one-half hour unpaid lunch. Work on the second shift will begin between 2:00 p.m. and 5:00 p.m. and be paid the straight time rate plus $2.50 per hour. The third shift shall start eight hours after the start of the second shift and consist of eight (8) hours plus one-half hour unpaid lunch. Work on the third shift will begin between 10:00 p.m. and 1:00 a.m. and be paid the straight time rate plus $3.50 per hour. The additional amounts that are to be paid are only applicable when working shifts. Shifts that begin on Saturday morning through those shifts which end on Sunday morning will be paid at time and one-half these rates. Shifts that begin on Sunday morning through those shifts which end on Monday morning will be paid at double time these rates.

NO. 17: Means eight (8) hours shall constitute the regular work day and forty (40) hours a work week, Monday through Friday. The Employer shall establish the starting time between 6:30 a.m. through 9:00 a.m. An Employer may further adjust the starting time up to 9:30 A.M. throughout the year. Time and one-half (1½) shall be paid after eight (8) consecutive hours worked after the established starting time and for hours worked before the established starting time. Time and one-half (1½) shall be paid for work performed on Saturdays. Work performed on Sundays and Holidays shall be paid at the double (2) time rate of pay. The Employer when working on Highway and Road Work may have the option to schedule the work week for his paving crew only from Monday through Thursday at ten (10) hours per day at the straight time rate of pay with all hours in excess of ten (10) hours in any one day to be at the applicable overtime rate of time and one-half (1½). If the Employer elects to work from Monday through Thursday and is stopped due to inclement weather (rain, snow, sleet falling), the Employer shall have the option to work Friday at the straight time rate of pay to complete the forty (40) hours.

NO. 23: Means the regular workweek shall start on Monday and end on Friday, except where the Employer elects to work Monday through Thursday, (10) hours per day. All work over ten (10) hours in a day or forty (40) hours in a week shall be at the overtime rate of one and one-half (1½) times the regular hourly rate. The regular workday shall be either eight (8) or ten (10) hours. If a job can't work forty (40) hours Monday through Friday because of inclement weather or other conditions beyond the control of the Employer, Friday or Saturday may be worked as a make-up day at straight time (if working 4-10's). Saturday may be worked as a make-up day at straight time (if working 5-8's). An Employer, who is working a four (4) ten (10) hour day work schedule may use Friday as a make-up day when a workday is lost due to a holiday. A workday is to begin at the option of the Employer but not later than 11:00 a.m. except when inclement weather, requirements of the owner or other conditions beyond the reasonable control of the Employer prevent work. Except as worked as a make-up day, time on Saturday shall be worked at one and one-half (1½) times the regular rate. Work performed on Sunday shall be paid at two (2) times the regular rate. Work performed on recognized holidays or days observed as such, shall also be paid at the double (2) time rate of pay. For all overtime hours worked during the week or on Saturday $16.25 of the fringe benefits portion of the prevailing wage shall be paid at time and one-half (1½). For all overtime hours worked on Sundays or recognized holidays $16.25 of the fringe benefits portion of the prevailing wage shall be paid double time. The remaining $.60 of the fringe benefit portion of the prevailing wage shall be paid at straight time.

REPLACEMENT PAGE
FRANKLIN COUNTY
OVERTIME SCHEDULE - HEAVY CONSTRUCTION

NO. 25: Means a regular work week of forty (40) hours, starting on Monday and ending on Friday. The regular work day shall be either eight (8) or ten (10) hours. If a crew is prevented from working forty (40) hours Monday through Friday, or any part thereof by reason of inclement weather, Saturday or any part thereof maybe worked as a make-up day at the straight time rate. Employees who are part of a regular crew on a make-up day, notwithstanding the fact that they may not have been employed the entire week, shall work Saturday at the straight time rate. A work day is to begin between 6:00 a.m. and 9:00 a.m. However, the project starting time maybe advanced or delayed if mutually agreed to by the interest parties. All hours worked on recognized holidays, or days observed as such, double (2) time shall be paid.

