4TH STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS

CITY OF JOPLIN, MO

602 S. MAIN STREET
JOPLIN, MO 64801

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CITY OF JOPLIN

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NOTICE TO CONTRACTORS

Notice is hereby given that the Director of Public Works of the City of Joplin, Missouri, will accept sealed bids for the following improvements in the City of Joplin, Missouri:

4TH STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS

Project generally consists of intersection improvements for pedestrian safety at the intersection of W 4th Street and Murphy Boulevard including, but not limited to, a new traffic signal, asphalt milling and overlay of the existing roadway, curb and gutter, sidewalks, roadway widening, storm sewer improvements, pavement markings, erosion control, traffic control and other appurtenances required for a complete project.

Approximate Base Bid quantities: 5050 square yards of asphalt milling, 520 square yards of concrete sidewalk, 1300 linear feet of curb and gutter, 20,000 linear feet of pavement markings

Copies of the plans and specifications are on file and may be examined on the City's website. **Sealed bids must be in the hands of said Director of Public Works before 10:00 a.m. on the 2nd day of April, 2024**. Bids will be opened and read aloud by the Director of Public Works in the 4th floor Engineering Conference Room at that time. **A mandatory pre-bid meeting will take place on March 19th, 2024, starting at 11:00 a.m in the 4th floor engineering conference room at City Hall.**

Specifications will follow current City Standards. These standards can be downloaded online by clicking on the link at the bottom of the page at: https://www.joplinmo.org/ or a copy may be viewed in person at 602 S. Main Street, 4th floor.

Wage rates for this project shall be in accordance with the most current wage rate determination made by the Industrial Commission of Missouri on file in the Department of Public Works. Contractor will use the Division of Labor Standards Form LS-57 to report all wages.

Missouri Law, 292.675 RSMO, requires the awarded 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 awarded contractors 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 of Joplin 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 required program completion under 292.675 RSMO

The successful bidder will have to sign an agreement that they are enrolled and participating in a Federal Work Authorization Program ("FWAP") that ensures that all of its employees or agents or subcontractors have the legal right to work in the United States, as defined in 8 U.S.C. 1324a(h)(3) and RSMo § 285.525-285.555, and that it will maintain this compliance for the entire duration of its contract with the City of Joplin, and will provide an Affidavit of Compliance to the City stating the same.

Payment for this project will be made to the contractor in cash.

A bid bond for five percent of the total bid amount must accompany each bid. The successful bidder will be required to furnish an indemnity bond in the amount of his bid and shall before entering on the work of said contract be licensed as a contractor of the City of Joplin, Missouri. The Director of Public Works reserves the right to reject any or all bids.

The City of Joplin hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement Disadvantaged Business Enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, or national origin in consideration

for an award. Also, the contractor will be required to have an approved Affirmative Action Program. Attention of bidders is particularly called to the requirement that an Affirmative Action Program must be adopted by the contractor and approved by the Affirmative Action Committee of the City of Joplin before the contract may be executed.

BIDDER CHECKLIST

FINAL CHECKLIST BEFORE SUBMITTING BID

1. If submitting the bid by mail, it is to be completed, executed, and submitted in a sealed envelope addressed to City of Joplin, MO. **Provide the Bidder name, address, number, county, route and project name and number on the outside of the envelope.**

2. Please read all items in the bidding document carefully. For paper bids, complete all items in ink or by typing in the information.

3. Acknowledge the receipt of addenda on Bid Form (Note: The "BID FORM" and "ITEMIZED BID FORM" are one document and shall be submitted together). The addenda should be stapled to the inside of the back cover of the bid and returned. The bidder should retain a duplicate copy.

4. For paper bids submit the provided bid bond executed by bidder and surety, or attach cashier's check to the bid bond form.

5. For paper bids, staple addenda to the bid in the appropriate part of the bid. The letter accompanying the addenda should be stapled to the inside of the back cover of the bid and returned. The bidder should retain a duplicate copy. (if applicable)

****

Below is a list of common mistakes made by bidders leading to non-responsive bids. Please refer to the Standard Specifications for the appropriate procedures for completing and submitting a bid.

1. Not signing the bid
2. Not incorporating the addendum into the bidding documents, including attaching the letter to the bid
3. Not providing a bid bond
4. Using pencil to fill out the bid
5. Using white out to make corrections to the itemized bid sheets
6. Not initialing changes made

****

All questions concerning the bid document preparation can be directed to the Engineer, Olsson, Inc. – Jonathan Peitz, PE at jpeitz@olsson.com.

Special Needs: If you have special needs addressed by the Americans with Disabilities Act, please notify the City of Joplin, MO at (417) 624-0820 or through Missouri Relay System, TDD 1-800-735-2966, **at least five (5) working days prior to the bid opening**.

INFORMATION FOR BIDDERS

1. Receipt and Opening of Bids:

   The City of Joplin (herein called the "Owner"), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. The envelopes containing the bids must be sealed, addressed to the City of Joplin, 602 S. Main Street, Joplin, Missouri and designated as bid for **4th STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS.**

   The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within **ninety (90)** days after the actual date of the opening thereof.

2. Preparation of Bid: Each bid must be submitted on the required BID form, included as part of these specifications, and accompanied by:

   A. Acknowledgement of receipt of all addenda issued (if any).

   B. a bid bond payable to the Owner for five percent (5%) of the total amount of the bid.

   C. A copy of the signed Anti-Collusion form.

   All blank spaces for bid prices must be filled in, in ink or typewritten, in figures, and the foregoing Certifications must be fully completed and executed when submitted.

3. Pre-Bid Meeting: **See Notice to Contractors for any pertinent information**.
4. Subcontracts: The bidder is specifically advised that any person, or other party, to whom it is proposed to award a subcontract under this contract must be acceptable to the procurer.

5. Telegraphic Modification: Any bidder may modify his bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the Owner prior to the closing time, and, provided further, the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. The telegraphic communication should not reveal the bid price, but should provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two days from the closing time, no consideration will be given to the telegraphic modification.

6. Method of Bidding: The Owner invites the following bid(s): Unit Price submission for the project in compliance with project drawings, specifications and contract documents. The OWNER reserves the right to add or subtract quantities from the Project Contract at the Unit Prices submitted, as necessary.

7. Qualifications of Bidder: The Owner may make such investigations as he deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.

8. Bid Security: Each bid must be accompanied by a bid bond payable to the Owner for five percent (5%) of the total amount of the bid. As soon as the bid prices have been compared, the Owner will return all of the bonds except the three lowest responsible bidders. When the agreement is executed the bonds of the two remaining unsuccessful bidders will be returned. The bid bond of the successful bidder will be retained until the payment bond and performance bond have been executed and approved, after which it will be returned.

9. Liquidated Damages for Failure to Enter into Contract: The successful bidder, upon his failure or refusal to execute and deliver the contract and bonds required within 10 days after he received notice of the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his bid.

10. Time of Completion and Liquidated Damages: Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the project within THREE HUNDRED (300) consecutive calendar days thereafter. Bidder must agree also to pay as liquidated damages, the sum of $1,000.00 for each consecutive calendar day thereafter as hereinafter provided in the General Conditions.

11. Conditions of Work: Each bidder must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract. Insofar as possible the contractor, in carrying out the work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

12. Addenda and Interpretations: No interpretation of the meaning to the plans, specifications, or other pre-bid documents will be made to any bidder orally.

    Every request for such interpretation should be emailed to Project Engineer and to be given consideration must be received **at least five (5) days prior** to the date fixed for the opening of bids. Interpretations, supplemental instructions or clarifications considered necessary by the Engineer in response to such questions will be issued in the form of written addenda to the contract documents and specifications which, if issued, will be posted to the City of Joplin Website on the www.Joplinmo.org webpage, not later than three days prior to the data fixed for the opening of bids. Questions received less than (5) days prior to the date for opening of bids may not be answered. Only answers issued by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.

13. Security for Faithful Performance: Simultaneously with the delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract, as specified in the General Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owner.

14. Power of Attorney: Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

15. Notice of Special Conditions: Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

    A. Inspection and testing of materials.

    B. Insurance requirements.

C. Wage rates.

This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations. The applicable state wage rates for this contract are detailed in "Annual Wage Order 30", that is attached to this bidding document. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

D. Stated allowances.

16. Laws and Regulations: The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

17. Method of Award:

A. Lowest Qualified Bidder

The contract is typically awarded based on the lowest qualified bidder's Total Contract Bid Amount, provided that it does not exceed the amount of funds then estimated by the Owner as available to finance the contract. The Total Contract Bid Amount shall be defined as the Total Base Bid Amount plus the total bid amount for each Alternate chosen. For comparison purposes alternates will be accepted, following the sequential order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. Furthermore, award of the contract shall be in conformance with the City's Procurement Policy, which is typically based upon the lowest responsive, responsible bid submitted for the Total Contract Bid Amount.

B. Local Vendor Preference

However, local vendor exceptions may be allowed, as outlined in the City's Procurement Policy, sections of which are replicated below for reference:

a. Local Vendors:

i. Preference will be given to vendors or contractors who produce, manufacture, or market goods and/or services within the defined radius as described below, if the quality and price are comparable with all other goods and/or services offered to the City and all other factors to be considered in the bid award process are equal. When a formal written bid or proposal is not required, local vendors may be given an opportunity to match prices offered by non-local vendors, as long as the products are equal as to specifications and quality requirements.

ii. A vendor or contractor is considered to be local if their principal place of business is located within a radius of twenty-five (25) miles from Joplin City Hall, with the majority of its primary business operations, including but not limited to, production, operation, purchasing, billing, marketing, management, administration and ownership, occurring within said radius. "Local" shall not include the following:

(a) Those businesses with only a local post office box; or

(b) Those businesses with a sales presence in the said radius, but no physical business location within the said radius; or

(c) Home based businesses that merely take orders for products shipped from out-of-town to their customers.

iii. When bids or proposals are received from both local and non-local vendors or contractors, the local bidder may be given preference in the awarding of the bid provided that its bid meets all other specification, quality, and service requirements in the following instances:

(a) If a local bidder is within three (3%) percent of the lowest bid from a non-local bidder on a bid or proposal from $3,000.00 up to $1,000,000.00, and within two (2%) percent on such bid or proposal from $1,000,000.00 up to $3,000,000.00, and within one (1%) percent on such bid or proposal from $3,000,000.00 to $5,000,000.00.

(b) The local purchasing preference policy shall not apply in the following instances:

(1) When purchases and or contracts are funded in whole or in part by federal funds.

(2) When such preference is in conflict with any applicable state or federal laws, rules or regulations.

(3) When construction projects are financed with public assistance, including but not limited to, tax increment financing, Chapter 100 bonds, Chapter 353 redevelopment projects and enterprise zone redevelopment.

(c) In the event that a general/prime contractor wishes a bid to be considered local, such contractor must either be local as defined above and at least 51% of the value of the total work to be performed as set forth in the bid price must be accomplished by the general/prime contractor or subcontractors considered local pursuant to this policy as defined above; or, utilize subcontractors considered local who will perform at least sixty percent (60%) of the value of the total work to be performed as set forth in the bid. The general/prime contractor will be required to document this information and provide it with the bid in order for the bid to be considered under the local vendor preference policy.

b. Modification to Agreement in the Bid Documents

i. If the contractor is awarded the bid utilizing the local subcontractors as defined above in the City's local preference policy, Section 23 of the City's construction agreement will be replaced in its entirety as follows:

Section 23. Records and Audits. The Contractor shall maintain accounts and records, including personnel, property, and financial records, adequate to identify and account for all costs pertaining to the Contract and such other records as may be deemed necessary by the City to assure proper accounting for all project funds. These records will be made available for audit purposes to the City or any authorized representative and will be retained for three years after the expiration of this Contract. Contractor shall utilize local subcontractors for the value of the total work performed under this Contract as set forth in the bid and in reliance on the local preference policy. In the event that Contractor does not meet this local preference requirement by using subcontractors for the percentage of work defined in the bid relative to the local preference policy, it shall be liable for damages to the City in the amount of five percent (5%) of the Total Contract Bid Amount, as defined above in paragraph 17.(A).

18. Obligation of Bidder: At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect or his bid.

A. Bidders are informed that pursuant to Section 285.530, RSMo, as a condition of the award of any contract in excess of five thousand dollars ($5,000), the successful bidder shall, by sworn affidavit and provision of documentation, affirm its enrollment and participation if a federal work authorization program with respect to the employees working in connection to the contracted services. Successful bidders shall also sign an affidavit affirming that it does not knowingly employ any

person who is an unauthorized alien in connection to the contracted services.

19. Safety Standards and Accident Prevention: With respect to all work performed under this contract, the contractor shall:

    A. Comply with the safety standards provisions of applicable laws, building and construction codes, and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1518 as published in the "Federal Register", Volume 36, No. 75, Saturday, April 17, 1971.
    B. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.
    C. Maintain at his office or other well-known place at the job site, all articles necessary for giving first aid to the injured and shall make arrangements for the immediate removal to a hospital or a doctor's care of persons (including employees), who may be injured on the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.

20. Bidders are informed that the Project is subject to the requirements of Section 292.675, RSMo, which requires all contractors or subcontractors doing work on the Project to provide, and require its on-site employees to complete, a ten (l 0) hour course in construction safety and health approved by the Occupational Safety and Health Administration ("OSHA") or a similar program approved by the Missouri Department of Labor and Industrial Relations which is at least as stringent as an approved OSHA program. The training must be completed within sixty (60) days of the date of work on the Project commences. On-site employees found on the worksite without documentation of the required training shall have twenty (20) days to procure documentation or be subject to removal from the project.

21. Contractor's Responsibility for Subcontractors:

    A. The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as Contractor is for the acts and omissions of persons it directly employs.
    B. Contractor shall cause appropriate provisions to be inserted in all subcontracts relating to this work, to bind all subcontractors to Contractor by all the terms herein set forth, and insofar as applicable to the work of subcontractors and to give Contractor the same power regarding termination of any subcontract as the City may exercise over Contractor under any provisions of this contract.
    C. Nothing contained in this contract shall create any contractual relation between the subcontractor and the City or between any subcontractors.

22. Antidiscrimination: The Contracting Authority hereby notifies all bidders that it will affirmatively ensure that in any contract entered in pursuant to this advertisement, business owned and controlled by socially and economically disadvantaged individuals will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, religion, creed sex, age, ancestry, or national origin in consideration for an award.

23. Lead Contaminated Materials: As of January 1, 2023, the City no longer pays for contaminated materials to be hauled to specific repository sites. If a contractor requests the City to test excavated materials for heavy metals concentrations, City staff will provide that testing free of charge, based on availability of the City's XRF gun. (The City will endeavor to respond immediately to the job site, so as not to cause delays to the contractor's work.) If such testing yields a determination that the concentration levels of

heavy metals (lead, zinc, cadmium, etc.) exceeds acceptable limits, then the contractor shall be responsible for properly disposing of said materials at a site chosen by the contractor. Proper disposal of such materials means to either cap the material with clay, or to blend it with non-contaminated soils such that the resultant concentration is lower than acceptable limits. If the contractor elects to cap contaminated soils on another site, the thickness of the clay cap is dependent upon the likely use of the site.

BID FORM

CITY OF JOPLIN 4th STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS

TO: DIRECTOR OF PUBLIC WORKS

We, the undersigned BIDDER, do hereby agree, if this Bid is accepted, to enter into an agreement with City of Joplin, MO in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents and Specifications for the Bid Price and within the Period of Performance indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Bid Form, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for sixty days after the day of Bid opening. BIDDER will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Bidding Requirements within fifteen (15) days after the date of City of Joplin, MO Notice of Award.

In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:

1. BIDDER has examined and carefully studied the Bidding Documents and any addenda, as acknowledged below.
2. BIDDER has visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance and furnishing of the Work;
3. BIDDER is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.
4. BIDDER is aware of the general nature of Work to be performed by City of Joplin, MO and others at the site that relates to Work for which this Bid is submitted as indicated in the Contract Documents.
5. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
6. BIDDER has given CITY OF JOPLIN written notice of all conflicts, errors, ambiguities or discrepancies that BIDDER has discovered in the Contract Documents and the written resolution thereof by CITY OF JOPLIN is acceptable to BIDDER, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
7. This 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; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over City of Joplin, MO.

BIDDER will complete all work on the described project for the City of Joplin, MO in accordance with the Contract Documents for the price(s) stated below.

The Bidder agrees to include the items listed in the Itemized Bid Sheet(s) attached to this Bid Form in the Base Bid.

Note 1 Bidder agrees and understands that by this submission that items required to construct and complete the project in accordance with the accompanying plans, but not shown on this proposal, shall be included in the bid price for other related items of construction so as to not cause an unbalanced bid.

Note 2 The undersigned submits the following Itemized Bid Sheet(s) and hereby authorizes the City of Joplin, MO to correct any multiplication of "Unit Price" by "Quantity" as shown under "Amount" when copying the Itemized Bid Sheet(s) into any Contract.

Note 3 It is understood that this bid becomes a part of the specifications upon the signing of the contract and that failing to comply with any part of this bid will be taken as a failure to comply with said specifications and will be just cause for rejection of work.

Note 4 In submitting this bid, it is understood that the right is reserved by the City of Joplin, MO to reject any and all bids, to waive any irregularities in the bidding, and to increase or decrease the amount of any class or portion of the work.

Note 5 In submitting this proposal, contractor certifies that no employee, member, or officer of the firm or corporation is a salaried officer or employee of the City of Joplin, MO or any of its boards or agencies, and that no salaried officer or employee of the City of Joplin, MO has any financial interest, direct or indirect, in this Contract. The City of Joplin, MO will award the bid to the lowest, responsive, responsible bidder.

Note 6 The City of Joplin, MO will award the bid based on the base bid. Priority of consideration will be based upon the bids received in the following priority of consideration:

- Base Bid
- Base Bid + (Alternate 1, Alternate 2… Alternate X)

Alternates will be awarded in cumulative numerical order presented. No alternate will be awarded out of order. The Owner reserves the right to award the bid based upon priorities scheduled above that fall within the financial constraints of the project.

Note 7 The scope of the work to be performed under the various unit price items of the contract proposal (where linear or volumetric measurement of quantities is involved) and the method of measurement and basis of payment for quantities in connection with such items, together with the scope of various lump sum items of the contract proposal is in general, defined and described under the respective applicable specification sections. It is the intent of the Bid Form and the Job Special Provisions that the total bid as submitted shall cover all work shown by the Contract Drawings and as required by the attached specifications and other Contract Documents. All costs, in connection with the work, and payment therefore, shall be included in and based on the unit and lump sum prices named in the Bid Form. No item of work that is required by the Contract documents for the proper and successful completion of the Contract shall be paid for outside of or in addition to the prices submitted in the Bid Form, as all work not specifically set forth in the Bid Form as a pay item shall be considered a subsidiary obligation of the Contractor and all cost in connection therewith shall be included in the unit or lump sum prices named in the Bid Form.

Note 8 It is understood by the bidder that the quantities given in the following itemized bid form are not guaranteed by the owner and are used solely for the purpose of comparing bids and

awarding the contract, and may or may not represent the actual quantities encountered on the job; and that the sum of the products of the quantities listed in the following itemized bid form, multiplied by the unit price bid shall constitute the gross sum bid.