NO. 26: Means a regular work week of forty (40) hours will start on Monday and end on Friday. The regular work day shall be either eight (8) or ten (10) hours. If a crew is prevented from working forty (40) hours Monday through Friday, or any part thereof by reason of inclement weather, Saturday or any part thereof may be worked as a make-up day at the straight time rate. Employees who are part of a regular crew on a make-up day, notwithstanding the fact that they may not have been employed the entire week, shall work Saturday at the straight time rate. A workday is to begin between 6:00 a.m. and 9:00 a.m. However, the project starting time may be advanced or delayed if mutually agreed to by the interest parties. For all time worked on recognized holidays, or days observed as such, double (2) time shall be paid.

NO. 32: Means the overtime rate shall be time and one-half the regular rate for work over forty (40) hours per week. Sundays and Holidays shall be paid at double the straight time rate.

FRANKLIN COUNTY
HOLIDAY SCHEDULE – HEAVY CONSTRUCTION

NO. 4: All work performed on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, or observed as such, shall be paid at the double time rate of pay. When a Holiday falls on a Sunday, Monday shall be observed. No work shall be performed on Labor Day, except in case of jeopardy to life or property. This is applied to protect Labor Day.

NO. 9: All work performed on Sundays and the following recognized holidays, or the days observed as such, of New Year's Day, Decoration Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day, shall be paid at double (2) the hourly rate plus an amount equal to the hourly Total Indicated Fringe Benefits. Whenever any such holidays fall on a Sunday, the following Monday shall be observed as a holiday.

NO. 11: Means all work performed on New Year's Day, Memorial Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day, Christmas Day, and any additional holidays which may be mutually agreed upon shall be paid at the double (2) time rate of pay. Whenever any such holiday falls on a Sunday, the following Monday shall be recognized and observed as the holiday. No work shall be performed on Labor Day.

NO. 12: All work performed on New Year's Day, Memorial Day, Fourth of July, Labor Day, Veteran's Day, Thanksgiving Day, Christmas Day, or days celebrated as such, shall be paid at the double time rate of pay. When one of the foregoing holidays falls on Sunday, it shall be celebrated on the following Monday. When one of the foregoing holidays falls on Saturday, it shall be celebrated on the Friday before the holiday.

NO. 16: The following days are recognized as holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day. If a holiday falls on Sunday, it shall be observed on the following Monday. If a holiday falls on Saturday, it shall be observed on the preceding Friday. No work shall be performed on Labor Day except in case of jeopardy to work under construction. This rule is applied to protect Labor Day. When a holiday falls during the normal work week, Monday through Friday, it shall be counted as eight (8) hours toward the forty (40) hour week; however, no reimbursement for this eight (8) hours is to be paid to the worker unless worked. If workers are required to work the above recognized holidays or days observed as such, they shall receive double (2) the regular rate of pay for such work.

NO. 21: The following days are recognized as holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. If a holiday falls on a Sunday, it shall be observed on the following Monday. No work shall be performed on Labor Day except in case of jeopardy to work under construction. This rule is applied to protect Labor Day. When a holiday falls during the normal work week, Monday through Friday, it shall be counted as eight (8) hours toward the forty (40) hour week; however, no reimbursement for this eight (8) hours is to be paid the workman unless worked. An Employer working a four (4) day, ten (10) hour schedule may use Friday as a make-up day when an observed holiday occurs during the work week. Employees have the option to work that make-up day. If workmen are required to work the above enumerated holidays, or days observed as such, they shall receive double (2) the regular rate of pay for such work.

NO. 25: The following days are recognized as holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. If a holiday falls on a Sunday, it shall be observed on the following Monday. No work shall be performed on Labor Day except in case of jeopardy to work under construction. This rule is applied to protect Labor Day. When a holiday falls during the normal work week, Monday through Friday, it shall be counted as eight (8) hours toward the forty (40) hour week; however, no reimbursement for this eight (8) hours is to be paid the workmen unless worked. An Employer working a four (4) day, ten (10) hour schedule may use Friday as a make up day when an observed holiday occurs during the work week. Employees have the option to work that make up day. If workmen are required to work the above enumerated holidays, or days observed as such, they shall receive double (2) the regular rate of pay for such work.

NO. 31: All work performed on New Year's Day, Presidents' Day, Veterans' Day, Good Friday, Decoration Day, Fourth of July, Labor Day, Christmas Eve Day, Christmas Day, Thanksgiving Day and Day after Thanksgiving or days celebrated for the same.