CONTRACTOR INFORMATION

Contractor:_____

Address: _____

_____

Phone: _____

Fax: _____

Email: _____

Total Base Bid: Proposal for the Construction of Joplin, MO 4th STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS (to agree with the "ITEMIZED BID FORM")

$_____(in numbers)

$
_____(
in words)

(In case of discrepancy, the amount shown in words will govern)

Contractors acknowledges receipt of Addenda No(s):_____

Signature: _____

Title: _____

Date: _____

4TH STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS
INVITATION FOR BID #

BASE BID					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
1	Mobilization	LS	1		
2	Contractor Furnished Construction Staking and Surveying	LS	1		
3	Clearing & Grubbing / Tree & Brush Removal	LS	1		
4	Demolition & Removal (Including Pavement & Roadbed)	LS	1		
5	Erosion Control	LS	1		
6	Kentucky Bluegrass Sodding	SY	790		
7	Embankment Grading	CY	316		
8	Removal of Unsuitable Material*	CY	100		
9	Backfill of Unsuitable Material*	CY	100		
10	8" Limestone Base (Roadway)	SY	1595		
11	2" Limestone Base (Sidewalk)	SY	552		
12	2" Asphalt Milling	SY	5051		
13	Asphaltic Concrete Surface (2") (MoDOT BP-1)	TONS	699		
14	Asphaltic Concrete Base (8") (MoDOT Bituminous Base)	TONS	524		
15	Class B Concrete Sidewalk (4")	SY	518		
16	Sidewalk Ramp (inc. Truncated Domes)	SY	34		
17	6" Concrete Splitter Island	SY	30		
18	Standard Upright Curb & Gutter	LF	1295		
19	Concrete Flume (Type A)(MoDOT 609.00P)	LF	30		
20	Commercial Driveway Construction (8" Concrete) (Incl. 4" M	SY	120		
21	Type A Catch Basin	EA	1		
22	Type 3 Combination Inlet - Double	EA	1		
23	Type 3 Combination Inlet - Triple	EA	2		
24	4x4 Concrete Area Inlet	EA	1		
25	4x8 Concrete Junction Box w/ MH Ring & Cover	EA	1		

4TH STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS
INVITATION FOR BID #

BASE BID					
ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
26	4x4 Concrete Junction Box w/ MH Ring & Cover	EA	1		
27	15" Class III RCP (including trenching, bedding, backfill, gaske	LF	167		
28	18" Class III RCP (including trenching, bedding, backfill, gaske	LF	111		
29	24" Class III RCP (including trenching, bedding, backfill, gaske	LF	126		
30	Pipe Collar	EA	2		
31	24" RCP FES (including trenching, bedding, backfill, gaskets, a	EA	1		
32	Rock Lining for Culvert Outlet	CY	2		
33	Remove and Replace Existing Signage	LS	1		
34	Pavement Marking Removal	LF	10703		
35	Pavement Marking Removal (Symbols)	EA	5		
36	4" White Pavement Marking	LF	8591		
37	4" Yellow Pavement Marking	LF	11119		
38	12" White Pavement Marking	LF	419		
39	24" White Pavement Marking	LF	145		
40	Left/Right/Through Turn Arrow White Pavement Marking Sy	EA	43		
41	4" Broken Yellow Pavement Marking	LF	1331		
42	Preformed Railroad Crossing Symbol	EA	4		
43	24" Yellow Pavement Marking	LF	111		
44	6" Dotted White Pavement Marking (2' long, 6' gap)	LF	30		
45	4" Broken White Pavement Marking	LF	191		
46	Traffic Control	LS	1		
47	Adjust Manhole Rims	EA	2		
48	Traffic Signal	LS	1		
49	Sidewalk Hand-Railing	LF	92		
50	Decorative Cobble	SF	49		

BASE BID TOTAL = _____

4TH STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS
INVITATION FOR BID #

BID ALTERNATIVE 1

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
101	Scored or Stamped Class B Concrete (4")	SY	334		
102	Decorative Cobble	SF	240		
103	Brick Hardscape	SF	500		
104	Deciduous Trees	EA	3		
105	Ornamental Trees	EA	3		
106	Planting Bed	SF	700		
107	Steel Bed Edge	LF	170		
108	Sod	SY	1750		
109	Bike Racks	EA	1		
110	Litter Receptacles	EA	2		
111	20in x 20in x 20in Limestone Seating Blocks	EA	12		
112	Joplin "J" Logo	EA	2		
113	"Landreth Park" Sign	EA	1		
114	6ft-6in x 12ft-2in Limestone Inlay	EA	1		

BID ALTERNATE #1 TOTAL = _____

4TH STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS
INVITATION FOR BID #

BID ALTERNATIVE 2

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
201	Asphaltic Concrete Surface (2") (MoDOT BP-1) (Parking Lot)	TONS	110		
202	Asphaltic Concrete Base (4") (MoDOT Bituminous Base) (Parl	TONS	220		
203	Class B Fiber Reinforced Concrete Sidewalk (4")	SY	200		
204	4" Limestone Base (Parking Lot)	SY	975		
205	4" Limestone Base (Trail)	SY	200		
206	Kentucky Bluegrass Sodding	SY	1100		
207	Embankment Grading	CY	300		
208	Scored or Stamped Class B Concrete (4")	SY	65		
209	Brick Hardscape	SF	400		
210	Deciduous Trees	EA	1		
211	Planting Bed	SF	1450		
212	Steel Bed Edge	LF	15		
213	Prairie Seed	SF	7400		
214	Bike Racks	EA	1		
216	Litter Receptacles	EA	1		
217	20in x 20in x 20in Limestone Seating Blocks	EA	8		
218	Wheel Stops	EA	18		

BID ALTERNATE #2 TOTAL = _____

4TH STREET & MURPHY BLVD. GEOMETRIC IMPROVEMENTS
INVITATION FOR BID #

BID ALTERNATIVE 3

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
301	Class B Fiber Reinforced Concrete Sidewalk (4")	SY	1050		
302	4" Limestone Base (Trail)	SY	1050		
303	Embankment Grading	CY	200		
304	RCB Underpass Lighting	LS	1		
305	Cast-In-Place Concrete Wall (Sidewalk)	SY	60		
306	Litter Receptacles	EA	1		
307	20in x 20in x 20in Limestone Seating Blocks	EA	8		
308	Trailhead Kiosk	EA	1		
309	Signing	LS	1		

BID ALTERNATE #3 TOTAL = _____

BASE BID + ALTERNATIVE 1 = _____

BASE BID + ALTERNATIVE 1 + ALTERNATIVE 2 = _____

BASE BID + ALTERNATIVE 1 + ALTERNATIVE 2 + ALTERNATIVE 3 = _____

BID BOND

PLACEHOLDER

ANTI-COLLUSION STATEMENT

STATE OF MISSOURI

CITY/COUNTY OF _____

_____

_____being first duly sworn, deposes and says that he is

_____

(Title of Person Signing)

Of _____

_____

Name of Bidder

That all statements made and facts set out in the proposal for the above project are true and correct: and the bidder (The person, firm, association or corporation make said bid)

Has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the said bid or any contact which may result from its acceptance.

Affiant further certifies that bidder is not financially interested in, or financially affiliated with, any other bidder for the above project.

BY _____

BY _____

BY _____

Sworn to before me this _____day of _____20_____.

_____

Notary Public

My Commission Expires _____

AFFIDAVIT OF COMPLIANCE

Section 285.530.2

State of Missouri)
) ss
County of_____)

Now this_____day of _____, 20_____, the undersigned, being first duly sworn, deposes and says:

- I am more than 18 years of age.
- I make this affidavit from my personal knowledge of the facts stated herein or upon information and facts available to me as a duly authorized owner, partner, corporate or LLC officer or Human Relations

  Director of_____.
  (Name of Corporation, LLC, Sole Proprietorship, or Partnership)

- I am authorized to make this affidavit on behalf of_____.
  (Name of Business Entity, Same as Above)
- I state and affirm that_____is enrolled and is currently
  (Name of Business Entity, Same as Above)
  participating in E-Verify, a federal work authorization program or another equivalent electronic verification of work authorization program operated by the United States Department of Homeland Security under the Immigration Reform and Control Act of 1986.
- Further, _____does not knowingly employ any person
  (Name of Business Entity, Same as Above)
  who is unauthorized alien.
- Further, _____has performed an electronic verification
  (Name of Business Entity, Same as Above)
  check as described above on all workers hired since January 1, 2009, or obtained documents required for completion of a Federal I-9 Form before it began participating in E-Verify.
- Attached to this affidavit is a true and accurate copy of this company's Memorandum of Understanding with the United States concerning the use of E-Verify.

I certify under penalty of perjury that the statements above are complete, true, and accurate to the best of my knowledge and belief.

_____
(Authorized Agent, Partner, Owner, or Officer)

If business has a Human Relations Director or equivalent, that person must sign as an affiant as well.

I certify under penalty of perjury that the statements above are complete, true, and accurate to the best of my knowledge and belief.

_____

(Human Relations Director)

This form is promulgated pursuant to 15CSR 60-15-.020. Use of this form is not required but the Attorney General has deemed this affidavit sufficient in form to satisfy the requirements of section 285.540, RSMo, Supp. 2008.

FURTHER, THE AFFIANT SAYETH NOT

_____

(Signature)

On this_____day of_____in the year 20_____, before me,

a Notary Public in and for said State, personally appeared_____, known to me to be the person who executed the within affidavit, and acknowledged to me that he/she executed the same for the purposes therein stated.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal in the county and State aforesaid, the day and year first above written.

_____

(Notary Public)

My Commission Expires: _____

SUBCONTRACTOR DISCLOSURE FORM

SUBCONTRACTOR DISCLOSURE FORM: The bidder shall submit with this bid any subcontracts without limitation on the contract amount or subcontract amount in accordance with Sec 102 as follows:

List below the name of each subcontractor that will be furnishing labor or labor and materials, the category of work that the subcontractor will be performing (e.g. asphalt, concrete, earthwork, bridges…) and the dollar value of the subcontract. Enter "NONE" if there are no subcontractors that need to be disclosed.

If the information is not available at the time of bid the bidder shall submit the "Subcontractor Disclosure Form" pages with the Contracting Authority on or before 4:00 p.m. of the third business day after the bid opening date, directly to Director of Public Works, 602 S Main Street, Joplin, MO 64801. Telefax transmittal to Director of Public Works will be permitted at fax no.(417) 625-4738. The complete signed original documents do not need to be mailed to the City of Joplin, but the bidder shall have it available if requested by the City of Joplin.

(ATTACH ADDITIONAL SHEETS IF NEEDED.)

SUBCONTRACTOR NAME	DOLLAR VALUE of SUBCONTRACT	CATEGORY OF WORK

Company Date By (Signature) Title

By (Please Print name of person signing)

SUBCONTRACTOR CERTIFICATION REGARDING AFFIRMATIVE ACTION

Project: City of Joplin 4th Street & Murphy Blvd. Geometric Improvements
County: Newton

Certification Regarding Affirmative Action and Equal Opportunity: The bidder (prospective prime contractor) or proposed subcontractor certifies:

- Affirmative Action Program: That it has developed and has on file at each of its establishments affirmative action programs pursuant to 41 CFR Part 60-2.

- Equal Opportunity Clause: That it has participated in a previous contract or subcontract subject to the equal opportunity clause set forth in 41 CFR Part 69-1.4 and executive order no. 11246.

- Compliance Reports: That it has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance Programs and his designate, or the Equal Employment Opportunity Commission, all reports due under the applicable filing requirements contained in 41 CFR Part 60-1.

If the text of the certification above is incorrect, the bidder or subcontractor making the certification shall correct it below:_____

NOTE: This certification applies to and must be executed by each bidder (prospective prime contractor) or proposed subcontractor if its proposed contract or subcontract on this project will equal or exceed $10,000 or that contractor or subcontractor has contracts or subcontracts on federally assisted projects in any 12-month period which have or can reasonably be expected to have, an aggregate total value exceeding $10,000 41 CFR Part 60- 1.5(a)(1). It is a duty and contract obligation of the prime contractor to insure that each of its subcontractors, which meet this criterion, executes and submits to the commission this certification also.

Company: _____

By:_____

Date:_____

Title: _____

AGREEMENT
BETWEEN
CITY OF JOPLIN AND

CITY		CONTRACTOR	
CITY OF JOPLIN **602 S. MAIN STREET** **JOPLIN, MO 64801**		Name: Address:	
Attention:		Attention:	
Department:		Phone:	Fax:
Phone:	Fax:		

THIS AGREEMENT made and entered into this ____ day of _____, 20____, by the parties identified above.

WITNESSETH: That whereas, the Contractor has become the lowest responsible bidder for furnishing the supervision, labor, tools, equipment, materials and supplies and for constructing the following City improvements:

4th Street & Murphy Blvd. Geometric Improvements

The City and Contractor agree to the following:

1. **Manner and Time for Completion**. The Contractor will furnish all supervision, labor, tools, equipment, materials and supplies necessary to perform, and to perform said work at Contractor's own expense in accordance with the contract documents and any applicable City ordinances and state and federal laws within 300 calendar days from the date Contractor is ordered to proceed, which order shall be issued by the Director of Public Works within 30 days after the date of this contract.

2. **Prevailing Wages**. All labor utilized in the construction of the aforementioned improvements shall be paid a wage of no less than the "prevailing hourly rate of wages" for work of a similar character in this locality, as established and amended at any time by the Department of Labor and Industrial Relations of the State of Missouri. At any time, the contractor is found to not have paid prevailing wages, the contractor shall forfeit as a penalty to the city one hundred dollars for each underpaid worker employed, for each calendar day, or portion thereof such worker is paid less than the said stipulated rates for any work done under this contract.

3. **Insurance Requirements**. Without limiting any of the other obligations or liabilities of the Contractor, the Contractor shall secure and maintain at its own cost and expense, throughout the duration of this Contract and until the work is completed and accepted by the City of Joplin, insurance of such types and in such amounts as may be necessary to protect it and the interests of the City of Joplin against all hazards or risks of loss as hereunder specified or which may arise out of

the performance of the Contract Documents. The form and limits of such insurance, together with the underwriter thereof in each case, are subject to approval by the City of Joplin. Regardless of such approval, it shall be the responsibility of the contractor to always maintain adequate insurance coverage during the term of the Contract. Failure of the Contractor to maintain coverage shall not relieve it of any contractual responsibility or obligation or liability in general or under the Contract Documents.

The certificates of insurance, including evidence of the required endorsements hereunder or the policies, shall be filed with the City within ten (10) days after the date of the receipt of Notice of Award of the Contract to the Contractor and prior to the start of work. All insurance policies shall require that the insurance company in question provide thirty (30) days written notice prior to modification or cancellation of such insurance. Such notices shall be mailed, certified mail, return receipt requested, to:

City of Joplin - Public Works, 602 S. Main Street, Joplin, MO 64801

Such policies shall name the City as an additional insured, with limits of liability not less than the sovereign immunity limits for Missouri public entities calculated by the Missouri Department of Insurance as of January 1 each calendar year and published annually in the Missouri Register pursuant to Section 537.610, RSMo. (See, http://insurance.mo.gov/industry/sovimmunity.php)

As of January 1, 2024, the minimum coverage for the insurance referred to herein shall be as set out below:

a. Workers' Compensation…. Statutory coverage per RSMo 287.010 et seq

Employer's Liability……. $1,000,000.00

b. Commercial General Liability Insurance, including coverage for Premises, Operations, Products and Completed Operations, Contractual Liability, Broad Form Property Damage, Independent Contractors, Explosion, Collapse, and Underground Property Damage and endorsed for blasting if blasting required. Such coverage shall apply to bodily injury and property damage on an "Occurrence Form Basis" with limits of at least Three Million Three Hundred Seventy Thousand One Hundred Thirty Seven and no/100 Dollars ($3,370,137.00) for all claims arising out of a single accident or occurrence and at least Five Hundred Five Thousand Five Hundred Twenty and no/100 Dollars ($505,520.00) with respect to injuries and/or death of any one person in a single occurrence and an amount not less than at least $1,000,000 for all claims to property arising out of a single occurrence and at least $100,000 to any one owner with respect to damages to property. Contractor agrees that the proceeds of such insurance policy shall first be used to pay any award, damages, costs, and/or attorneys' fees incurred by or assessed against City, its employees, officers and agents, before payment of any award, damages, costs or attorneys' fees of Contractor, its employees, officers or agents. Contractor agrees to cause its insurer to name City as an additional insured on such insurance policy, including the City as an additional insured for coverage under its products-completed operations hazard, and said policy shall be primary and noncontributory.

c. Automobile Liability Insurance covering bodily injury and property damage for owned, non-owned and hired vehicles, with limits of at least Three Million Three Hundred Seventy Thousand One Hundred Thirty Seven and no/100 Dollars ($3,370,137.00) for all claims arising out of a single accident or occurrence and at least Five Hundred Five Thousand Five Hundred Twenty and no/100 Dollars ($505,520.00) with respect to injuries and/or death of any one person in a single accident or occurrence.

d. Owner's and Contractor's Protective Liability Insurance to protect the City, its agents, servants and employees from claims which may arise from the performance of this Contract, with limits of at least Three Million Three Hundred Seventy Thousand One Hundred Thirty Seven and no/100 Dollars ($3,370,137.00) for all claims arising out of a single accident or occurrence and at Five Hundred Five Thousand Five Hundred Twenty and no/100 Dollars ($505,520.00) with respect to injuries and/or death of any one person in a single accident or occurrence.

The Owner's and Contractor's Protective Liability Insurance must:

(1) Be a separate policy with the named insured being: The City of Joplin, and

(2) Contain an endorsement that disclaims coverage for any claim barred by the doctrines of sovereign immunity or official immunity, except attorney's fees and other litigation costs incurred in defending a claim. Nothing contained in this policy (or this endorsement thereto) shall constitute any waiver of whatever kind of these defenses or sovereign immunity or official immunity for any monetary amount whatsoever.

e. Builders Risk Insurance for contracts involving unoccupied structures. The Contractor shall secure All Risk Builder's Risk Insurance. Unless specifically authorized by the City, the amount of such insurance shall not be less than the total contract price.

f. Subcontracts. In case any or all of this work is sublet, the Contractor shall require the subcontractor to procure and maintain all insurance required in subparagraphs (a), (b) and (c) hereof and in like amounts. Contractor shall require any and all subcontractors with whom it enters into a contract to perform work on this project to protect the City of Joplin through insurance against applicable hazards or risks and shall, upon request of the City, provide evidence of such insurance.

g. Notice. The Contractor and/or subcontractor shall furnish the City prior to beginning the work, the policy as specified in subparagraph (d), and satisfactory proof of carriage of all the insurance required by this contract, with the provision that policies shall not be canceled, modified or non-renewed without thirty (30) days written notice to the City of Joplin.

h. Legislative or Judicial Changes. In the event the scope or extent of the City's tort liability as a governmental entity as described in Section 537.600 through 537.650 RSMo is broadened or increased during the term of this agreement by legislative or judicial action, the City may require Contractor, upon 10 days written notice, to execute a contract addendum whereby the Contractor agrees to provide, at a price not exceeding Contractor's actual increased premium cost, additional liability insurance coverage as the City may require to protect the City from increased tort liability exposure as the result of such legislative or judicial action. Any such additional insurance coverage shall be evidenced by an appropriate certificate of insurance and shall take effect within the time set forth in the addendum.

4. Performance, Labor, and Materials Payment Bond: The Contractor shall furnish a Performance Bond and a Labor and Materials Payment Bond with surety approved by the City and on the forms approved by the City, each bond shall be in the amount of $_____ (full amount of contract) conditioned upon the full and faithful performance of all major terms and conditions of this contract and payment of all labor and material suppliers. It is further mutually agreed between the parties hereto that if at any time after the execution of this agreement and the surety bond(s) hereto attached for its faithful performance and payment of labor and material suppliers, the City shall deem the surety or sureties upon such bond(s) to be unsatisfactory, or if, for any reason, such bond(s) ceases to be adequate to cover the performance of the work, the Contractor shall, at its expense, within five (5) days after the receipt of notice from the City to do so, furnish an additional bond or bonds, in such form and amount, and with such surety or sureties as shall be satisfactory to the City. In such event no further payment to the Contractor shall be deemed to be due under this contract until such new or additional security for the faithful performance of the work and the payment of labor and material suppliers shall be furnished in a manner and form satisfactory to the City. The corporate surety on any performance or payment bond must be licensed by the State of Missouri and if the required bond exceeds $25,000.00 must be listed in United States Treasury Circular 570.

5. Certification Regarding Disbarment, Eligibility, Indictments, Convictions or Civil Judgements for all Federal Aid Projects: By signing and submitting the bid, the president or authorized official of the bidder, under penalty of perjury under the laws of the USA, shall certify that, except as noted in the exceptions, the company or any person associated therewith in the capacity of owner, partner, director, officer, principal investor, project director, manager, auditor or any position involving the administration of federal funds:
(Reference can be made to "The System for Award Management" website as a helpful resource).

a. Is not currently under suspension, debarment, voluntary exclusion or determination of ineligibility by any federal agency.
b. Has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past three years.
c. Does not have a proposed debarment or suspension pending.
d. Has not been indicted, convicted or had a civil judgment rendered against any of the listed parties by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

5.1 If there are any exceptions, the bidder shall submit the exceptions on company letterhead, signed by the bidder and inserted inside the bid submitted. Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, the bidder shall indicate to whom it applies, the initiating agency, and dates of action. Providing false information may result in criminal prosecution or administrative sanctions.

5.2 By signing the contract, the contractor shall further certify that all related subcontracts of $25,000 shall comply with this requirement. This includes all subcontractors, material suppliers and vendors.

6. **Contractor's responsibility for subcontractors**. The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as Contractor is for the acts and omissions of persons it directly employs. Contractor shall cause appropriate provisions to be inserted in all subcontracts relating to this work, to bind all subcontractors to Contractor by all the terms herein set forth, and insofar as applicable to the work of subcontractors and to give Contractor the same power regarding termination of any subcontract as the City may exercise over Contractor under any provisions of this contract. Nothing contained in this contract shall create any contractual relation between the subcontractor and the City or between any subcontractors.

7. **General Independent Contractor Clause**. This agreement does not create an employee/employer relationship between the parties. It is the parties' intention that the Contractor will be an independent contractor and not the City's employee for all purposes, including, but not limited to, the application of the Fair Labor Standards Act minimum wage and overtime payments, Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, Missouri Revenue and Taxation laws, Missouri Workers' Compensation and Unemployment Insurance laws. The Contractor will retain sole and absolute discretion in the judgment of the manner and means of carrying out the Contractor's activities and responsibilities hereunder. The Contractor agrees that it is a separate and independent enterprise from the public employer, that it has a full opportunity to find other business, that it has made its own investment in its business, and that it will utilize a high level of skill necessary to perform the work. This agreement shall not be construed as creating any joint employment relationship between the Contractor and the City, and the City will not be liable for any obligation incurred by the Contractor, including but not limited to unpaid minimum wages and/or overtime premiums.

8. **Liquidated Damages**. Time of completion of work by the Contractor is of the essence. Should Contractor, or in the case of default, the surety, fail to complete the work within the time specified in the contract, or within such extra time as may be allowed in accordance with City of Joplin Standard Specifications, Division 0000, General Requirements and Provisions, Section 0400.19, (http://mo-joplin.civicplus.com/DocumentCenter/View/3460) Contractor (or surety) shall be liable to the City in the amount of $1,000.00 per day for each and every calendar day that the contract remains uncompleted after the time allowed for completion, as liquidated damages, and not as a penalty, it being stipulated that actual damages to the City and the public arising from Contractor's failure to timely complete the work would be difficult, if not impossible, to ascertain. The amount assessed as liquidated damages may be withheld from any moneys otherwise due to Contractor from the City.

9. **Termination**. The City reserves the right to terminate this contract by giving at least five (5) days prior written notice to the Contractor, without prejudice to any other rights or remedies of the City should the Contractor be adjudged a bankrupt, or if Contractor should make a general assignment for the benefit of its creditors, or if a receiver should be appointed for Contractor or for any of its property, or if Contractor should persistently or repeatedly refuse or fail to supply enough properly skilled workmen or proper material, or if Contractor should refuse or fail to make prompt payment to any person supplying labor or materials for the work under the contract, or persistently disregard instructions of the City or fail to observe or perform any provisions of the contract.

10. **City's Right to Proceed**. In the event this contract is terminated pursuant to Paragraph 8, then the City may take over the work and prosecute the same to completion, by contract or otherwise, and Contractor and its sureties shall be liable to the City for any costs over the amount of this contract thereby occasioned by the City. In any such case, the City may take possession of, and utilize in completing the work, such materials, appliances and structures as may be on the work site and are necessary for completion of the work. The foregoing provisions are in addition to, and not in limitation of, the rights of the City under any other provisions of the contract, city ordinances, and state and federal laws.

11. **Termination for Convenience of City**. The City shall have the right at any time by written notice to Contractor to terminate and cancel this contract, without cause, for the convenience of the City, and Contractor shall immediately stop work. In such event City shall not be liable to Contractor except for payment for actual work performed prior to such notice in an amount proportionate to the completed contract price and for the actual costs of preparations made by Contractor for the performance of the cancelled portions of the contract, including a reasonable allowance of profit applicable to the actual work performed and such preparations. Anticipatory profits and consequential damages shall not be recoverable by Contractor.

12. **Guards and Lights**. The Contractor agrees that during the performance of said work, adequate barricades, guards and

warning signs, lights or devices consistent with the requirements contained in the Manual on Uniform Traffic Control Devices shall be provided by Contractor during construction.

13. Liability and Indemnity.

a. In no event shall the City be liable to the Contractor for special, indirect, or consequential damages, except those caused by the City's gross negligence or willful or wanton misconduct arising out of or in any way connected with a breach of this contract. The maximum liability of the City shall be limited to the amount of money to be paid or received by the City under this contract.

b. The Contractor shall defend, indemnify and save harmless the City, its elected or appointed officials, agents and employees from and against any and all liability, suits, damages, costs (including attorney fees), losses, outlays and expenses from claims in any manner caused by, or allegedly caused by, or arising out of, or connected with, this contract, or the work or any subcontract thereunder (the Contractor hereby assuming full responsibility for relations with subcontractors), including, but not limited to, claims for personal injuries, death, property damage, or for damages from the award of this contract to Contractor, notwithstanding any possible negligence, whether sole or concurrent, on the part of the City, its officials, agents and employees.

c. The Contractor shall indemnify and hold the City harmless from all wages or overtime compensation due any employees in rendering services pursuant to this agreement or any subcontract, including payment of reasonable attorneys' fees and costs in the defense of any claim made under the Fair Labor Standards Act, the Missouri Prevailing Wage Law or any other federal or state law.

d. The indemnification obligations of Contractor hereunder shall not be limited by any limitations as to the amount or type of damages, compensation or benefits payable by or for the Contractor, under any federal or state law, to any person asserting the claim against City, its elected or appointed officials, agents and employees, for which indemnification is sought.

e. The indemnification obligations herein shall not negate, abridge or reduce in any way any additional indemnification rights of the City, its elected or appointed officials, agents and employees, which are otherwise available under statute, or in law or equity.

f. Contractor affirms that it has had the opportunity to recover the costs of the liability insurance required in this agreement in its contract price. Contractor's obligation under this agreement to defend, indemnify, and hold harmless any person from that person's own negligence or wrongdoing is limited to the coverage and limits of the applicable insurance required of the Contractor under this agreement.

g. The Contractor shall indemnify and hold the City harmless for any penalties, fines, fees or costs, including costs of defense, which are charged or assessed by any Federal, state or local agency including, but not limited to, Environmental Protection Agency or Department of Natural Resources.

14. Payment for Labor and Materials. The Contractor agrees and binds itself to pay for all labor done, and for all the materials used in the construction of the work to be completed pursuant to this contract.

15. Payment. The City will pay the Contractor in accordance with the rate set forth in the contract documents on file in the Public Works Department and by this reference made a part hereof, which shall constitute full and complete compensation for the Contractor's work provided hereunder. Such compensation will be paid in progress payments (less five (5) percent retainage), as established by the City, subject to receipt of a requisition for payment and a statement of work provided by the Contractor and agreement by both the City and the Contractor that the Contractor has fully performed the work to be paid for in such progress payments in conformance with the contract. If the City or the architect or engineer determines that a higher rate of retainage is required to ensure performance of the contract, the City may withhold up to ten (10) percent retainage until the work is fully completed and accepted by the City.

16. Contract Documents. The contract documents shall consist of the following:

a. This Contract
b. All Change Orders
c. Bid Plans and Specifications
d. City of Joplin Standard Specifications (Latest Revised Edition)
e. Special Conditions & Provisions
f. Proposal

g. Statement of Bidder's Qualifications
h. Acknowledgment
i. Performance Bond
h. Payment and Material Bond
k. Instructions to Bidders
l. Non-collusion Affidavit
m. Notice to Proceed

Notice to Contractors: This contract, together with the other documents enumerated in this paragraph, forms the contract between the parties. These documents are as fully a part of the contract as if attached hereto or repeated herein. The Contractor agrees to perform all of the work described in the contract documents and to comply with the terms and conditions defined therein for a total sum of ORIGINAL CONTRACT AMOUNT WRITTEN OUT ($_____) dollars, said amount being subject to any approved addenda or change order.

17. Subsurface Conditions. Contractor agrees that information contained in the published reports and public actions of the Missouri Division of Geology and Land Survey shall be conclusive and binding upon the Contractor as to what subsurface conditions at the job site are reasonably anticipated or reasonably foreseeable. Contractor acknowledges and agrees that it shall not be entitled to any adjustment in the Contract Sum or Contract Times for any concealed condition of any nature, including but not limited to unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, in addition to the information contained in the published reports and public actions of the Missouri Division of Geology and Land Survey. Contractor recognizes that it has assumed the risks of concealed conditions and is being compensated for assuming these risks.

18. Conflict of Interest. In accepting this contract, Contractor certifies that no member or officer of its firm or corporation is an officer or employee of the City of Joplin, Missouri, or any of its boards or agencies, and further that no officer or employee of the City has any financial interest, direct or indirect, in this contract. All applicable federal regulations and provisions of R.S.Mo. Section 105.450 et seq. shall not be violated.

19. Assignment. The Contractor shall not assign any interest in this contract, and shall not transfer any interest in the same (whether by assignment or novation), without prior written consent of the City thereto, provided, however, that claims for money due or to become due to the Contractor from the City under this Contract may be assigned to a bank, trust company, or other financial institution without such approval. Notice of such assignment or transfer shall be furnished in writing promptly to the City and the bond surety. Any such assignment is expressly subject to all rights and remedies of the City under this agreement, including the right to change or delete activities from the Contract or to terminate the same as provided herein, and no such assignment shall require the City to give any notice to any such assignee of any actions which the City may take under this agreement.

20. Nondiscrimination. The Contractor agrees in the performance of this contract not to discriminate on the ground or because of race, creed, color, national origin or ancestry, sex, religion, handicap, age, status as a protected veteran or status as a qualified individual with a disability, or political opinion or affiliation, against any employee of Contractor or applicant for employment and shall include a similar provision in all subcontracts let or awarded hereunder. The parties hereby incorporate the requirements of 41 C.F.R. §§ 60-1.4(a)(7), 29 C.F.R. Part 471, Appendix A to Subpart A, 41 C.F.R. § 60-300.5(a)ii and 41 C.F.R. § 60-741.5(a), if applicable.

a. This contractor and subcontractor shall abide by the requirements of 41 C.F.R. § 60-300.5(a). This regulation prohibits discriminations against qualified protected veterans and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified protected veterans.

b. This contractor and subcontractor shall abide by the requirements of 41 C.F.R. § 60-741.5(a). This regulation prohibits discrimination against qualified individuals on the basis of disability and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified individuals with disabilities.

21. Nonresident/Foreign Contractors. The Contractor shall procure and maintain during the life of this contract:

a. If the Contractor is a foreign corporation, a certificate of authority to transact business in the State of Missouri from the Secretary of State, unless exempt pursuant to the provisions of Section 351.570 R.S.Mo.

b. A certificate from the Missouri Director of Revenue evidencing compliance with the transient employer financial assurance law, unless exempt pursuant to the provisions of Section 285.230 RSMo.

22. Notices. All notices required or permitted hereinunder and required to be in writing may be given by FAX or by first class mail addressed to City and Contractor at the addresses shown above. The date of delivery of any notice given by mail shall be the date falling on the second full day after the day of its mailing. The date of delivery of notice by FAX transmission shall be deemed to be the date transmission occurs, except where the transmission is not completed by 5:00 p.m. on a regular business day at the terminal of the receiving party, in which case the date of delivery shall be deemed to fall on the next regular business day for the receiving party.

23. Records and Audits. The Contractor shall maintain accounts and records, including personnel, property, and financial records, adequate to identify and account for all costs pertaining to the Contract and such other records as may be deemed necessary by the City to assure proper accounting for all project funds. These records will be made available for audit purposes to the City or any authorized representative and will be retained for three years after the expiration of this Contract.

24. Authorized Employees. Contractor acknowledges that Section285.530, RSMo, prohibits any business entity or employer from knowingly employing, hiring for employment, or continuing to employ an unauthorized alien to perform work within the State of Missouri. Contractor therefore covenants that is not knowingly in violation of subsection 1 or Section 285.530, RSMo, and that it will not knowingly employ, hire for employment, or continue to employ any unauthorized aliens to perform work on the Project, and that its employees are lawfully to work in the United States.

25. Interest of Contractor and Employees. The Contractor covenants that he/she presently has no interest and shall not acquire interest, direct or indirect, in the study area or any parcels therein or any other interest which would conflict in any manner or degree with the performance of his services hereunder. The Contractor further covenants that in the performance of this Contract, no person having any such interest shall be employed.

26. Interest of Members of a City. No member of the governing body of the City and no other officer, employee, or agent of the City who exercises any functions or responsibilities in connection with the planning and carrying out of the program, shall have any personal financial interest, direct or indirect, in this Contract, and the Contractor shall take appropriate steps to assure compliance.

27. Interest of Other Local Public Officials. No member of the governing body of the locality and no other public official of such locality, who exercises any functions or responsibilities in connection with the planning and carrying out of the program, shall have any personal financial interest, direct or indirect, in this Contract, and the Contractor shall take appropriate steps to assure compliance.

28. Affidavit for Contracts Over $5,000.00. That pursuant to Missouri Revised Statute Sections 285.525 through 285.550, if this contract exceeds the amount of $5,000.00 and Contractor is associated with a business entity, Contractor shall provide an acceptable notarized affidavit stating that the associated business entity is enrolled in and participates in a federal work authorization program with respect to the employees working in connection with the contracted services, and that said business entity does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. Additionally, Contractor must provide documentation for said business entity evidencing current enrollment in a federal work authorization program.

29. City Benefits. The Contractor shall not be entitled to any of the benefits established for the employees of the City nor be covered by the Worker's Compensation Program of the City.

30. Occupational License: The Contractor shall obtain and maintain an occupational license with the City of Joplin, Missouri, if required by city code and any required state or federal license. The cost for this occupational license shall be borne by the Contractor. No contract will be executed by the City until this occupational license has been obtained and that the Contractor is current on any City taxes is verified.

31. Safety Training. Pursuant to Missouri Revised Statute Section 292.675, Contractors and subcontractors who sign a contract to work on public works projects must provide a 10-hour OSHA construction safety program, or similar program approved by the Department of Labor and Industrial Relations, to be completed by their on-site employees within sixty (60) days of beginning work on the construction project. Contractors and subcontractors in violation of this provision will forfeit

to the public body $2,500 plus $100 a day for each employee who is employed without training. Public bodies and contractors may withhold/assess these penalties from the payment due to those contractors and subcontractors if found to be in non-compliance.

32. Compliance with Laws. Contractor agrees to comply with all applicable federal, state and local laws or rules and regulations applicable to the provision of services and products hereunder. Contractor affirmatively states that payment of all local, state, and federal taxes and assessments owed by Contractor is current.

33. Entire Agreement. This agreement contains the entire agreement of the parties. No modification, amendment, or waiver of any of the provisions of this agreement shall be effective unless in writing specifically referring hereto, and signed by both parties.

34. Remedies. Except as may be otherwise found in the contract documents, all claims, disputes, counter-claims, and other matters in question between the Owner and Contractor arising out of or related to this agreement or the breech thereof, will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the state in which the Owner is located.

35. Jurisdiction. This agreement and every question arising hereunder shall be construed or determined according to the laws of the State of Missouri. Should any part of this agreement be adjudicated, venue shall be proper only in the Circuit Court of Jasper County, Missouri.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals on the day and year herein stated.

CERTIFICATE OF DIRECTOR OF FINANCE

I certify that the expenditure contemplated by this document is within the purpose of the appropriation to which it is to be charged and that there is an unencumbered balance of appropriated and available funds to pay therefor.

_____
Leslie Haase, Director of Finance

APPROVED AS TO FORM

_____
Peter Edwards, City Attorney

CONTRACTOR:

By:

_____

___

Printed Name:

_____

Title:

_____

__

CITY OF JOPLIN, MISSOURI

By:

_____
Daniel Johnson, P.E.
Public Works Director

CONTRACTOR'S BOND NO.

FOR CITY CONTRACTS
PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: That Contractor:

a Corporation, hereinafter called Principal, and

_____
(Name of Surety)

_____
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

THE CITY OF JOPLIN, MISSOURI
620 S. MAIN STREET, JOPLIN, MO 64801

hereinafter called OWNER, in the total aggregate penal sum of XXXXXXXXXXXXXX and no/100 Dollars ($XXX,000.00) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the construction of:

4th Street & Murphy Blvd. Geometric Improvements

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, or any extensions thereof, which may be granted by the OWNER, with or with-out notice to the SURETY and during the one year guaranty period and if the PRINCIPAL shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

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

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically

and immediately, without formal and separate amendments hereto, upon amendment of the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND, the Contract or the Loan Documents shall include any alteration, addition, extension, or modification of any character whatsoever.

IN WITNESS, whereof, this the _____ day of _____, 20____.

ATTEST: (SEAL)

_____ _____
Secretary Principal

Approved as to form this _____ day

of _____, 20____. By _____

_____ By _____
City Attorney

ATTEST: (SEAL)

_____ _____
Secretary Surety

Approved this _____ day of

_____, 20_____. By _____

_____ By _____
Director of Finance (Title)

NOTE: Date of BOND must not be prior to date of Contract.
If CONTRACTOR is partnership, all partners should execute BOND.
IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

CONTRACTOR'S BOND NO.

FOR CITY CONTRACTS
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That Contractor:

a Corporation, hereinafter called Principal, and

_____
(Name of Surety)

hereinafter called Surety, are held and firmly bound unto

THE CITY OF JOPLIN, MISSOURI
602 S. MAIN STREET, JOPLIN, MO 64801

hereinafter called OWNER, and unto all persons, firms, and corporations who or which may furnish labor, or who furnish materials to perform as described under the contract and to their successors and assigns in the total aggregate penal sum of XXXXXXXXXXXXXXXXXX and no/100 Dollars ($XXX,000.00)in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the principal entered into a certain contract with the OWNER, dated the _____ day of _____, 20___, a copy of which is hereto attached and made a part hereof for the construction of:

4th Street & Murphy Blvd. Geometric Improvements

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal or coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, all insurance premiums on said work, and for all labor cost incurred in such WORK including the stipulation in said contract requiring the payment of not less than the prevailing hourly rate of wages as found by the Department of Labor and Industrial Relations of the State of Missouri or by final judicial determination of the Courts of the State of Missouri, including that by a SUBCONTRACTOR, and to any mechanic or material man lien holder whether it acquires its lien by operation of State or Federal law; then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the SUBCONTRACTORS, any persons, firms, and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED, FURTHER, that the said SURETY for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its

obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no suit or action shall be commended hereunder by any claimant: (a) Unless claimant, other than one having a direct contract with the PRINCIPAL, shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER, or SURETY, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need to be made by a public officer. (b) After the expiration of one (1) year following the date of which PRINCIPAL ceased work on said CONTRACT, it being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction thereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that this BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20 percent, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the Contract as so amended. The term "Amendment", wherever used in this BOND and whether referring to this BOND, the contract or the loan documents shall include any alteration, addition, extension or modification of any character whatsoever.
PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS, whereof, this the _____ day of _____, 20____.

ATTEST: (SEAL)

_____ _____

Secretary Principal

Approved as to form this _____ day

of _____, 20____. By _____

_____ By _____
City Attorney

ATTEST: (SEAL)

_____ _____
Secretary Surety

Approved this _____ day of

_____, 20____. By _____

_____ By _____
Director of Finance (Title)

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

If CONTRACTOR is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

Unauthorized Aliens Workers Act

The successful bidder will have to sign an agreement that they are enrolled and participating a Federal Work Authorization Program ("FWAP") that ensures that all of its employees or agents or subcontractors have the legal right to work in the United States, as defined in 8 U.S.C. 1324a(h)(3) and RSMo § 285.525-285.555, and that it will maintain this compliance for the entire duration of its contract with the City of Joplin, and will provide an Affidavit of Compliance to the City stating the same.

AFFIDAVIT OF COMPLIANCE
(Missouri Unauthorized Alien Workers Act)

My name is _____(name) _____and I am the _____(Title)

_____of _____(Company Name) _____.
I hereby represent, affirm and certify to the City of Joplin that my company does not knowingly employ any person who is an unauthorized alien in connection with contracted services with the City. I further affirm that my company is actively enrolled and participating in a federal work authorization program with respect to all employees working in connection with the contract services provided to the City.

_____
Affiant

CERTIFICATION FOR PAYMENT

Project: 4th Street & Murphy Blvd. Geometric Improvements

CONTRACTOR

APPLICATION NO:
PERIOD FROM:
PERIOD TO:

CURRENT PAYMENT REQUESTED BY CONTRACTOR

AMOUNT CERTIFIED

In accordance with the Contract Documents, based on on-site observations and data comprising the above application, the Contractor certifies that the work has progressed as indicated and the quality of the Work is in accordance with the Contract Documents and is entitled to payment of the AMOUNT CERTIFIED.

CONTRACTOR

BY _____

CITY OF JOPLIN, MISSOURI

_____
INSPECTOR

_____
PROJECT MANAGER

_____
ASSISTANT PUBLIC WORKS DIRECTOR

_____
DIRECTOR OF PLANNING AND ZONING

_____
PUBLIC WORKS DIRECTOR

DETAILED REQUEST MUST ACCOMPANY THIS CERTIFICATION

DATE_____

1.	Original contract amount		$	
2.	Net Change Orders (+ or -)		$	
3.	Current Contract Price		$	
4.	Total Completed and stored to date:		$	
5.	Retainage (per agreement)			
5.1	5% of Line 4	$		
5.2	5% of stored material	$_____		
6.	Total completed and stored to date less retainage		$	
7.	Less Previous Payments		$	0.00
8.	**DUE THIS APPLICATION**		$	

Accounting Information Only:

_____ Engineering Fee
_____Release Prior Retainage

FINAL LEIN WAIVER

FINAL WAIVER OF LIEN

STATE OF MISSOURI

COUNTY OF

TO WHOM IT MAY CONCERN

WHEREAS the undersigned has been employed by (1)_____

to furnish (2)_____

for the premises known as (3)_____

of which(4)_____is the owner.

The undersigned, for and in consideration of (5)$_____ dollars, and other good and valuable consideration, the receipt whereof is hereby acknowledged does hereby waive and release any and all lien or claim of, or right to, lien under the statutes of the State of Missouri relating to mechanic liens with respect to and on said above described premises and the improvements thereon and on the material fixtures apparatus or machinery furnished and on the money, funds or other consideration now due or to become due from the owner on account of labor, services, material, ,fixtures, apparatus or machinery heretofore furnished or which may be furnished at any time hereafter, by the undersigned for the above described premises.

Given under_____ hand and seal this _____ of _____ 20____

Signature and Seal: (7)_____

NOTE: All waivers must be for the full amount paid. If waiver is for a corporation, corporate name should be used, corporate seal affixed and title of officer signing waiver should be set forth if waivers for a partnership, the partnership name should be used, partner should sign and designate himself as partner.

CONTRACTORS AFFIDAVIT

STATE OF MISSOURI

COUNTY OF

TO WHOM IT MAY CONCERN:

THE undersigned, being duly sworn deposes and says that he is (8)_____ of the

(10)_____ who is the contractor for the (11)_____

work on (12)_____ owned by

(13)_____ That the total amount of the contract including extras is

(14)$_____ on which he has received payment of (15)_____prior to this payment. That all waivers are true, correct and genuine and delivered unconditionally and that there is no claim either legal or suitable to defeat the validity of said waivers. That the following are the names of all parties who have furnished material or labor, or both for said work and all parties having contracts or sub contracts for specific portions of said work or for material entering into the construction thereof and the amount due or to become due to each and that the items mentioned include all labor and material required to complete said work according to plans and specifications:

NAMES (16)	WHAT FOR	CONTRACT PRICE	AMOUNT PAID	THIS PAYMENT	BALANCE DUE

That there are no other contracts for said work outstanding, and that there is nothing due or to become due to any person for material, labor or other work of any kind done or to be done upon or in connection with said work other than above stated.

Signed this _____day of _____.20____

Signature: (17)_____

Subscribed and sworn to before me this _____ day of_____20____

Signature: (18)_____

WAIVER OF LIEN

1. The sub should name the party who hired him, either the general or the owner

2. Name the trade (electric, Plumbing, etc.)

3. Address of property

4. Owner's name

5. The amount the sub is waiving out in both words and figures

6. The date signed

7. The sub-contractor's signature and company name

8, 9 & 10. The name of the sub-contractor signing the waiver his corporate title, and the name of his company

11. Name the trade

12. Address of property

13. Owner's name

14. Total contract (including extras)

15. Amt. Paid prior to this draw

16. If material delivered to site by a material supplier, list sub's name, the material (concrete), contract price, amount paid, this payment, and balance owed. These amounts can change; i.e. The contract amount can go up or down as can the balance owed. If a contractor has supplied you with a partial waiver on a previous draw and then does not use that supplier anymore, you will have to obtain a final waiver from that supplier, if only for a token dollar amount.

17. This affidavit must be notarized, and the notary's date must match the waiver date.

Special note: if a contractor is supplying only labor or only material then the affidavit side of the waiver is not required.

Managers do not have authority (normally) to sign waivers. If you see a manager's signature on a waiver, we must have a letter on file from that corporation that their corporate resolutions have been amended to allow that manager to sign for their corporation.

STATE OF MISSOURI DOL ANNUAL WAGE ORDER – NEWTON COUNTY NO. 30

Missouri
Division of Labor Standards
WAGE AND HOUR SECTION

MICHAEL L. PARSON, Governor

Annual Wage Order No. 30

Section 049
JASPER 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
Todd Smith, Director
Division of Labor Standards

Filed With Secretary of State: **March 10, 2023**

Last Date Objections May Be Filed: **April 10, 2023**

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	$28.58
Boilermaker	$26.72*
Bricklayer	$26.72*
Carpenter	**$46.40**
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	$31.52
Plasterer	
Communications Technician	$26.72*
Electrician (Inside Wireman)	$47.33
Electrician Outside Lineman	$26.72*
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	$26.72*
Glazier	$41.94
Ironworker	$64.38
Laborer	$35.79
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	$26.72*
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	$26.72*
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	$26.32
Plumber	$52.60
Pipe Fitter	
Roofer	$43.57
Sheet Metal Worker	$51.47
Sprinkler Fitter	$26.72*
Truck Driver	$26.72*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. The public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.
**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title as defined in RSMO Section 290.210.

Heavy Construction Rates for
JASPER County

Section 049

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	$51.95
Millwright	
Pile Driver	
Electrician (Outside Lineman)	$26.72*
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	$43.13
General Laborer	
Skilled Laborer	
Operating Engineer	$50.85
Group I	
Group II	
Group III	
Group IV	
Truck Driver	$26.72*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

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.

51.95

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. Public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title.

OVERTIME
and
HOLIDAYS

OVERTIME

For all work performed on a Sunday or a holiday, not less than twice (2x) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work.

For all overtime work performed, not less than one and one-half (1½) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work or contractual obligation. For purposes of this subdivision, **"overtime work"** shall include work that exceeds ten hours in one day and work in excess of forty hours in one calendar week; and

A thirty-minute lunch period on each calendar day shall be allowed for each worker on a public works project, provided that such time shall not be considered as time worked.

HOLIDAYS

January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

AFFIDAVIT OF COMPLIANCE WITH THE PREVAILING WAGE LAW

DIVISION OF LABOR STANDARDS

MISSOURI DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

AFFIDAVIT
COMPLIANCE WITH THE PREVAILING WAGE LAW

I, _____, upon being duly sworn upon my oath state that: (1) I am the
(Name)

_____ of _____; (2) all requirements of
(Title) *(Name of Company)*

§§ 290.210 to 290.340, RSMo, pertaining to the payment of wages to workers employed on public works projects have been fully satisfied with regard to this company's work on _____;
(Name of Project)

(3) I have reviewed and am familiar with the prevailing wage rules in 8 CSR 30-3.010 to 8 CSR 30-3.060; (4) based upon my knowledge of these rules, including the occupational titles set out in 8 CSR 30-3.060, I have completed full and accurate records clearly indicating (a) the names, occupations, and crafts of every worker employed by this company in connection with this project together with an accurate record of the number of hours worked by each worker and the actual wages paid for each class or type of work performed, (b) the payroll deductions that have been made for each worker, and (c) the amounts paid to provide fringe benefits, if any, for each worker; (5) the amounts paid to provide fringe benefits, if any, were irrevocably made to a fund, plan, or program on behalf of the workers; (6) these payroll records are kept and have been provided for inspection to the authorized representative of the contracting public body and will be available, as often as may be necessary, to such body and the Missouri Department of Labor and Industrial Relations; (7) such records shall not be destroyed or removed from the state for one year following the completion of this company's work on this project; and (8) there has been no exception to the full and complete compliance with the provisions and requirements of Annual Wage Order No. _____ Section _____ issued by the Missouri Division of Labor Standards and applicable to this project located in _____ County, Missouri, and completed on the ____ day of _____, _____.

The matters stated herein are true to the best of my information, knowledge, and belief. I acknowledge that the falsification of any information set out above may subject me to criminal prosecution pursuant to §§290.340, 570.090, 575.040, 575.050, or 575.060, RSMo.

_____
Signature

Subscribed and sworn to me this ____ day of _____, _____.

My commission expires _____, _____.

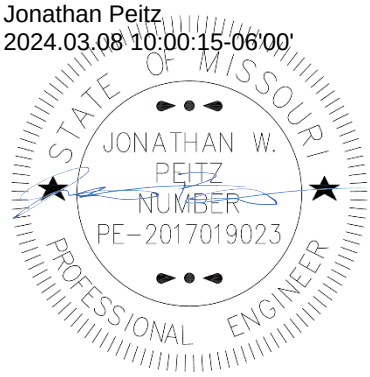
_____
Notary Public

_____
Receipt by Authorized Public Representative

Missouri Department of Labor and Industrial Relations is an equal opportunity employer/program.

APPENDIX A:

JOB SPECIAL PROVISIONS

<table>
<tr>
<td>Jonathan Peitz
2024.03.08 10:00:15-06'00'

</td>
<td>CITY OF JOPLIN
602 S MAIN STREET
JOPLIN, MO 64801
Phone 417-624-0820

OLSSON
1027 S MAIN STREET
SUITE 503
JOPLIN, MO 64801
Certificate of Authority: 001592
Consultant Phone: 417-781-0643

If a seal is present on this sheet, JSP’s have been electronically sealed and dated.

JOB NUMBER: N17-0642
JASPER COUNTY, MO
DATE PREPARED: 03/08/2024

ADDENDUM DATE:</td>
</tr>
<tr>
<td colspan="2">Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All</td>
</tr>
</table>

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JOB SPECIAL PROVISION JSP-0400-01
GENERAL JOB SPECIAL PROVISIONS

1.0 COORDINATION OF CONTRACT DOCUMENTS

The contract documents are essential parts of the contract, and a requirement occurring in one shall be as binding as though occurring in all. Contract documents are intended to be complementary and to describe and provide for a complete work. In case of discrepancy among contract documents, the governing ranking will be:

(a) Agreement
(b) Job Special Provisions
(c) General Conditions
(d) Project Specific Drawings
(e) Special Provisions to City of Joplin, Standard Specifications
(f) City of Joplin, Standard Specifications
(g) Standard Drawings
(h) Bid Items or Quantities
(i) All other sections of the contract documents

In case of discrepancies, calculated dimensions will govern over scaled dimensions.

All contractors, including subcontractors, shall not take advantage of any apparent error or omission in the contract documents. If an error or omission is discovered, the engineer shall be notified promptly so corrections and interpretations necessary to fulfill the intent of the contract can be made. A failure to give notice shall render the effects of any error or omission non-compensable and any delay non-excusable.

2.0 CONSTRUCTION VIDEO AND PHOTOGRAPHY

2.1 SCOPE

Furnish all labor, materials and equipment necessary to provide high quality color digital audio/video recording and digital photographs of the Project site surface conditions as specified herein. Furnish to the Engineer an original and one copy of a continuous high quality color audio/video DVD recording of surface conditions along the entire route of the proposed Work. Furnish to the Engineer high quality color digital photographs on data storage media device.

The video recording and photographs shall be taken:

- Prior to any construction activity.
- After completion of all construction activities.

The Engineer reserves the right to reject audio/video DVD recordings and digital photographs which do not conform to the project specifications. This includes, but is not limited to, poor quality, unintelligible audio or uncontrolled pan or zoom. Any DVD recording or digital photographs rejected by the Engineer will be re-recorded/re-photographed at no cost to the Owner. Under no circumstances shall

construction begin until the Engineer has received and accepted the audio/video DVD(s) and photographs.

A qualified, established audio/video recording firm knowledgeable in construction practices and experienced in audio/video recording and photographing of construction projects shall perform the video. If requested, the videographer/photographer shall provide examples of prior work and/or references.

2.2 CONSTRUCTION REQUIREMENTS

The Contractor shall submit the required photos and video prior to the issuance of a Notice to Proceed, during construction as directed by the Engineer, and immediately prior to acceptance of the project. Final payment for the project will not occur until the Contractor has completed this item.

2.2.1 Color Audio/Video and Digital Photography Survey

(1) Coverage shall include, but not be limited to, all existing roadways, sidewalks, fences, curbs, driveways, buildings and structures, ditches, above ground utilities, traffic signal and street light cabinets, landscaping, trees, culverts, headwalls, retaining walls, signage and other physical features located within the zone of influence of the construction. Particular and detailed attention shall be given to any defects noted, such as cracks, disturbed areas, damaged items, or as Engineer may direct. The coverage may be expanded if Engineer so directs.

(2) All filming or photography will be done during daylight hours. No filming or photography shall be performed if weather is not acceptable, such as rain, fog, snow, etc.

(3) It is the intent of this coverage to accurately and clearly document and define pre-existing, post-construction and/or construction conditions to minimize potential construction claims. Physically mark the excavation areas with highly visible fluorescent paint prior to audio/video recording and photography. The markings shall include stationing information.

(4) The Engineer will have the opportunity to accompany the videographer/photographer.

(5) Sufficient time will be allowed for the Engineer to review the Audio/Video recording and the digital photographs prior to construction.

2.2.2 Audio and Color Video Recording [Viewable on Windows media]

(1) Audio/Video DVDs shall be commercial grade in a standard write protected format. Video system shall have capability of producing hard copy prints of selected individual still frames. Video may be captured originally in Digital Video format, but must be transferred to DVD disc for delivery to the Engineer, and shall be formatted to be played in the Standard Install Windows Media player.

(2) Video recordings shall be divided into multiple segments, and a field log listing those segments shall be provided with the original tapes and DVD discs of all recordings. A visual recording of the field notes and log (listing the videotape segments) shall be included at the end of each respective original recording tape. Items to note on the field log include, but are not limited too, the tract number, street or road viewed, filming start- and stop-times, side (of street) being viewed, point starting from, traveling direction and ending destination point. Written documentation must coincide with the information on the disk so as to make easy retrieval of locations sought for at a later date. All original video field notes and logs (signed by the photographer) shall be released to the Engineer.

(3) Audio/Video recordings shall begin with a verbal description of the current date and time, the Owner's name, Project or Contract name and number, Contractor's name, and location information such as street name, direction of travel, viewing side, etc. Translucent information consisting of the month, day, year and time of recording must appear on the viewing screen on all video recordings, by electronic means. Information appearing on the DVD must be continuous and run simultaneously by the computer generated translucent digital information. No editing or overlaying of information at a later date will be acceptable.

(4) Audio shall be recorded at the same time as the video recording and provide the same information as on the video log sheet. Recordings shall include "continuous" narration identifying the viewing direction, street address or station number location, direction of progress, description of features and the existing condition of improvements or damage within the zone of influence shown on the viewing screen. Identify houses and buildings by house number, when visible, in such a manner that structures of the proposed construction, (i.e. manholes, etc.) can be located by reference. Special commentary shall be given for unusual conditions of buildings, sidewalks and curbing, foundations, trees and shrubbery, etc.

(5) The zone of influence shall be defined as an area within the temporary construction easement or public right-of-way as Drawings indicate, or within 35 feet of the proposed Work. The Contractor shall obtain permission from the owners of private property prior to entering private property for the purpose of filming.

(6) The rate of speed in the general direction of travel during the recording shall not exceed 100 feet per minute. Panning rates and zoom-in and zoom-out rates shall be controlled sufficiently such that during playback, the picture shall be in focus and maintain clarity at all times.

(7) Adequate lighting, to produce the proper detail and perspective, will be required to fill in the shadow area caused by trees, structures, utility poles, road signs, and other such objects in residential areas, or as directed by the Owner's Representative.
(8) Engineering station numbers recorded, if applicable, must be continuous, be accurate and correspond to Project stationing. The symbols should be the standard engineering symbols (i.e. 16+64).
(9) All DVDs and cases shall bear labels with the following information:
    a. Disk Number
    b. Owner's Name
    c. Date of Recording
    d. Project Name and Number
    e. Location of Recording

2.2.3 Digital Photography

(1) Photographs shall be captured on digital camera equipment with at least 6-mp memory and delivered on flash drive or portable hard drive. Original digital image files shall have dimensions of 1500 x 2100 pixels or greater and delivered in TIFF format or JPEG format WITHOUT added compression. Each image must be assigned a unique filename that includes the date of photography.
(2) Each digital image file must be delivered with matching descriptive information that accurately describes the direction and location of the individual photograph, plus notation of any noteworthy damage that is not readily visible in the image. This information may not be provided as the (editable) image filename, but must be delivered in a permanent form.
(3) Sufficient digital photographs shall be taken to document existing features such as roadways, sidewalks, fences, curbings, driveways, buildings and structures, ditches, above ground utilities, traffic signal and street light cabinets, landscaping, subdivision monuments, trees, culverts, headwalls, retaining walls, signage and other physical features located within the zone of influence of the construction. Particular and detailed attention shall be given to any defects noted, such as cracks, disturbed areas, damaged items, or as Engineer may direct. The coverage may be expanded if Engineer so directs.
(4) The zone of influence shall be defined as an area within the temporary construction easement or public right-of-way as Drawings indicate, or within 35 feet of the proposed Work. The Contractor shall obtain permission from the owners of private property prior to entering private property for the purpose of taking photographs.
(5) Adequate lighting, to produce the proper detail and perspective, will be required to fill in the shadow area caused by trees, structures, utility poles, road signs, and other such

objects in residential areas, or as directed by the Owner's Representative.

(6) Engineering station numbers recorded (in the image or as a descriptor), if applicable, must be accurate and correspond to Project stationing. The symbols should be the standard engineering symbols (i.e. 16+64).

2.3 MEASUREMENT AND PAYMENT

The Engineer will not measure the specified work for separate payment.

Payment for the audio/video recordings and photographs shall be subsidiary to the other contract items.

3.0 CONSTRUCTION SCHEDULE

3.1 SCOPE

After being awarded the contract, the Contractor shall immediately prepare a Critical Path Method (CPM) schedule for approval by the Engineer that will ensure completion of the project within the contract time. This schedule shall be submitted and approved by the Engineer before a Notice to Proceed is issued. No work on this contract shall begin until said schedule is approved. The Engineer reserves the right to adjust the Contractor's schedule to coordinate with any other projects in the same area.

3.2 GENERAL REQUIREMENTS

A computerized network diagram shall be included in the CPM schedule and shall serve as the 'Master Construction Schedule' for the Project, giving mathematical analysis (printout) of that network, which verifies and validates logic and planning and defines critical path. The approved schedule shall be kept on site with the superintendent and reviewed with Subcontractors each week. The CPM schedule shall be utilized for planning, organizing, and directing the work, for reporting progress, and requesting payment for work completed. The schedule shall be reviewed each week as part of the progress meeting. Abbreviations used in CPM schedules shall be clearly explained in a legend of symbols, either separate or attached.

3.3 SCHEDULE REQUIREMENTS

The CPM schedule shall clearly show sequential interdependencies, with activity duration and float clearly represented. Sequence(s) of activities with no float shall be clearly identified as Critical Path(s). The scheduling system shall be capable of baseline comparison analysis. Upon development and approval of the schedule, the Contractor shall 'freeze' the initial schedule as the baseline schedule. As work progresses, Contractor shall provide graphics displaying actual progress bars versus baseline or target bars. Activity durations shall be in calendar days.

The CPM schedule shall include pre-construction tasks, construction tasks (bid items), shop drawing submittal and approval process, material and equipment ordering and delivery, submittal of as-built drawings, clean up and punchlist, inspection coordination activities, utility relocation, final inspection and certificate

of completion, and final payment. Submittal activities shall be scheduled to allow sufficient time for materials and equipment to be procured and installed, even if the submittal is unacceptable and resubmittal is required. The CPM schedule shall reflect anticipated delays, such as weather delays.

Contractor shall submit the initial schedule, complete revisions, and periodic reports in three hard copies, one reproducible and two prints or plots, and one copy digitally on CD or DVD. This schedule shall include the completed network program consisting of GANTT chart and mathematical analysis within 10 days of the executed contract. Allow 5 days for the Engineer to review. Contractor shall submit the schedule of submittal activities extracted from the master schedule within 10 days after receipt of Notice to Proceed. During the preparation period, Contractor shall review this information with the Engineer.

Submittals to the Engineer of initial and monthly CPM schedule charts shall include three sets of all reports as outlined below. Plots shall be color, blueline, printed or photocopied prints and, if segmentally generated, fully assembled. Highlight the critical path when the critical path is not clearly defined.

The Contractor will participate in the Engineer's review and evaluation of submitted network diagrams and mathematical analysis of diagrams. Resubmit revisions necessary due to review within 5 days after the review. Contractor and major Subcontractors shall review the network CPM schedule before final submittal.

3.4 REPORT FORMATS

Standard set of reports submitted each month including initial submittals shall consist of a GANTT chart of entire project. Progress bar chart shall include target or baseline comparison bars. Bar positions shall be early start/early finish with float clearly defined. GANTT charts shall include a tabulation of each activity. For each activity on the GANTT charts furnish the following:

- Initial/submittal schedule shall include a list of responsible contractors and suppliers, task description, duration, start date, end date, latest start date, latest end date, total slack or float time in calendar days and current schedule bar in Gantt view.

- Progress schedule updates shall include a list of responsible contractors and suppliers, task description, duration, actual start date, actual finish date, percentage completion, remaining duration in calendar days and current schedule bar in Gantt view.

Graphics outlined above shall comply with the following criteria unless noted otherwise:

3.4.1 Sheet size of diagram shall be 11 by 17 inches minimum and time scaled in month as the major timescale and weeks as the minor timescale unless approved otherwise.

3.4.2 On each page include a title block containing the following minimum information;

a. Project Title
b. Project Number
c. Contractor's Business Name
d. Date of Submittal and Revision (The Date shown must clearly show the current preparation date and separately the revision date of the current schedule - this is a hard date entered and not an auto or status date)
e. Submit a separate Legend Page of Symbols and Abbreviations as applicable.

3.4.3 Prepare and submit to the Engineer upon request additional charts, reports, and current digital copy of the project schedule.

3.5 CPM SCHEDULE IMPLEMENTATION AND MOTITORING

Monthly CPM schedule charts and reports shall accompany the Contractor's pay request for work completed. Where the Contractor is shown to be behind schedule, provide accompanying written summary, cause, and explanation of planned remedial action. CPM schedules shall reflect those instances, modifications or other alterations to the schedule, which have an impact on the final completion or interim target dates within the schedule. Payments or portions of payments may be withheld by the Engineer, upon failure to maintain scheduled progress of the work as shown on the approved CPM schedule. Failure to prepare, submit and maintain a CPM schedule as specified shall be cause for rejection of other schedules submitted and for possible delay of payment. Float time belongs to the project, not to the Contractor or to the Engineer, and may be utilized by both parties.

3.6 SCHEDULE CHANGES AND UPDATES

At a minimum the Contractor shall update and submit the CPM Schedule for review weekly. A weekly update is required unless agreed upon by the Engineer. Monthly submittal of the CPM schedule and approval by the Engineer is required prior to payment for work completed. Activities added to the CPM schedule shall be submitted by the Contractor on schedule charts. It is the Engineer's intent that the project be managed and operated according to the CPM schedule. Payment requests may be held up until the CPM schedule is brought back into compliance with the contract documents.

Once the CPM schedule is submitted and approved by the Engineer the Contractor shall identify any modifications to activity durations, logic, values, or descriptions resubmit for approval. Such adjustments shall not impact the contracted completion date.

3.7 MEASUREMENT AND PAYMENT

No measurement or payment will be made for this item. This item shall be subsidiary to other bid items.

JOB SPECIAL PROVISION JSP-0400-02
MOBILIZATION

1.0 SCOPE

This item shall consist of the preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site, and the establishment of all offices, buildings and other facilities necessary for work on the project, except as provided in the contract as separate pay items. This work includes other work and costs incurred before the project starts.

All equipment used by the Contractor having metal tracks shall not be driven over City streets other than those streets being constructed. Such equipment must be transported from one work area to the next work area.

Observe legal load restrictions when operating equipment, hauling equipment, or hauling materials on public roads; newly constructed/reconstructed base, pavement, and structures; and any existing base, pavement or structures that will remain in place. The contractor shall assume responsibility for changes in legal load restrictions that occur after the project was let. Obtain the Engineer's written approval and a special permit to exceed legal load restrictions on the City street system and on newly constructed/reconstructed portions of the project.

Protect roadways and structures within project limits from damage. Observe curing periods before operating equipment or hauling loads on newly constructed pavement, reconstructed pavement, or structures. Do not haul loads of any size on pavement base, except when operations require equipment on pavement base to place material. The Contractor shall assume all responsibility for damages to roadways and structures caused by the Contractor from operating equipment or hauling loads.

2.0 MEASUREMENT AND PAYMENT

Partial payments for "Mobilization" will be at the contract lump sum price in accordance with the following table. The Percent of Original Contract Completed = the amount earned by the Contractor divided by the total dollar value of the original contract (all bid items). The amount earned by the Contractor shall not include monies earned for Mobilization, Contractor Construction Staking, or Stored Materials.

MOBILIZATION PARTIAL PAYMENTS		
Percent of Original Contract Amount Completed	**Pay Lesser of the Two**	
	% of Mobilization	**% of Original Contract Amount**
5	25	2.5
10	50	5
25	60	7.5
50	100	10
Accepted	100	N/A

Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the contract.

JOB SPECIAL PROVISION JSP-0400-03
CONTRACTOR FURNISHED CONSTRUCTION STAKING AND SURVEYING

1.0 SCOPE

This item shall consist of the work required for the Contractor to furnish all construction staking and surveying in accordance with Section 0400.39 of the current approved City of Joplin Standard Specifications.

2.0 MEASUREMENT AND PAYMENT

Partial payments for "Contractor Furnished Construction Staking and Surveying" will be at the contract lump sum price in accordance with the following table. The lump sum price set forth in the bid schedule shall include full compensation for all labor, materials and equipment required to survey, stake, coordinate with contractors, coordination, mileage, expenses, rental fees, permits and all other work items incidental thereto including incidentals necessary to complete the project in accordance with the plans.

CONSTRUCTION STAKING AND SURVEYING PAYMENT SCHEDULE	
Percent of Original Contract Amount Completed	**Percent of Bid Item Paid**
Work Started	25%
5%	40%
25%	60%
50%	80%
70%	95%
All field books, As-Built Construction Plans, and Records have been submitted to the City	100%

Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the contract.

JOB SPECIAL PROVISION JSP-1000-01
EROSION & SEDIMENT CONTROL

1.0 SCOPE

This work shall include all measures necessary including, but not limited to, the installation, maintenance and removal of temporary erosion and pollution control as required during the construction of the project to prevent erosion and pollution on the project in accordance with federal, state, and City of Joplin requirements. The contractor shall utilize and comply with all requirement of the City of Joplin's Land Disturbance Storm Water Pollution Prevention Plan (SWPPP). All erosion and sediment control plans shall be incorporated in the SWPPP. Contractor shall maintain the SWPPP throughout the project and complete the required documentation until the site is stabilized and accepted by the Engineer.

Erosion control plans represent the least possible protection for the project. It is anticipated that additional BMP's will be required to complete the project.

The contractor shall be responsible for all fines associated with failure to comply with the City of Joplin, General Operating Permit, and Land Disturbance Storm Water Pollution Prevention Plan (SWPPP)

2.0 MEASUREMENT

Erosion and Sediment Control BMPs will be measured in accordance with the units listed in the Proposal. Measurement shall occur upon initial installation.

No separate measurement will be made for maintenance, replacement, or removal of Erosion and Sediment Control BMPs.

No separate measurement will be made for compliance with the City of Joplin's SWPPP.

3.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to complete erosion and sediment control shall be paid for at the contract unit prices listed in the Proposal. Payment for Erosion and Sediment Control BMPs shall be considered full compensation for a complete and functioning installation, including but not limited to, ongoing maintenance, repair, replacement, and removal upon final stabilization.

Separate payment shall not be made for compliance with the City of Joplin's standard SWPPP. All work required to comply with the City of Joplin's standard SWPPP shall be considered incidental to erosion and sediment control BMP pay items, including but not limited to, all inspections, record keeping, permitting, and documentation and ongoing maintenance and close-out.

JOB SPECIAL PROVISION JSP-1100-01
CLEARING & GRUBBING / TREE & BRUSH REMOVAL

1.0 SCOPE

Clearing, Grubbing, Tree Removal, and Brush Removal shall be in accordance with Section 1100 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

2.0 CONSTRUCTION

Tree & Brush Removal - The contractor shall remove all existing trees and brush (including their stumps) within the limits of construction and which conflict with proposed construction items except those specifically noted to remain. The contractor shall coordinate the removal of these items with the City.

SPECIAL CONDITION – Tree removal for Phase 1.1 and 1.2 of construction shall be completed during the summer/fall of 2021. All remaining phases of construction that require tree removal must be removed between October 15, 2021 and April 1, 2022.

3.0 MEASUREMENT

Clearing shall not be measured separately.

Grubbing shall not be measured separately.

Tree Removal (including stumps) shall not be measured separately but shall be considered part of the Lump Sum pay item ‘Clearing & Grubbing / Tree & Brush Removal’.

Brush Removal (including stumps) shall not be measured separately but shall be considered part of the Lump Sum pay item ‘Clearing & Grubbing / Tree & Brush Removal’.

4.0 PAYMENT

Payment for “Clearing & Grubbing / Tree & Brush Removal” (including the tree’s stumps) shall be at the contract lump sum price and shall include the cost of furnishing all labor, equipment, disposal fees, tools, and materials, and the performance of all work necessary to complete removals.

JOB SPECIAL PROVISION JSP-1100-02
DEMOLITION & REMOVAL

1.0 SCOPE

Demolition & Removal shall be in accordance with Section 1100 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

2.0 MEASUREMENT

No separate measurement will be made for Demolition & Removal.

3.0 PAYMENT

Payment for “Demolition & Removal” shall be at the contract lump sum price and shall include the cost of furnishing all labor, equipment, disposal fees, tools, and materials, and the performance of all work necessary to complete demolition and pavement removal.

JOB SPECIAL PROVISION JSP-1400-01
MoDOT TYPE 5 AGGREGATE BASE

1.0 SCOPE

At the locations shown on the plans, or as determined by the engineer, MoDOT Type 5 Aggregate Base shall be constructed in accordance with the plans and Section 304 of the 2020 Missouri Standard Specifications for Highway Construction except as otherwise modified herein.

2.0 MATERIALS, DEFINITIONS AND EQUIPMENT

All materials shall meet the requirements of Section 304.2 of the 2020 Missouri Standard Specifications for Highway Construction except that reclaimed asphalt or concrete shall not be used in MoDOT Type 5 Aggregate Base.

3.0 CONSTRUCTION DETAILS

Construction of MoDOT Type 5 Aggregate Base shall be in accordance with Section 1400.3 of the current approved City of Joplin, Standard Specifications.

4.0 MEASUREMENT

Final measurement of the completed MoDOT Type 5 Aggregate Base will be made to the nearest square yard. No measurement will be made for MoDOT type 5 aggregate base under driveways, sidewalks, and sidewalk ramps as MoDOT type 5 aggregate base at these locations shall be subsidiary to other bid items.

5.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct “MoDOT Type 5 Aggregate Base” will be paid for at the contract unit price per square yard of the thickness shown in the contract plans. No payment will be made for MoDOT type 5 aggregate base under driveways, sidewalks, or sidewalk ramps as MoDOT type 5 aggregate base at these locations shall be subsidiary to other bid items.

JOB SPECIAL PROVISION JSP-1400-02
MoDOT TYPE 1 AGGREGATE SURFACE

1.0 SCOPE

At the locations shown on the plans, or as determined by the engineer, the contractor shall furnish, install, maintain, and remove all temporary surfacing material and construct new aggregate surface in accordance with the plans and Section 310 of the 2020 Missouri Standard Specifications for Highway Construction except as otherwise modified herein.

2.0 MATERIALS, DEFINITIONS AND EQUIPMENT

All materials shall meet the requirements of Section 310.2 of the 2020 Missouri Standard Specifications for Highway Construction except that reclaimed concrete shall not be used in MoDOT Type 1 Aggregate Surface.

3.0 CONSTRUCTION DETAILS

Construction of MoDOT Type 1 Aggregate Surface shall be in accordance with Section 1400.3 of the current approved City of Joplin, Standard Specifications.

During construction, material used for temporary surfacing material shall be maintained to provide a smooth driving surface free of bumps and potholes. It shall be the responsibility of the Contractor to make repairs to the temporary surface at the direction of the Engineer. The temporary surfacing material shall be removed as shown in the plans or as directed by the Engineer.

4.0 MEASUREMENT

No separate measurement shall be made for excavation, backfill, compaction, maintenance, and all other materials, labor, and incidentals required to construct the following:

4.1 MoDOT TYPE 1 AGGREGATE SURFACE

Final measurement of the completed MoDOT Type 1 Aggregate Surface will be made to the nearest square yard of final exposed area of completed aggregate surface.

4.2 TEMPORARY MoDOT TYPE 1 AGGREGATE SURFACE

The Engineer will measure temporary surfacing material by the Ton. Temporary surfacing material will be furnished only as needed and as requested/approved by the Engineer.

5.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary shall be paid for as follows:

5.1 MoDOT TYPE 1 AGGREGATE SURFACE

MoDOT Type 1 Aggregate Surface will be paid for at the contract unit price per square yard of the thickness shown in the contract plans.

5.2 TEMPORARY MoDOT TYPE 1 AGGREGATE SURFACE

Temporary MoDOT Type 1 Aggregate Surface will be paid for at the contract unit price per ton. The payment will be made on the basis of

certified weight tickets issued by the material vendor or by weights obtained from certified public scales or from certified contract or operated scales with all tickets certified by the City of Joplin. Payment shall be considered full compensation for all incidentals, labor, hauling, maintenance of surfacing material to provide an adequate travel path for the public, and removal / restoration of temporary surfacing upon completion.

JOB SPECIAL PROVISION JSP-2300-01
MILLING

1.0 SCOPE

This work shall consist of milling the existing pavement surface to the depth, profile and cross slope shown on the plans, or as directed by the Engineer, and removing and disposing of the milled material. Milling shall be in accordance with Section 622.10 of the 2020 Missouri Standard Specifications for Highway Construction except as otherwise modified herein. Milling shall include both existing asphalt and concrete paved surfaces. It is the contractor's responsibility to determine the quantity of each type of existing pavement prior to submitting a bid for the project.

2.0 MEASUREMENT

Final measurement will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. Where required, measurement for removal of the existing pavement surface will be computed to the nearest square yard. The correction will be added to or deducted from the contract quantity. No separate measurement will be made for each type of surface material milled.

3.0 PAYMENT

The accepted quantity of "Milling" will be paid for at the contract unit price per square yard of the thickness indicated. No direct payment will be made for removal of shoulder material by milling or other methods as required to provide drainage in accordance with Sec 622.10.3.5, unless shoulders are to be removed as part of the contract. No direct payment will be made for loading, hauling, stockpiling or disposing of milled material, repairing spalled areas, placing and removing temporary wedges, providing temporary pavement marking or performing other items incidental to completion of this work.

JOB SPECIAL PROVISION JSP-2300-02
PERMANENT SIGNING

1.0 SCOPE

The Contractor shall furnish and install permanent traffic control signing materials at the locations shown on the plans, in conformance with the details, and the material specifications included herein. Permanent traffic control signing materials shall include, but not be limited to, sign sheeting, aluminum sign blanks, sign posts, breakaway base assemblies, mounting brackets and hardware. The permanent traffic control signing shall be installed before the roadway is open to construction unless prior approval is received by the Engineer or City Inspector. The installation of all regulatory signs is the first priority. If the permanent signs cannot be installed and thus the roadway would be unsigned overnight, temporary regulatory signs shall be installed and remain until the permanent signs can be installed. The contractor shall make every possible effort to remove the temporary signs and install permanent signs within 48 hours. Only under extreme circumstances and at the approval of the signing inspector or the engineer, will the duration of the temporary signs be extended. All temporary and permanent traffic control signs shall be in conformance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) Part II. The temporary signs shall be removed prior to installation of the permanent signs.

1.1 REMOVE & RELOCATE SIGNS

The contractor shall remove and relocate all signs designated on the plans to be relocated on the plans, and as directed by the Engineer.

2.0 MATERIALS

The material for permanent traffic control signs shall be in accordance with this specification.

a. Applicable Documents The following documents form a part of this specification to the extent specified herein:

ASTM B209 Specification for Aluminum and Aluminum Alloy Sheet and Plate
ASTM D523 Standard Method for Test for Specular Gloss
ASTM D4956-09 Standard Specification for Retroreflective Sheeting for Traffic Control
ASTM E284 Terminology of Appearance
ASTM E308 Practice of Computing the Colors of Objects by Using the CIE System
ASTM E810 Test Method for Coefficient of Retroreflection of Retroreflective Sheeting Utilizing the Coplanar Geometry
ASTM E1164 Practice for Obtaining Spectrophotometric Data for Object-Color Evaluation
CIE Publication Number 39-2 Recommendation for Surface Colours for Visual Signaling
FP-03 Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects

2.1 SIGNS

All signing shall conform to MUTCD (most current editions) standards in terms of minimum sign size, color, and reflectivity characteristics.

2.2 SIGN POST

Steel sign posts shall be in accordance with the City of Joplin Standard Detail Sheets ST-18 & ST-19, current edition.

Posts shall be ordered in 2' increments and cut to length. One single sign post long enough to support all signs shall be installed. Two separate lengths of post joined with a sleeve to achieve the necessary post length shall not be allowed.

The breakaway base shall meet the requirements of the City of Joplin Standard Details, current edition.

3.0 MEASUREMENT

For those items on which final payment is based on contract quantities, final measurement will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

3.1 REMOVE & RELOCATE SIGNS

No measurement of remove & relocate signs will be made.

3.2 PERMANENT SIGNATE-FLAT SHEET

Measurement of sign areas will be made to the nearest 1/10 square foot for each sign and to the nearest square foot for the total. The area of each sign will be that of the smallest rectangular, triangular or trapezoidal shape that will encompass the sign panel. Contract quantities will be used in final payment.

3.3 STEEL SIGN SUPPORTS

Measurement of post will be per Linear Foot of each type of post support listed in the contract documents, at the final post length as installed.

3.4 SIGN POST FOUNDATIONS, COMBINED

Sign Post Foundations, Combined shall be measured per each sign post foundation installed, regardless of type, and including all excavation, socket, and concrete.

4.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the installation shall be paid for as follows:

4.1 REMOVE & RELOCATE SIGNS

Payment of remove and relocate signs will be made by Lump Sum.

4.2 PERMANENT SIGNAGE-FLAT SHEET

Payment of signs will be provided per square foot. No separate payment will be made for any mounting brackets, banding, or miscellaneous hardware.

4.3 STEEL SIGN SUPPORTS

Payment of post will be made per linear foot of each type of post, and at the final post length as installed.

4.4 SIGN POST FOUNDATIONS, COMBINED

Payment of Sign Post Foundations shall be made per each foundation installed and accepted, regardless of post type, and shall be considered full payment for all labor, materials, incidentals, including socket, concrete, and ancillary equipment to install a breakaway post base in accordance with the City of Joplin standard details.

JOB SPECIAL PROVISION JSP-2300-03
ADJUSTMENT OF MANHOLES & VALVES

1.0 SCOPE

This item includes raising or lowering of existing sanitary manholes and utility castings, as required due to construction under this contract. Construction of sanitary sewer manholes, of both brick masonry and concrete type construction, shall be in accordance with the current approved City of Joplin, Standard Specifications.

2.0 MATERIALS

2.1 BRICK

Brick for manholes shall be of uniform texture, and free from lime, gypsum, or other substance which would affect the brick under wet or freezing conditions. Brick shall meet the requirements of ASTM C1272.

2.2 MORTAR

Mortar shall be Type M in accordance with ASTM C270 Table 1 (Masonry cement type only).

2.3 STEPS

The existing steps may be reused except when they have been found to be unacceptable as determined by the Engineer. If required, replacement steps will be Clay & Bailey No. 2102 or approved equal.

3.0 CONSTRUCTION DETAILS

3.1 BRICK MANHOLES

Brick masonry manholes may be adjusted upward to accommodate construction by adding brick to obtain the proper dimension to match finish grade or surface as approved by the owner; adjustments downward will be limited to the removal of courses of brick to the top of the existing manhole cone. When greater adjustments are required, the manholes shall be reconed as indicated in the plans.

3.2 PRECAST CONCRETE MANHOLES

Precast concrete manholes may be adjusted upward by a combination of adding barrel sections and/or a maximum of one foot of concrete riser rings. Adjustments downward may be accomplished by a combination of removing barrel sections and/or a maximum of one foot of concrete riser rings.

All sanitary sewer manhole wall sections to be over 16 foot in depth shall meet the requirements of the City of Joplin for deep manholes. The Contractor shall be responsible for inspection of existing manholes to determine the extent of reconstruction necessary to meet these requirements.

3.3 MAINTENANCE

The Contractor shall be responsible for keeping all debris and waste material out of sewers during manhole adjustments. Should any waste material, debris, earth or other foreign material enter sewers during adjustments or other construction operations, the Contractor shall be responsible for removal of such material and shall maintain sewer flow at all times.

3.4 MANHOLE SPRAYING

All manhole covers shall be sprayed with a releasing agent prior to the overlay by the Contractor. Release agent spraying and asphalt removal around manholes shall be subsidiary to other bid items.

3.5 OVERLAY OPERATIONS

3.5.1 Milling

The Contractor shall mill around all manholes and utility castings within the limits of the specified work. Utility manholes, valves, and castings shall not be cut prior to the street milling. All manholes, valves and castings damaged shall be replaced or corrected as approved by the Engineer at the Contractor's expense. This work shall be subsidiary to other bid items in the Proposal.

3.5.2 Overlay

All utility manholes, valves, and castings located within the paved roadway requiring adjustment shall be raised by the Contractor, prior to the resurfacing operation. Asphalt overlay shall be neatly tapered around the ring of all utility manholes, valves, and castings to conform to the existing grade. The approximate number and method of raising the manholes shall be determined in the field by the Engineer prior to the overlay. The elevation shall be the same as the elevation for the new proposed overlay surface. The area disturbed around the casting shall be maximum of 12 inches. The Contractor shall provide all necessary equipment and material to raise the rings to the required elevations. High early strength concrete shall be placed around the manhole up to the milled surface. Any damage to adjusted utility manholes, valves, and castings shall be the responsibility of the Contractor to repair. All utility manholes, valves, and castings, which require raising prior to overlay, will require hot mix asphalt placed sufficiently around the manhole to prevent damage to vehicles and compacted to 95%. This work shall be subsidiary to other bid items in the proposal.

4.0 MEASUREMENT

Measurement will be made to determine the number of sanitary manholes adjusted. No separate measurement will be made for utility manholes, valves, and castings required for milling and overlay operations.

5.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to adjust sanitary manholes shall be paid for as “Adjust Sanitary Sewer Manhole” at the contract unit price per each.

No separate payment will be made for utility manholes, valves, and castings required for milling and overlay operations. This work shall be subsidiary to other items of work.

JOB SPECIAL PROVISION JSP-2303-01
MoDOT ROCK LINING FOR CULVERT OUTLET

1.0 SCOPE

At the locations shown in the contract drawings, or as determined by the engineer, rock lining for culvert outlet shall be constructed in accordance with Section 609 of the 2020 Missouri Standard Specifications for Highway Construction except as otherwise modified herein.

2.0 MATERIALS

All materials shall meet the requirements of Type 2 Rock Blanket in accordance with Section 609.7 of the 2020 Missouri Standard Specifications for Highway Construction except as otherwise modified herein.

3.0 CONSTRUCTION DETAILS

Construction of MoDOT Rock Lining for Culvert Outlet shall be in accordance with Section 609.7 of the 2020 Missouri Standard Specifications for Highway Construction.

4.0 MEASUREMENT

Measurement shall be made to the nearest square yard of completed “MoDOT Rock Lining for Culvert Outlet”, including all variable depths shown on the drawings. No separate measurement will be made for excavation, placement, and all other incidental items as these items are considered subsidiary to the bid item.

5.0 PAYMENT

Payment for “MoDOT Rock Lining for Culvert Outlet” shall be at the contract unit price per square yard of the thickness and type indicated and shall include the cost of furnishing all labor, equipment, tools, materials, and the performance of all work necessary to construct rock lining, complete, including excavation and all incidental items of work.

JOB SPECIAL PROVISION JSP-3100-01
CURB FLUME & CONCRETE FLUME

1.0 SCOPE

Flume shall be in accordance with Section 3100 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

2.0 CONSTRUCTION DETAILS

MoDOT Type 5 Aggregate Base shall be constructed under all flumes. This item shall be subsidiary to the bid items for flume construction.

The concrete shall not be placed until the subgrade has been inspected for compaction and moisture.

3.0 MEASUREMENT

No separate measurement shall be made for excavation, backfill, aggregate base, and all other materials, labor, and incidentals required to construct the following:

3.1 CURB FLUME (3’ WIDE)

Curb flume shall be measured along the center line of the flume by the linear foot of complete concrete flume.

3.2 CONCRETE FLUME (6’ WIDE)

Concrete flume shall be measured along the center line of the flume by the linear foot of complete concrete flume.

4.0 PAYMENT

The cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct complete flume, aggregate base and all incidental items of work shall be paid for as follows:

4.1 CURB FLUME (3’ WIDE)

Payment for “Curb Flume” shall be at the contract unit price per linear foot of the size indicated in the contract documents.

4.2 CONCRETE FLUME (6’ WIDE)

Payment for “Concrete Flume” shall be at the contract unit price per linear foot of the size indicated in the contract documents.

JOB SPECIAL PROVISION JSP-3200-01
CONCRETE CURB & GUTTER

1.0 SCOPE

Concrete curb and gutter shall be in accordance with Section 3200 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

2.0 CONSTRUCTION DETAILS

A slip form curb machine, with electronic control, shall be required on all continuous curb construction of lengths greater than 100 feet.

The concrete shall not be placed until the subgrade has been inspected for compaction and moisture.

3.0 MEASUREMENT

Curb, or curb and gutter shall be measured along the back of curb by the linear foot of completed curb, or curb and gutter, including curb and gutter constructed adjacent to sidewalk ramps.

4.0 PAYMENT

Payment for “Curb”, and “Curb and Gutter” shall be at the contract unit price per linear foot of the type indicated and shall include the cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct curb, and curb and gutter, complete, and all incidental items of work.

JOB SPECIAL PROVISION JSP-3300-01
CONCRETE SIDEWALK

1.0 SCOPE

Concrete sidewalks, ramps and landings shall be constructed in accordance with Section 3300 of the current approved City of Joplin, Standard Specifications, and except as modified by this Job Special Provision. All sidewalks, ramps and landings shall be constructed in accordance with the 2010 ADA Standards for Accessible Design and the 2011 Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way.

2.0 CONSTRUCTION DETAILS

MoDOT Type 5 Aggregate Base shall be constructed under all sidewalks, ramps and landings. This item shall be subsidiary to the bid items for sidewalk and ramp construction.

ADA detectable warning surface manufacturer shall be listed in MoDOT Field Section 1067 Table 1. Application Type shall be Cast in Place. The manufacturer of the ADA detectable warning surface shall be capable of providing both rectangular and radius detectable warning panels as shown in the plans. Color shall be determined and approved by the Engineer.

3.0 MEASUREMENT

Sidewalks shall be measured by the square yard of the final exposed area of completed sidewalk.

Ramps and landings shall be measured by the square yard of final exposed area of the entire ramp including detectable warning areas. Blended Transitions shall be measured as ramp.

Landing areas shall be measured as sidewalk construction unless indicated on plans as “RL”, which indicates that it shall be constructed at ramp thickness and will be quantified as sidewalk ramp.

Thickened edge of sidewalk for hand-railing shall be incidental to “Class B Concrete Sidewalk 4-in” pay item and shall not be measured for payment.

4.0 PAYMENT

Payment for “Class B Concrete Sidewalk 4-in” and “Sidewalk Ramp” shall be at the contract unit price per square yard of the thickness and type indicated and shall include the cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct sidewalk and sidewalk ramps, complete, including detectible warning surface, Type A curb, aggregate base, and all incidental items of work.

JOB SPECIAL PROVISION JSP-3300-02
CAST-IN-PLACE CONCRETE SIDEWALK WALL

1.0 SCOPE

Cast-in-place concrete sidewalk wall shall be constructed at locations shown on the plans, in accordance with details shown on plans, and with Section 3300 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

2.0 MATERIALS

Concrete and reinforcing steel shall be in accordance with Section 3100 of the current approved City of Joplin, Standard Specifications. Concrete shall be Class B.

3.0 CONSTRUCTION

Aggregate Base shall be in accordance with Section 1400.3 of the current approved City of Joplin, Standard Specifications.

Backfill shall meet the requirements of Section 1010 of the 2020 Missouri Standard Specifications for Highway Construction.

4.0 MEASUREMENT

Cast-in-place concrete sidewalk wall shall be measured by the square yard of exposed face of wall from the top of wall to the top of sidewalk. All adjacent sidewalk to be measured as “4-in Sidewalk Construction”. Additional thickness and reinforcing shall be considered “subsidiary” to “Cast-in-Place Concrete Wall (Sidewalk)”.

5.0 PAYMENT

Payment for “Cast-in-Place Concrete Wall (Sidewalk)” shall be at the contract unit price per square yard of exposed face of wall and shall include the cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct cast-in-place concrete sidewalk wall. No separate payment will be made for reinforcing steel, formwork, curing, backfill, and other incidental items to complete the work as these items are subsidiary to “Cast-in-Place Concrete Wall (Sidewalk)”.

JOB SPECIAL PROVISION JSP-3400-01
DRIVEWAY

1.0 SCOPE

Concrete driveway shall be in accordance with Section 3400 of the current approved City of Joplin, Standard Specifications, and except as modified by this Job Special Provision.

2.0 CONSTRUCTION DETAILS

MoDOT Type 5 Aggregate Base shall be constructed under all driveways. This item shall be subsidiary to the bid items for driveway construction.

3.0 MEASUREMENT

Driveway shall be measured by the square yard of final exposed area of the entire driveway excluding any adjacent curb and gutter. Adjacent curb and gutter will be measured and paid under the bid item “2’-6” Curb & Gutter, Combined (All Types)”.

4.0 PAYMENT

Payment for “Driveway” shall be at the contract unit price per square yard of the thickness and type indicated and shall include the cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct driveway, complete, aggregate base, and all incidental items of work.

JOB SPECIAL PROVISION JSP-4200-01
CONCRETE PIPE COLLAR

1.0 SCOPE

Concrete pipe collar shall be constructed at locations shown on the plans, in accordance with details shown on plans, and with Section 4200 of the current approved City of Joplin, Standard Specifications, except as modified by this Job Special Provision.

2.0 MATERIALS

Concrete and reinforcing steel shall be in accordance with Section 3100 of the current approved City of Joplin, Standard Specifications. Concrete shall be Class B.

3.0 CONSTRUCTION

Contractor shall install Concrete Collar in accordance with the following:

Concrete Collar shall be installed in accordance with Section 604.40 Pipe Collars of the current approved Missouri Standard Specifications for Highway Construction expect as modified by this Job Special Provision.

4.0 MEASUREMENT

Concrete Collar is a planned quantity and will not be measured in the field. The bid form has been measured by each structure.

5.0 PAYMENT

Payment for “Concrete Pipe Collar” shall be at the contract unit price per each concrete collar and shall include the cost of furnishing all labor, equipment, tools, and materials, and the performance of all work necessary to construct concrete pipe collar.

JOB SPECIAL PROVISION JSP-6700-01
TRAFFIC CONTROL

1.0 GENERAL

This work shall consist of furnishing, installing, operating, maintaining, cleaning, relocating and removing temporary traffic control devices and equipment, and the removal and relocation or covering and uncovering of existing signs and other traffic control devices in accordance with the contract documents or as directed by the engineer. For purposes of this specification, the work zone will be defined as the area between the first and last temporary traffic control device as shown on the plans for the work being performed. The Contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management. The contractor shall refer to Section 2305 of the City of Joplin Standard Specifications, latest edition for additional information.

2.0 MATERIALS

All material shall be in accordance with MoDOT Division 1000, Material Details, and specifically as follows: Item Section Temporary Traffic Control Devices 1063

3.0 SAFETY MATERIALS

All traffic control devices shall be in accordance with the MUTCD and any applicable safety and design codes. The contractor shall furnish a manufacturer's certification of crashworthiness, per NCHRP 350 or AASHTO Manual for Assessing Safety Hardware (MASH) Evaluation Criteria, for FHWA Category 1 traffic control devices and appurtenances. The contractor shall furnish the FHWA acceptance letter for FHWA Category 2 and Category 3 traffic control devices and appurtenances. The FHWA acceptance letter shall indicate that the device and appurtenance comply with the crash test requirements of NCHRP 350 or (MASH), Test Level 3 (TL-3). Regardless of whether the device meets NCHRP 350 or (MASH) criteria, the engineer reserves the right of final approval. Installation of a device prior to the engineer's approval will be at the contractor's risk. The contractor shall: (a) Designate an individual as the Work Zone Specialist (WZS) who is knowledgeable and competent by training and/or certification in the principles of proper temporary traffic control in accordance with Chapter 6 of the MUTCD, at the project level who has the primary responsibility, with sufficient authority, for implementing the traffic management plan and other safety and mobility aspects of the project. The name of the WZS, certification of the WZS’s training, and a 24-hour contact number for the WZS shall be provided to the engineer at the preconstruction meeting. WZS training and/or certification shall be obtained from a qualified person as defined by the Occupational Safety and Health Administration. The WZS shall have a card and/or certificate that includes the WZS’s name, instructor’s name and title, training entity/agency, date, and signature of the instructor. Re-certification will be required a minimum of every four years starting April 2016. (b) Ensure all contractor personnel are trained in traffic control to a level commensurate with their responsibilities. (c) Advise the engineer, as required, at least two working days before any work

requiring a lane closure begins and 14 calendar days prior to the imposition of height, width and weight restrictions. (d) Perform quality control of work zones to promote consistency and ensure compliance with contract documents, policies and guidelines.

4.0 CONSTRUCTION REQUIREMENTS

Performance and operational aspects of the devices shall be in accordance with the latest editions of the MUTCD and the Missouri Quality Standards for Temporary Traffic Control Devices.

All traffic control devices shall be removed as soon as practical when the devices are no longer needed. When work is suspended for short periods of time, traffic control devices that are no longer appropriate shall be turned away from traffic, removed or covered. All temporary traffic control devices shall be removed after the completion of construction and shall remain the property of the contractor unless specified otherwise. All permanent traffic control devices that are in conflict with temporary traffic control devices shall be covered or removed as shown on the plans or as directed by the engineer. Upon completion of the work, all permanent traffic control devices to remain in place shall be restored to original condition.

All sign covers shall meet the requirements of the MoDOT Quality Standards for Temporary Traffic Control Devices

All permanent traffic control devices relocated on a temporary basis shall be moved in the timeframe designated by the engineer, and shall remain visible to the traveling public during all stages of construction. The contractor shall place temporarily relocated permanent traffic control devices in the final location when construction is complete. Damaged devices shall be replaced by the contractor at the contractor’s expense.

The contract will indicate the minimum requirements for traffic control. With the engineer’s approval, the contractor may add to the traffic control plan any temporary traffic control devices or services the contractor considers necessary to adequately protect the public and the work. Device quantities may be adjusted accordingly.

Signs and sign quantities for blasting areas will not be included in the contract traffic control plan. The contractor will be responsible for furnishing, installing, maintaining and removing blasting zone signs in accordance with the MUTCD, at the contractor’s expense. Placement of blasting zone signs will be subject to approval from the engineer.

All changes to the traffic control plan resulting from contractor staging revisions, including proposed total road closures for the contractor’s convenience, shall be submitted in writing to the engineer for review and acceptance prior to implementation. Device quantities may be adjusted accordingly.

If the engineer determines the need for additional traffic control devices not included in the traffic control plan, the contractor will be notified in writing to provide the additional devices. Reimbursement for authorized changes to the

traffic control plan will be made in accordance with the contract documents unless covered by contract unit prices.

The contractor shall monitor traffic flow through the project and verify that all traffic control devices are in place and functioning properly during both daytime and nighttime conditions, as applicable. If the contractor determines that a deficiency in any traffic control device exists, the contractor shall take corrective action. No additional payment will be made for the corrective action.

As soon as possible after observing a traffic control deficiency, the engineer will report the deficiency to the contractor, either verbally or in writing. After receiving notification, if the contractor does not make corrections within an agreed upon timeline, order records or suspension of the work may occur. Regardless of the severity of the deficiency, corrections shall be made as soon as possible to maintain a quality work zone.

The severity of a deficiency will be categorized as follows: (a) Category 1 – Presents an immediate danger to the traveling public or workers and needs to be addressed immediately. (b) Category 2 – The situation doesn't pose an immediate threat to either the public or the workers, but can impact the proper functioning of the work zone. (c) Category 3 – The situation doesn't impact the functioning of the work zone but is more of a maintenance or aesthetic issue.

When the engineer determines that the contractor has not made a good faith effort in correcting a deficiency as agreed upon, an order record will be issued and the contractor will be notified of the following timelines to correct the deficiency. (a) A Category 1 deficiency shall be corrected within one hour. (b) A Category 2 deficiency shall be corrected within 24 hours. (c) A Category 3 deficiency shall be corrected within 96 hours.

When the engineer determines the contractor has not made a good faith effort in complying with an order record issued, the following action may be taken: (a) A second order record will be issued. (b) The engineer may find the contractor in violation of the contract

The contractor shall provide written notice to the engineer of any pedestrian or vehicular accident when physical evidence or other information suggests an accident has occurred in the work zone. The contractor shall obtain and provide to the engineer copies of law enforcement accident reports for any accidents in the work zone.

Each flagger, automated flagger assistance devices (AFAD) operator, portable signal flagging device (PSFD) operator and pilot vehicle operator shall maintain a valid flagger certification card that certifies the individual has been trained by a qualified person as defined by the Occupational Safety and Health Administration, in the principles and procedures of flagging in accordance with Chapter 6 of the MUTCD. Flagger certification cards shall include the flagger's name, instructor's name and title, training entity/agency, date, and signature of the instructor. Flagger certifications shall be provided to the engineer prior to flagging operations. Flagger re-certification shall be required a minimum of every four years starting April 2016. Certifications will not be required in emergency

situations that arise due to actions beyond the contractor's control when flagging is necessary to maintain safe traffic control on a temporary basis. All flagging, AFAD, PFD and pilot vehicle operations shall be in accordance with the MUTCD. Flaggers and pilot vehicles shall be provided as shown on the plans or as approved or directed by the engineer. When not specified in the plans, the contractor may use a Type B (Red/Yellow Lens) AFAD PSFD or pilot vehicle to supplement the flagging operation upon approval from the engineer. When two-way traffic is maintained over a single lane, each flagger, AFAD operator, if used in tandem, and pilot vehicle operator involved in the traffic flagging operation shall be equipped with a portable, two-way, communication system approved by the engineer. When the AFED or PSFD are not in use they shall be removed from the roadside.

5.0 FLASHING ARROW PANEL

The contractor shall deploy, operate and maintain flashing arrow panels as specified on the plans for the duration of the project, in accordance with the manufacturer's recommendations, at the contractor's expense. A minimum vertical clearance of 7 feet shall be maintained from the edge of pavement to the bottom of the flashing arrow panel.

When not in use, trailer-mounted flashing arrow panels shall be stored in an appropriate manner.

Control programs shall be as follows: (a) Flashing Caution: Flash the two highest and two lowest lamps on panel simultaneously. (b) Alternating Diamond Caution: Flash eight lamps in a form of a diamond and alternates diamonds from left side to right side. (c) Flashing Left or Right Arrow: Flash five lamps in the arrowhead and five lamps in the horizontal shank simultaneously. (d) Sequential Arrow Left or Right Arrow: Five lamps in the arrowhead will move across the panel. The horizontal shank increases in length as the arrowhead moves across the panel. (e) Double Arrow: Flash five lamps in both the left and right arrowheads and three lamps in the horizontal shank simultaneously. The contractor has the option to use the sequential arrow or alternating diamond caution modes on mobile operations.

6.0 CHANGEABLE MESSAGE SIGNS

The contractor shall place the changeable message sign (CMS) at the location shown on the plans or as directed by the engineer. The CMS shall not be located in the median.

The contractor shall deploy, operate and maintain the CMS a minimum of two weeks prior to construction starting as specified below:

- Southbound on Central City Road north of 20th Street
- Westbound on 32nd Street east of Main Street

Final CMS locations shall be coordinated and approved by the engineer prior to placement. The contractor shall coordinate program messaging of the CMS with the engineer. CMS installation shall be in accordance with the manufacturer's recommendations.

When the CMS is not in use, the message board shall be turned away from traffic. When not required for longer than a 24-hour period, the CMS shall be stored in an appropriate manner.

7.0 MEASUREMENT

Traffic Control items will be measured per the maximum number of devices used on the job at any period of construction following the phasing provided in the plans. The Contractor shall fully complete one phase of work prior to set-up of subsequent phases. Channelizers, Type III Barricades, Flashing Arrow Panels, Changeable Message Signs, Short-Term Marking Arrows, and Temporary Flagger Control will be measured per each device listed in the plans. Removable Marking Tape will be measured by linear foot of materials placed. Construction signing will be measured by total square footage of signs used at one time.

8.0 PAYMENT

All temporary traffic control devices authorized for installation by the engineer will be paid for at the contract unit price for each of the pay items included in the method of measurement. No direct payment will be made for the following:

(a) Incidental items necessary to complete the work, unless specifically provided as a pay item in the contract.

(b) Installing, operating, maintaining, cleaning, repairing, removing or replacing traffic control devices.

(c) Covering and uncovering existing signs and other traffic control devices.

(d) Relocating temporary traffic control devices including temporary construction signs, ADA Barricades, Type III Moveable Barricades, Channelizers, Flashing Arrow Panels, Signal Heads at temporary traffic signals, and permanent traffic control devices temporarily relocated, unless specifically included as a pay item in the contract.

(e) Worker apparel.

(f) Flaggers, AFADs, PFDs, pilot vehicles, and appurtenances at flagging stations.

(g) Furnishing, installing, operating, maintaining and removing construction-related vehicle and equipment lighting.

(h) Construction and removal of temporary equipment crossovers, including restoring pre-existing crossovers.

JOB SPECIAL PROVISION JSP-6700-02
CONCRETE WHEEL STOPS

1.0 DESCRIPTION

This bid item shall include all materials, labor, equipment, and all other appurtenant work to successfully furnish and install wheel stops as shown on the drawings.

2.0 REQUIREMENTS

Furnishing and installing parking lot wheel stops shall be in accordance with all City of Joplin Technical Specifications. City to approve supplier prior to placement and/or shipping to project site.

3.0 MEASUREMENT & PAYMENT

This bid item will be paid on an each unit bid price. Work shall include but is not limited furnishing and installing parking lot wheel stops. All costs to complete the work shall be included in the unit bid price.

JOB SPECIAL PROVISION JSP-6700-03
KIOSK

1.0 DESCRIPTION

This bid item shall include all materials, labor, equipment, and all other appurtenant work to successfully install kiosk as shown on the drawings.

2.0 REQUIREMENTS

Furnishing and installing Kiosk shall be in accordance with all City of Joplin Technical Specifications.

3.0 MEASUREMENT & PAYMENT

This bid item will be paid on a lump sum basis upon successful completion. Work shall include but is not limited to construction and installation of kiosk. All costs to complete the work shall be included in the lump sum bid price.

JOB SPECIAL PROVISION JSP-7000-01
RCB Underpass Lighting

1.0 DESCRIPTION

This work shall consist of providing and installing new underpass lighting and a control system with cabinet at the RCB Pedestrian Underpass below 4th Street.

2.0 REQUIREMENTS

The RCB Underpass Lighting system shall be comprised of all cabling, conduit, wall pack lights, and control systems required for a fully operational system. Lighting Controller shall be provided with Circuit 1 on continuous power (24-7 ON) and Circuit 2 providing daylight lighting (off during night-hours) via Astronomic Time Switch. The Astronomic Time Switch shall feature 7-Day programming to provide flexibility for applications where load switching differs each day of the week and automatic daylight savings time adjustment. Astronomic Time Switch shall feature field replaceable battery backup to maintain date and accurate time for a minimum of three years under loss of power conditions and come with a 1 year warranty, minimum. Lighting Control Center shall feature 120/240 VAC, Single-Phase, 3-Wire and 100 Amp Maximum main breaker rating, be Rainproof – Type 3R and include time clock as specified above rather than photocell circuitry for controlled load of lighting circuits. Control Center shall feature separate sealable and lockable meter section consistent with utility standards and separate selable and lockable customer section with control circuit including PE Receptacle, Lexan Window, Glare Shield, Hand-Off-Auto (HOA) Switch, contractor controller with a 16-circuit load center for controlled loads, a pre-mounted DIN Rail and pre-wired connector to add optional “plug-and-play” time clock kit for PE on and TC off operation and a circuit directory to document the configuration. Lighting Control Center shall be Milbank (or approved equal). Astronomic Time Switch shall be Intermatic ET8000 (or approved equal). Wall Pack Lighting shall be Holophane W4GLED Wallpack IV Glass LED, 20C1000, 40K, T3M, Multi-Volt w/Surge Protection, P7 NEMA Twistlock 7-Pin Receptacle-Control, Single Fusing, Gray Super Durable Paint and Shorting Cap. All Conduit shall meet MoDOT requirements for External Conduit System on Structure, Section 902.16.7. All Cable shall meet MoDOT requirements for Electrical Conductors, Section 1061.

3.0 MEASUREMENT & PAYMENT

Measurement will be made per lump sum for the entire RCB Underpass Lighting system installed by the contractor and accepted by the engineer. Accepted RCB Underpass Lighting will be paid for at the contract unit price for item “RCB Underpass Lighting”, per lump sum.

JOB SPECIAL PROVISION JSP-9000-01
Traffic Signal Installation

1.0 DESCRIPTION

This work shall consist of providing and installing a new traffic signal at 4th Street and Murphy Boulevard as shown in the plans and details. This work shall include the furnishing of all labor, materials and equipment for the installation of a complete operational traffic signal installation in accordance with the plans and City of Joplin Specifications, Section 9000.

2.0 REQUIREMENTS

Unless otherwise noted in the plans, all equipment, materials, and incidental parts shall be new and of similar manufacturer. All incidental parts which are not shown on the plans or described in these and/or City Specifications and which are necessary to complete the traffic signal installation, shall be furnished and installed as though such parts were shown on the plans or described in these and/or City Specifications. The cost shall be included in the traffic signal installation lump sum bid price.

3.0 MEASUREMENT & PAYMENT

Measurement will be made per lump sum for the entire Traffic Signal system installed by the contractor and accepted by the engineer. Accepted Traffic Signal system will be paid for at the contract unit price for item “Traffic Signal”, per lump sum.

SECTION 033000S - CAST-IN-PLACE CONCRETE - SITE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes for hardscape walls.

B. Related Requirements:

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

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Design Mixtures: For each concrete mixture.

C. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement.

D. Shop Drawings:
1. For exposed vertical concrete walls, indicate dimensions and form tie locations.
2. Indicate dimension and locations of construction and movement joints required to construct the structure in accordance with ACI 301
    a. Location of construction joints is subject to approval by Landscape Architect.
3. Indicate form liner layout and form line termination details.

E. Samples:
1. For Formliners: 12-inch by 12-inch sample, indicating texture.

1.3 INFORMATIONAL SUBMITTALS

A. Material certificates.

B. Material test reports.

C. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer, detailing fabrication, assembly, and support of formwork.

1.4 QUALITY ASSURANCE

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

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

B. Testing Agency Qualifications: An independent agency qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

C. Mockups: Formed surfaces to demonstrate typical joints, surface finish, texture, tolerances, and standard of workmanship.
1. Build panels of each wall type indicated on plans approximately 100 sq. ft.
2. Subject to compliance with requirements, approved mockups may become part of the completed work.

D. DELIVERY, STORAGE, AND HANDLING
1. Form Liners: Store form liners covered and elevated off the exposed ground.

1.5 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on concrete mixtures.

1.6 FIELD CONDITIONS

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

1. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

B. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

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

1. ACI 301.
2. ACI 117.

2.2 FORM-FACING MATERIALS

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

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Form Liners:
   1. Manufacturer: Subject to compliance with requirements, provide products by the following:
      a. Spec Formliners, Inc.
      b. Face Pattern: Pattern #1210 Random Pine Wood Grain

2.3 STEEL REINFORCEMENT

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

B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706, deformed.

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."

2.4 CONCRETE MATERIALS

A. Cementitious Materials:

1. Portland Cement: ASTM C 150, Type I, Type II
2. Fly Ash: ASTM C 618, Class F or C.
3. Slag Cement: ASTM C 989, Grade 100 or 120.
4. Blended Hydraulic Cement: ASTM C 595, cement.

B. Normal-Weight Aggregates: ASTM C 33, graded.

1. Maximum Coarse-Aggregate Size: 1-1/2 inches nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Air-Entraining Admixture: ASTM C 260.

D. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do 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, Type A.
2. Retarding Admixture: ASTM C 494, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017, Type II.

E. Water: ASTM C 94/C 94M.

2.5 CURING MATERIALS

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

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

C. Water: Potable.

2.6 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

2.7 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

B. Cementitious Materials: Use fly ash, pozzolan, slag cement, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.

C. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a w/c ratio below 0.50.

2.8 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Normal-Weight Concrete:

1. Minimum Compressive Strength: 4500 psi at 28 days.
2. Maximum W/C Ratio: 0.45.
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: Do not allow air content of trowel-finished floors to exceed 3 percent.

2.9 FABRICATING REINFORCEMENT

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

2.10 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94, 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 INSTALLATION

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 ITEM INSTALLATION

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 STEEL REINFORCEMENT INSTALLATION

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

3.4 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. 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 does 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.

3.5 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.

B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. 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.

3.6 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

B. 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.

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

C. Form Liner Finish:
1. Install in accordance with manufacturer's written instructions for specified pattern.

D. Rubbed Finish: Apply the following to smooth-formed-finished as-cast concrete where indicated:

1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix 1 part portland cement to 1-1/2 parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches, so color of dry grout matches adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.
3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout. Mix 1 part portland cement and 1 part fine sand with a 1:1 mixture of bonding agent and water. Add white portland cement in amounts determined by trial patches, so color of dry grout matches adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.

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

3.7 CONCRETE PROTECTING, CURING, AND CLEANING

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 305.1 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. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for remainder of curing period.

D. 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.

E. Cleaning: As recommended by manufacturer. Do not begin cleaning until concrete is properly cured.
1. Clean adjacent materials and surfaces of all foreign materials resulting from the work of this section.

F. Protection:
1. Protect installed materials from water impinging on the visible surface, chinking, sealant joints, and from behind.
2. Protect installed materials from damage, dust, dirt, precipitation, freezing, spilled materials, and continuous high humidity until they are fully dry.

3.8 CONCRETE SURFACE REPAIRS

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

3.9 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

END OF SECTION 033000

SECTION 321313 - CONCRETE PAVING – PEDESTRIAN AREAS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes cement concrete pavement for the following applications:

1. Gray concrete

1.2 SUBMITTALS

A. Product Data: For each manufactured material and product indicated.

B. Design Mixes: For each concrete mix indicated.

C. Material certificates.

1.3 RELATED DOCUMENTS

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

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

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

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

C. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening steel reinforcement. Manufacture bar supports according to CRSI's "Manual of Standard Practice.

2.2 CONCRETE MATERIALS

A. Concrete Mix:

1. Contractor shall use City approved concrete mix for sidewalks. Submit concrete mix specifications for approval by Landscape Architect.

B. Curing Materials (for uncolored concrete pavement):

1. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.
2. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
3. Water: Potable.
4. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
5. Clear Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.

C. Related Materials:

1. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

2.3 CONCRETE MIXES AND MIXING

A. Concrete Mixes: Prepare design mixes, proportioned according to ACI 211.1 and ACI 301, with the following properties:

1. Compressive Strength (28 Days) with min. of 6.25 sacks of cement per cubic yard of concrete:

a. 4,000 psi min.

2. Air entertainment shall be 4-7%
3. Slump shall range from 1” min. to 4” max.
4. All materials shall conform to SSPWC sec. 202.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Surface Preparation: Proof-roll prepared subbase, and remove loose material from surface.

B. Forms: Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations.

C. Reinforcement: Accurately position and support reinforcement, and secure against displacement. Set wire ties with ends directed into concrete.

1. Install welded wire fabric in lengths as long as practicable; lap at least one full mesh, and lace splices with wire, in areas shown on plans.

D. Joints: Locate and install construction, isolation, contraction, and expansion joints as indicated.

E. Concrete Placement: Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete. Place concrete in a continuous operation within planned joints or sections.

1. Moisten subbase to provide a uniform dampened condition at time concrete is placed.
2. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping according to recommendations in ACI 309R.
3. Screed and initial-float concrete surfaces with darby or bull float before excess moisture or bleed water appears on the surface.
4. Protect concrete from cold or hot weather during mixing, placing, and curing.

3.2 FINISHES AND CURING

A. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and the concrete surface has stiffened sufficiently to permit operations. Float surfaces to true planes with gaps below 10-foot- long, unleveled straightedge not to exceed 1/4 inch. Cut down high spots, and fill low spots. Refloat surface immediately to uniform granular texture.

1. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface, perpendicular to line of traffic, to provide a uniform, fine-line texture.

B. Curing: Begin curing after finishing concrete, but not before free water has disappeared from concrete surface. Cure concrete by one or a combination of the following methods:

1. 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.

3.3 REPAIRS AND PROTECTION

A. Remove and replace concrete pavement that is broken, damaged, or defective, or does not meet requirements in this Section.

B. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement.

C. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 321313

SECTION 321373 - PAVEMENT JOINT SEALANTS – PEDESTRIAN AREAS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes cold-applied pavement joint sealants in the following locations.

1. Portland cement concrete pavement expansion and contraction joints.

1.2 SUBMITTALS

A. Product Data: For each product indicated.

B. Samples: For each type and color of joint sealant indicated.

C. Product certificates.

D. Sealant compatibility and adhesion test reports.

1.3 RELATED DOCUMENTS

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

1.4 QUALITY ASSURANCE

A. Sealant Compatibility and Adhesion Testing: Use sealant manufacturer's standard test methods to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

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

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.

1. Primers: Product recommended in writing by joint sealant manufacturer for adhesion of sealant to joint substrates indicated, as determined from sealant compatibility and adhesion tests and prior experience.

B. Colors of Exposed Joint Sealants: As selected by Landscape Architect from manufacturer's full range for this characteristic. Submit color samples for review and approval.

C. Joint-Sealant Backer Materials: Non-staining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by joint sealant manufacturer based on field experience and laboratory testing.

1. Backer Strips for Cold - Applied Sealants: ASTM D 5249; Type 2; of thickness and width required to control sealant depths, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.
2. Round Backer Rods for Cold-Applied Sealants: ASTM D 5249, Type 3, of diameter and density required to control sealant depths and prevent bottom-side adhesion of sealant.

2.3 COLD-APPLIED JOINT SEALANTS

A. Multicomponent Sealant for Concrete: ASTM C 920, pourable, chemically curing elastomeric formulation.

1. Urethane Formulation: Type M; Grade NS, P; Class 25; Uses T, M, and as applicable to joint substrates indicated.

a. Available Products:

1) Dow Corning
2) Pecora Corporation; Urexpan NR-200.
3) Meadows, W. R., Inc.; POURTHANE.
4) Sonneborn Building Products Div., ChemRex, Inc.; SL2.
5) L.M. Scofield Company, Lithoseal Trafficalk-3g.

b. Color:

1) Gray Concrete – Dow Corning, 888 grey silicone, approved by Landscape Architect.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Clean out joints immediately before installing joint sealants.

B. Joint Priming: Prime joint substrates where indicated or recommended in writing by joint sealant manufacturer, based on sealant compatibility and adhesion tests and prior experience. Confine primers to areas of joint-sealant bond; do not spill primers or allow them to migrate onto adjoining surfaces.

C. Sealant Installation: Comply with applicable recommendations in ASTM C 1193.

D. Install backer materials to support sealants during application and at position required to produce optimum sealant movement capability.

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

E. Install sealants at same time backer materials 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 optimize sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealants from surfaces adjacent to joint.
2. Use tooling agents that are approved in writing by joint sealant manufacturer and that do not discolor sealants or adjacent surfaces.

G. Clean excess sealants or sealant smears adjacent to joints as installation progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

END OF SECTION 321317

SECTION 321400 - UNIT PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Concrete pavers set on concrete base with bitumen setting bed.

1.2 SUBMITTALS

A. Product Data: For each product indicated.

B. Samples: Showing the full range of colors, textures, and patterns available for each type of unit paver indicated.

1. Include Samples of material for joints and accessories involving color selection.

1.3 RELATED DOCUMENTS

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

1.4 QUALITY ASSURANCE

A. Mockups:
1. Install a 5 ft. x 5 ft. paver area per each paving pattern.
2. Use this area to determine surcharge of the setting bed layer, joint sizes, lines, laying pattern(s) and levelness. This area will serve as the standard by which the workmanship will be judged.
3. Subject to acceptance by owner, mock-up may be retained as part of finished work.
4. If mock-up is not retained, removed and dispose of legally.

1.5 DELIVERY, STORAGE & HANDLING

A. Deliver Concrete Pavers in manufacturer’s original, unopened and undamaged container packaging with identification labels intact.
1. Coordinate delivery and paving schedule to minimize interference with normal use of streets and sidewalks adjacent to paver installation.
2. Deliver Concrete Pavers to the site in steel banded, plastic banded or plastic wrapped packaging capable of transfer by forklift or clamp lift.
3. Unload Concrete Pavers at job site in such a manner that no damage occurs to the product or adjacent surfaces.

B. Store and protect materials free from mud, dirt and other foreign materials.

C. Prevent Joint from exposure to rainfall or removal by wind with secure, waterproof covering.

D. Store Polymeric Joint Sand on elevated platforms, under a cover and/or in a dry location

1.6 PROJECT CONDITIONS

A. Cold-Weather Protection: Do not use frozen materials or build on frozen subgrade or setting beds.

B. Weather Limitations for Polymeric Jointing Sand:
1. Install Polymeric Joint Sand only when ambient temperatures is above 40°F (5°C), under dry conditions with no rain forecast for 24 hours and when surface of pavement is completely dry.

1.7 CONCRETE PAVER ATTIC STOCK

A. Contractor to provide 100 square feet of each product and size used to owner for maintenance and repair. Furnish Pavers from the same production run as installed materials.

B. Manufacturer to supply maintenance and reinstatement manuals for Concrete Paver units.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified. All paving stones shall be produced by a single source manufacturer. Installed per manufacturers recommendations and specifications.

1. Concrete Pavers: as shown on the plans.
a. Concrete Paver #1: Red Brick, Belgard, for use in pedestrian areas, 80mm thick, or approved equal. Submit shop drawings and samples for review and approval by Landscape Architect. Install per manufacturers recommendations and specifications. Contractor shall provide up to two (2) mock-ups of different colors for review and approval. Contact Craig Folkers at Belgard (ph) 913.529.4154.

2.2 ACCESSORIES

A. Cork Joint Filler: Preformed strips complying with ASTM D 1752, Type II.

B. Compressible Foam Filler: Preformed strips complying with ASTM D 1056, Grade 2A1.

2.3 SETTING-BED MATERIALS – MORTAR

A. As shown on plans

B. Per paver manufacturers recommendations.

2.4 SETTING-BED MATERIALS - SAND

A. Graded Aggregate for Base: Aggregate shall be Type 2, Class B Aggregate Base as specified in the Standard Specifications.

B. Geotextile: Woven or nonwoven polyester or polypropylene geotextile, with a permeability rating 10 times greater than that of subgrade soil and an apparent opening size small enough to prevent passage of fines from leveling course into base course.

C. Concrete base: pedestrian pavement design

D. Sand Dry Setting Bed, Leveling Course:

1. Sand for Leveling Course: Sound, sharp, washed sand complying with gradation requirements of ASTM C 33-03 for fine aggregate.

E. Sand for Joints: Sharp, washed sand with 100 percent passing No. 16 sieve.

2.5 SEALERS AND JOINT SAND STABILIZERS

A. Joint Sand Stabilizer: Joint sand shall be stabilized that meets the requirements of ASTM C150. Stabilizer shall be dry mixed and applied with the joint sand.

B. Joint and Paver Sealer: Surebond SB-1300-1370 sealer. Surebond, Inc., 2801 International Lane, Madison, WI 53704, 1-877-843-1818. Per paver recommendation and specifications.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas indicated to receive paving for compliance with requirements for installation tolerances and other conditions affecting performance for the following items before placing the Concrete Pavers.
1. Verify that Cast-in-Place Concrete Underlayment strength, thickness, surface tolerances and elevations conform to specified requirements.
2. Verify that the Bitumen Setting Bed materials, thickness, compacted density, surface tolerances and elevations conform to specified requirements.
3. Verify location, type, and elevations of edge restraints, concrete curbing, concrete collars around utility structures, and drainage inlets.
4. Verify location of 2 in. (50 mm) diameter weep holes at lowest elevations against curbs or as indicated on the drawings. Verify holes filled with IDOT CA-16. Provide temporary plugs for holes to prevent ingress of sand-asphalt setting bed or neoprene adhesive during construction. Remove plugs when paving adjacent to drain holes.
5. Verify that concrete surfaces to receive the bitumen bedding material are free of dust, oil, grease, paint, wax, curing compounds, primer, sealers, form release agents, from cracks

over 3/16 in. (5 mm) in width, or any deleterious substances and debris which may prevent or reduce bonding.

6. Conduct moisture tests to verify that concrete surfaces are cured, free from hydrostatic pressure and having moisture content of less than 5%.
7. Do not proceed with installation of Bitumen Setting Bed or Concrete Pavers until base conditions are corrected by the General Contractor or designated subcontractor.

B. Proceed with installation only after unsatisfactory conditions have been corrected.
   1. Beginning of Bitumen Setting Bed and Concrete Paver installation signifies acceptance of Cast-in-Place Concrete Underlayment.

3.2 PREPARATION

A. Verify that Cast-in-Place Concrete Underlayment is clean, dry, and ready to accept Primer, Bitumen Setting Bed, Tack Coat, Concrete Pavers, and imposed loads.

B. Stockpile Joint Sand materials such that they are free from standing water, uniformly graded, free of any organic material or sediment, debris, and ready for placement.

3.3 INSTALLATION

A. Concrete Base Preparation:
   1. Fill any cracks under 3/16 in. (5 mm) wide with mortar.
   2. Sweep the surface clean.

B. Asphalt Primer:
   1. Apply Bitumen Setting Bed Asphalt primer to Cast-in-Place Concrete Underlayment to bond the bituminous bedding material to the concrete base.
   2. Apply according to manufacturer's recommendation.

   Note: Utilize Cut Back Asphalt Specification (Rapid Curing Type), per ASTM D 2028-97

C. Bitumen Setting Bed:
   1. Place in panels between 3/4 inch (20 mm) high screed rails spaced approximately 12 ft (4 m). Set the depth screed rails carefully to bring the Bitumen Bedding material to proper grade, to insure proper Concrete Paver finished height. Place Bitumen Bedding material between the parallel screed rails. Rake and screed smooth with strike board. Fill any depressions with fresh bituminous material to produce a smooth, firm and even setting bed after each pass.
   2. Use screed rails to achieve a level setting bed conforming to elevations and slope shown on the drawings. After one panel is completed, advance screed rails to the next position in readiness for screeding adjacent panels with strike board. Fill depressions left from removed screed rails and smooth to height consistent with panel.
   3. Place an area in size that will remain at least 270° F (130° C) during compaction.
   4. Compact the Bitumen Setting Bed with a powered roller compactor to an even, nominal thickness of 3/4 inch (20 mm) after compaction while still hot. Adjusted the Bitumen Setting Bed to accommodate the required finished grade of the Concrete Pavers. Proper attention to elevations during the construction of the concrete base material will insure maintaining the required nominal 3/4 inch thick Bitumen Setting Bed.
   5. Re-heat, fill, and compact low areas with Bitumen Setting Bed materials to conform to slope and elevation shown on the drawings.
   6. Re-heat, remove, level, and compact Bitumen Setting Bed in high areas to conform to slope and elevation shown on the drawings.

7. Correct irregularities or evenness in the grade of the concrete base surface with Setting Bed materials only.

D. Neoprene Modified Asphalt Adhesive:
   1. Apply to cold asphalt setting bed with notched trowel with serrations not exceeding 1/6th inch (2 mm). Do not apply pavers to adhesive until dry skin forms on surface of adhesive, approximately 2-3 hours depending on air temperature.

E. Expansion and Control Joints:
   1. Provide joint filler as backing for sealant-filled joints where indicated. Install joint filler before setting pavers.

F. Concrete Pavers:
   1. Replace Concrete Pavers with chips, cracks, voids, discolorations, and other defects that might be visible in finished work.
   2. Mix Concrete Pavers from a minimum of three (3) bundles simultaneously drawing the paver vertically rather than horizontally, as they are placed, to produce uniform blend of colors and textures. (Color variation occurs with all concrete products. This phenomenon is influenced by a variety of factors, e.g. moisture content, curing conditions, different aggregates and, most commonly, from different production runs. By installing from a minimum of three (3) bundles simultaneously, variation in color is dispersed and blended throughout the project).
   3. Exercise care in handling face mix concrete pavers to prevent surfaces from contacting backs or edges of other units.
   4. Place Concrete Pavers using laying pattern as indicated. Adjust laying pattern at pavement edges such that cutting of edge pavers is minimized. Cut all pavers exposed to vehicular tires no smaller than one-third of a whole paver.
   5. Use string lines or chalk lines on Setting Bed Sand to hold all pattern lines true.
   6. Set surface elevation of pavers 1/8 in. (3 mm) above adjacent drainage inlets, concrete collars or channels.
   7. Place units hand tight against spacer bars. Adjust horizontal placement of laid pavers to align straight.
      a. When installation is performed with mechanical equipment, use only unit pavers with spacer bars on sides of each unit.
   8. Provide space between paver units of 1/32 in. (1 mm) wide to achieve straight bond lines.
   9. Prevent joint (bond) lines from shifting more than ±1/2 in. (±13 mm) over 50 ft. (15 m) from string lines.
   10. Fill gaps between units or at edges of the paved area that exceed 3/8 inch (10 mm) with pieces cut to fit from full-size unit pavers.
   11. Cut Concrete Pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
   12. Prevent all traffic on installed Concrete Pavers until Joint Sand has been vibrated into joints. Keep skid steer and forklift equipment off newly laid Concrete Pavers that have not received initial compaction and Joint Sand material.
   13. Vibrate Concrete Pavers into leveling course with a low-amplitude plate vibrator capable of a to 5000-lbf (22-kN) compaction force at 80 to 90 Hz. Perform at least three passes across paving with vibrator. Vibrate under the following conditions:
      a. After edge pavers are installed and there is a completed surface or before surface is exposed to rain.
      b. Compact installed Concrete Pavers to within 6 feet (2 meters) of the laying face before ending each day's work. Cover Concrete Pavers that have not been compacted and leveling course on which pavers have not been placed, with non-staining plastic sheets to prevent Setting Bed Sand from becoming disturbed.
   14. Remove any cracked or structurally damaged Concrete Pavers and replace with new units prior to installing Joint Sand material.

15. Perimeter pavers can be field cut with motor-driven masonry saw to provide pattern indicated and to fit adjoining concrete work neatly. Interior paver pattern shall be established by the manufacturer and shall not be field cut. Use full units without cutting where possible.

G. Joint Sand:
   1. Polymeric Joint Sand
      a. Install Polymeric Joint Sand per manufacturer's recommended instructions.

3.4 FIELD QUALITY CONTROL

A. Verify final elevations for conformance to the drawings after sweeping the surface clean.
   1. Prevent final Concrete Paver finished grade elevations from deviating more than±3/8 in. (±10 mm) under a 10 ft (3 m) straightedge or indicated slope, for finished surface of paving.

3.5 REPAIRING, CLEANING, AND SEALING

A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

B. Cleaning: Remove excess dirt, debris, stains, grit, etc. from exposed paver surfaces; wash and scrub clean.

C. 1. Clean Concrete Pavers in accordance with the manufacturer’s written recommendations.

3.6 PROTECTION

A. Protect completed work from damage due to subsequent construction activity on the site.

END OF SECTION 321400

SECTION 323300 - SITE FURNISHINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes bike racks, bike repair station, benches, and trash receptacles.

1.2 ACTION SUBMITTALS

A. Product Data: Submit manufacturer's product data, storage and handling requirements and recommendations, installation methods and available colors, styles, patterns and textures.

B. Shop Drawings: Submit manufacturer's shop drawings, including plans and elevations, indicating overall dimensions. Submittals shall be approved prior to purchase and installation.

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

D. Warranty: Manufacturer's standard warranty.

1. Products will be free from defects in material and/or workmanship for a period of three years from the date of invoice.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data and warranties.

1.4 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer regularly engaged in manufacture of site furnishings for 10 years.

A. Product Support: Products are supported with complete engineering drawings and design patents.

B. Production: Orders are filled within a 40-day schedule.

C. Facility Operator: Welders and machine operators are certified.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage: Store materials in clean, dry area in accordance with manufacturer's instructions. Keep materials in manufacturer's original, unopened containers and packaging until installation.

C. Handling: Protect materials and finish during handling and installation to prevent damage.

PART 2 - PRODUCTS

2.1 BENCH

A. Products: Provide the following product:
1. Rockland Stone Company, 1964 Norton Creek Rd, Cottonwood Falls, KS 66845. Phone: 670-794-3275

a. Rockland Supply Company. Limestone seating block, dolomitic limestone type 3 block, 18" x 18" x 18", sawn top & bottom, rough cut (4) vertical faces. Install per manufacturers recommendation and specifications.

2.2 LITTER RECEPTACLE

A. Products: Provide the following product:
1. Forms & Surfaces, Jackie Dietz. Phone: 630.207.9908.

a. Forms & Surfaces. UNIVERSAL, SLUNN-30SSS, fade perforation, surface mounted. Install per manufacturers recommendation and specifications.

2.3 BIKE RACK

A. Products: Provide the following product:
1. Forms & Surfaces, Jackie Dietz. Phone: 630.207.9908.

a. Forms & Surfaces. GARDEN, configuration C-CIP, powdercoat silver texture. Install per manufacturers recommendation and specifications.

2.4 BIKE REPAIR STATION

A. Products: Provide the following product:
1. DERO. Phone: 888.337.6729.

a. DERO. FIXIT PLUS, color black. Install per manufacturers recommendation and specifications.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Notify Landscape Architect of conditions that would adversely affect installation or subsequent use.

3.2 INSTALLATION

A. Do not begin installation until unacceptable conditions are corrected.

B. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.

C. Unless otherwise indicated, install site furnishings after paving has been completed and prior to completion of landscape installation.

D. Install site furnishings level, plumb, true, and positioned at locations indicated on Drawings. Locations shall be approved by Landscape Architect.

3.3 ADJUSTING

A. Finish Damage: Repair minor damages to finish in accordance with manufacturer’s instructions and as approved by Landscape Architect.

B. Component Damage: Remove and replace damaged components that cannot be successfully repaired as determined by Landscape Architect.

3.4 CLEANING

A. Clean furnishings promptly after installation in accordance with manufacturer’s instructions.

B. Do not use harsh cleaning materials or methods that could damage finish.

3.5 PROTECTION

A. Protect installed bike racks, bike repair station, benches, and trash receptacles to ensure that, except for normal weathering, furnishings will be without damage or deterioration at time of Substantial Completion.

END OF SECTION 323300

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The Contractor shall furnish all labor, materials, tools, equipment, supervision, and services necessary to install sod, seed, preparation of soil, fine grading, watering, proper disposal of any excess earth or debris, all in accordance with the accompanying Drawings and these Specifications.

1.2 SUMMARY

A. Section Includes:

1. Sodding.

1.3 RELATED SECTIONS

A. Section 328400 – Planting Irrigation

B. Section 329300 – Plants

C. Section 329310 – Native Grass Seeding

1.4 DEFINITIONS

A. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.

1.5 INFORMATIONAL SUBMITTALS

A. Prior to delivery to the job site, contractor shall submit to the Owner or Landscape Architect the source and supplier of all grass sod, seed, fertilizer and other materials along with the type of equipment to be used on this project.

B. Certification of grass seed.

C. Certification of each seed mixture for turfgrass sod.

D. Product certificates.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements

1. Comply with applicable requirements of Federal, State, and Local laws, regulations and codes having jurisdiction at the project site.
2. Contractor shall be responsible for certificates of inspection of plant material that may be required by Federal and Local authorities to accompany shipments of plants.

B. Reference Standards

1. "Standardized Plant Names" by the American Joint Committee of Horticultural Nomenclature.
2. American National Standards Institute (ANSI); Publication Z60.1.

C. Coordination

1. Work in conjunction with other trades as directed, taking all reasonable precautions to avoid disturbance or interference with any other operation or installation on the site. Contractors shall be responsible for the cost of replacing any material damaged as a result of his/her negligence.

D. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
2. Before retaining "Personnel Certifications" Subparagraph below, verify availability of qualified individuals in Project area.
3. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:

    a. Landscape Industry Certified Technician - Exterior.
    b. Landscape Industry Certified Lawncare Manager.
    c. Landscape Industry Certified Lawncare Technician.

4. Pesticide Applicator: State licensed, commercial.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Storage of Materials

1. All materials delivered to the job shall be stored so as to keep them in new condition and free from deterioration. Peat moss, fertilizer, etc., shall be stored in temporary sheds off-site at Contractor's expense.

B. Packaged Materials

1. Deliver packaged materials in unopened containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.

C. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.

D. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.

1.8 JOB CONDITIONS

A. Examination of Site:

1. The bidder must acknowledge that he has examined the site, Drawings and Specifications and the submission of a quotation shall be considered evidence that examinations have been made.

B. Field Conditions: The Contractor shall verify drawing dimensions with actual field conditions and inspect related work and adjacent surfaces. The Contractor shall report to the Landscape Architect all conditions which prevent proper execution of this work.

C. The Contractor shall determine the exact location of all existing utilities, structures, and geogrid reinforcement before commencing work. The Contractor shall conduct his work so as to prevent interruption of service or damage to them. The Contractor agrees to be fully responsible for any and all damage which might be occasioned by the Contractor's failure to exactly locate and preserve any and all utilities, structures, and geogrid reinforcement.

1.9 SEQUENCING AND SCHEDULING

A. Planting Time: Proceed with and complete planting as rapidly as portions of the site become available, working within seasonal limitations for each kind of landscape work required.

B. Planting Dates:

1. Recommended dates for seeding and sodding shall be April 1 - June 15 for spring planting and September 1 - December 15 for fall planting.

1.10 MATERIALS CLEAN-UP

A. The Contractor shall keep the premises free from rubbish and all debris associated with their work at all times and all unused materials and debris shall be removed from the site.

1.11 WARRANTY

A. All plant material (lawns) shall be warranted for a period of not less than one (1) year from the date of issuance of the letter of Substantial Completion.

B. All replacement stock shall be subject to the same warranty requirements as the original stock. Any damage due to replacement operations shall be repaired by the Contractor. At the end of the warranty period, inspections shall be made jointly by the Owner, Landscape Architect, and Contractor. All lawn areas not in a healthy growing condition shall be removed and replaced with grasses of a like kind and size before the close of the next planting season and before issuance of the letter of Final Completion.

PART 2 - PRODUCTS

2.1 TURFGRASS SOD

A. Turfgrass Sod: Certified, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.

B. Bermuda Grass Sod – sod shall be of a variety that is common and available to southern Missouri. Bermuda sod shall be of a cold hardy variety including: Midland, Hardie, Wrangler, Greenfield, Tifton 44, or approved equal. Sod shall be well rooted, 2-year old stock, ¾" thick, harvested in rolls, and fertilized 2-3 weeks prior to cutting. The sod shall be top quality certified sod, free of weeds, undesirable native grasses, insects and diseases. All sod shall be machine cut and vigorously growing (not dormant). Maximum time from stripping to planting shall be 24 hours.

C. Provide sod of uniform pad sizes with maximum 5 percent deviation in either length or width. Broken pads or pads with uneven ends will not be acceptable. Sod pads incapable of supporting their own weight when suspended vertically with a firm grasp on upper 10 percent of pad will be rejected.

2.2 FERTILIZERS

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

1. Composition: Not less than 13% phosphoric acid and not less than 13% potassium, and percentage of nitrogen required to provide not less than 1 lb. of actual nitrogen per 1,000

sq. ft. of lawn area or as recommended by the County Extension Agent based on soil test results. Provide nitrogen in a form that will be available to lawn during period of growth.

2.3 PESTICIDES

A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

PART 3 - EXECUTION

3.1 TURF AREA PREPARATION

A. General:

1. Clearing

a. All areas of turf establishment are to be cleared by the Contractor.
b. Clearing shall consist of the satisfactory removal and disposal of brush, rubbish, and other vegetative growth occurring within all proposed turf areas unless turf is being overseeded. All debris associated with this work shall be gathered and removed from the project by the Contractor.

2. Preparation of Planting Mixture

a. Mix recommended soil amendments and fertilizers with topsoil at rates recommended by the soil test results. Delay addition of fertilizer if planting mixture will not be used within two (2) days.

3. Protection of Existing Vegetation

a. All areas under drip lines of existing trees shall be kept free of construction equipment, trailers, material storage, and vehicles.
b. Exercise extreme care when working around existing trees to remain. No soil scarification or compaction from construction vehicles shall occur under any existing tree dripline.
c. In areas of established turf, the surrounding turf area shall be covered in a manner that will provide protection before excavations begin for sodded turf.

B. Reduce elevation of planting soil to allow for soil thickness of sod.

C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

D. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.2 SODDING

A. All sod areas indicated on the plans shall have temporary cover removed, fine graded and sodded as specified herein and in strict accordance with standard horticultural practices

B. Lay sod within 24 hours from time of stripping. Do not plant dormant sod or if ground is frozen.

C. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to each other. Lateral joints shall be staggered to promote more uniform growth and strength. Sod is not to be stretched or overlapped. Work from boards to avoid damage to subgrade or sod. Tamp or roll lightly to insure contact with subgrade. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent grass.

D. In sloping areas sod shall be laid with the long edges perpendicular to the slope and with staggered joints. In all drainage swales, regardless of the degree of slope, the sod shall be laid with the long edges parallel to the contour lines and with staggered joints.

E. Where sod is indicated on the plans, all slopes greater that 3:1 (horizontal:vertical) and within all drainage swales shall be secured in-place with specified stakes. Stakes shall be placed at intervals no greater than 2'-0" on center, with a minimum of two stakes per piece of sod. Stakes shall be driven into the ground, leaving 2" above the sod line, with the broad face of the stake perpendicular to the slope.

F. As sodding is completed in any one section, the entire area shall be rolled or tamped to insure solid contact of roots with the soil surface. Sod shall be watered immediately after rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly moistened. The operations of laying, tamping and watering for any piece of sod shall be completed within eight (8) hours.

G. Sodded areas shall be guaranteed by the Contractor for the specified period (a minimum of two years) or longer if necessary to establish a dense cover as specified above.

H. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

I. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings.

3.3 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Landscape Architect:

1. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.

B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.4 MAINTENANCE

A. The Contractor shall maintain sod and seed areas by weeding and mowing as required for healthy growth until issuance of the letter of Substantial Completion for the entire site and scope of work.

B. The Contractor shall be responsible for watering sod areas until the new irrigation system is completely functional and the letter of Substantial Completion has been issued. Contractor shall be responsible for watering sod areas by hand where irrigation system does not cover. Hand watering of these areas shall continue until letter of Substantial Completion has been issued. Watering shall supplement natural rainfall and shall assure that the sod areas receive a minimum of one (1) inch of water per week. Sod shall be watered daily during the first week and in sufficient quantities to maintain moist soil to a depth of four inches (4"). After the first week sod shall be watered as necessary to maintain adequate moisture.

END OF SECTION 329200

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The Contractor shall furnish all labor, materials, tools, equipment, supervision, and services necessary to install plant material, preparation of soil, fine grading, planting, mulching, guying, pruning, watering, and the proper disposal of any excess earth or debris, all in accordance with the accompanying Drawings and these Specifications.

1.2 SUMMARY

A. Section Includes:

1. Plants.
2. Mulches.
3. Landscape edging.

1.3 RELATED SECTIONS

A. Section 328400 – Planting Irrigation
B. Section 329200 – Turf and Grasses
C. Section 329310 – Native Grass Seeding

1.4 DEFINITIONS

A. Backfill: The earth used to replace or the act of replacing earth in an excavation.

B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.

C. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.

1.5 ACTION SUBMITTALS

A. Prior to delivery to the job site, contractor shall submit to the Owner or Landscape Architect the source and supplier of all plant material, fertilizer and mulch, and other materials along with the type of equipment to be used on this project.

B. Product Data: For each type of product.

C. Samples of each type of mulch.

1.6 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Sample warranty.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of plants during a calendar year.

1.8 QUALITY ASSURANCE

A. Regulatory Requirements

1. Comply with applicable requirements of Federal, State, and Local laws, regulations and codes having jurisdiction at the project site.
2. Contractor shall be responsible for certificates of inspection of plant material that may be required by Federal and Local authorities to accompany shipments of plants.

B. Reference Standards

1. "Standardized Plant Names" by the American Joint Committee of Horticultural Nomenclature.
2. "American Standard of Nursery Stock" by the American Association of Nurseryman.
3. American National Standards Institute (ANSI); Publication Z60.1.

C. Substitutions

1. Substitutions of plant material will not be permitted unless authorized in writing by Owner or Landscape Architect. If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size or variety with corresponding adjustment of Contract Price. Such proof shall be substantiated and submitted in writing to the Owner and Landscape Architect at least thirty (30) days prior to start of the work under this Section. These provisions shall not relieve the Contractor of the responsibility of obtaining specified materials in advance if special growing conditions or other arrangements must be made in order to supply specified materials.

D. Condition and Source of Plants

1. Plants shall be subject to review and approval by the Owner or Landscape Architect upon delivery for conformity to Specifications. Such approvals shall not impair the right of review and rejection during progress of the Work. Submit written request for inspection of plant material at place of growth and quantity of plants to be inspected.

E. Coordination

1. Work in conjunction with other trades as directed, taking all reasonable precautions to avoid disturbance or interference with any other operation or installation on the site. Contractors shall be responsible for the cost of replacing any material damaged as a result of his/her negligence.

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

1. Pesticide Applicator: State licensed, commercial.

G. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Storage of Materials

1. All materials delivered to the job shall be stored so as to keep them in new condition and free from deterioration. Peat moss, fertilizer, etc., shall be stored in temporary sheds off-site at Contractor’s expense.

B. Packaged Materials

1. Deliver packaged materials in unopened containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.

C. Plant Material

1. Plants shall not be delivered to the site until the corresponding beds are fully prepared. All shipments of nursery materials shall be thoroughly protected from the sun and from drying winds during transit. All plants which cannot be planted at once after delivery to the site of the work shall be well protected against the possibility of drying by wind and sun. Balls of earth on B&B plants shall be kept covered with soil or other acceptable material. All materials heeled-in on the property shall be adequately watered.
2. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
3. Handle planting stock by root ball.
4. Store bulbs, corms, and tubers in a dry place at 60 to 65 deg F until planting.
5. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

D. Review of Stock

1. All planting stock shall be inspected as required by Local, State, or Federal laws, and upon delivery at premises shall be subject to review by the Owner and/or Landscape Architect. All plant material is subject to rejection by the Owner and/or Landscape Architect either at time of delivery or after planting, provided it does not comply with the requirements stated herein. Any rejected stock shall be immediately removed from the premises and replaced with approved stock.

1.10 JOB CONDITIONS

A. Examination of Site:

1. The bidder must acknowledge that he has examined the site, Drawings and Specifications and the submission of a quotation shall be considered evidence that examinations have been made.

B. Field Conditions: The Contractor shall verify drawing dimensions with actual field conditions and inspect related work and adjacent surfaces. The Contractor shall report to the Landscape Architect all conditions which prevent proper execution of this work.

C. The Contractor shall determine the exact location of all existing utilities, structures, and geogrid reinforcement before commencing work. The Contractor shall conduct his work so as to prevent interruption of service or damage to them. The Contractor agrees to be fully responsible for any and all damage which might be occasioned by the Contractor's failure to exactly locate and preserve any and all utilities, structures, and geogrid reinforcement.

1.11 SEQUENCING AND SCHEDULING

A. Planting Time: Proceed with and complete planting as rapidly as portions of the site become available, working within seasonal limitations for each kind of landscape work required.

B. Planting Dates:

1. Trees, shrubs, and perennials shall be planted only when the ground is not frozen, snow covered, or in an otherwise unsuitable condition for planting. Spring planting shall generally occur between Feb 15 and May 31, and fall planting shall generally occur between September 1 and Dec 15.

1.12 MATERIALS CLEAN-UP

A. The Contractor shall keep the premises free from rubbish and all debris associated with their work at all times and all unused materials and debris shall be removed from the site.

1.13 WARRANTY

A. All plant material (trees, shrubs, etc.) and planting supplies (bark mulch, etc.) shall be warranted for a period of not less than one (1) year from the date of issuance of the letter of Substantial Completion.

B. All replacement stock shall be subject to the same warranty requirements as the original stock. Any damage due to replacement operations shall be repaired by the Contractor. At the end of the warranty period, inspections shall be made jointly by the Owner, Landscape Architect, and Contractor. All plants not in a healthy growing condition shall be removed and replaced with plants of a like kind and size before the close of the next planting season and before issuance of the letter of Final Completion.

C. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.
b. Structural failures including plantings falling or blowing over.

PART 2 - PRODUCTS

2.1 TOPSOIL

A. Topsoil shall be fertile, natural topsoil, typical of the locality. Stockpiled topsoil may be used. It shall be free of subsoil, slag, clay, stones, lumps, sticks, plants or their roots, toxic substances or other extraneous matter that may be harmful to plant growth or would interfere with future maintenance. Topsoil pH range shall be 6.0 to 7.0.

B. Soil Testing:

1. Onsite Topsoil – The Contractor shall be responsible for having onsite topsoil tested by the Local County Extension Office to determine the amounts of amendments needed to meet the desired pH, nutritional organic levels determined to be adequate for the area by the County Extension Agent. The Contractor shall submit topsoil tests to the Landscape Architect.
2. Offsite Topsoil - The Contractor shall be responsible for having offsite imported topsoil tested by the Local County Extension Office to determine the amounts of amendments needed to meet the desired pH, nutritional organic levels determined to be adequate for the area by the County Extension Agent. The Contractor shall submit topsoil tests to the Landscape Architect.

C. Soil Conditioners and Amendments:

1. Aluminum sulfate shall be horticultural grade.

2. Peat shall be a natural product of sphagnum peat (peat moss), derived from a fresh-water site conforming to ASTM D 2607 except as otherwise specified. Peat shall be shredded and conditioned in storage piles for at least 6 months after excavation.
3. Sand shall be clean and free of toxic materials.
4. Vermiculite shall be horticultural grade and free of any toxic materials.
5. Rotted manure shall be unleached stable or cattle manure not less than 8 months or more than 2 years old, containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; and containing no chemicals or ingredients harmful to plants. The manure shall be heat treated to kill weed seeds.
6. Rotted sawdust shall have 7.5 pounds of nitrogen added uniformly to each cubic yard and shall be free of chips, stones, sticks, soil, and toxic substances.
7. Gypsum shall be 90 percent pure, free of any toxic materials, and at least 95 percent by weight shall pass a 4-mesh sieve.
8. Other amendments as recommended by County Extension Agent.

D. Treatment of Saline Soil: Saline soil shall be leached out by a controlled amount of water sufficient enough to leach the salts to a level below the root zone. Water used for this purpose shall have a low salt content.

2.2 PLANTING SOIL MIXTURE

A. The “topsoil mixture” shall be composed of on-site or off-site topsoil and additional soil amendments appropriate for the location and plantings based on the soil test provided in the appendix.

B. The “planting soil mixture” for all planting pits shall be 80% topsoil mixture, 10% peatmoss, and 10% well composted manure. Mix thoroughly for uniformity of texture and distribution before placing in pit.

C. The “planter soil mixture” for all planters shall be 60% topsoil mixture, 10% peatmoss, 10% well composted manure and 20% clean sand. Mix thoroughly for uniformity of texture and distribution before placing in planter.

D. The “intensive light weigh soil mixture” for all deck planters shall be litetop growing media intensive blend.

2.3 PLANT STOCK

A. Plant material shall be first quality stock and shall conform to the code of standards set forth in the current edition of the American Standards of Nursery Stock sponsored by the American Association for Nurserymen, Inc.

B. Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

D. Species and variety as specified on the Drawings and delivered to the site shall be certified true to their genus, species and variety and as defined within the current edition of "Standardized Plant Names" by the American Joint Committee of Horticultural Nomenclature.

E. The Contractor shall facilitate inspection and identification by labeling of trees, shrubs, and perennials with a durable waterproof label and weather-resistant ink. Labels shall state the correct plant name and size as specified in the plant list of required plants. Labels shall be securely attached to plants and shall be legible for 60 days after delivery to the planting site. Wire identification tags shall not be used. Plants not labeled will be rejected. The Contractor shall remove all tags after the Landscape Architect's acceptance of the installation.

F. Plants shall be nursery grown and shall be of varieties specified in the plant list bearing botanical names.

G. Planting stock shall be well-branched and well formed, sound, vigorous, healthy, free from disease, sun-scale, windburn, abrasion, and harmful insects or insect eggs; and shall have healthy, normal unbroken root systems. Deciduous trees and shrubs shall be symmetrically developed, of uniform habit of growth, with straight trunks or stems, and free from objectionable disfigurements. Evergreen trees and shrubs shall have well-developed symmetrical tops with typical spread of branches for each particular species or variety. Evergreen trees and shrubs shall not be sheared. Plants shall have been grown under climatic conditions similar to those in the locality of the project. Deciduous plants shall be dug in a dormant stage only.

H. Stock Sizes: All stock measurements - caliper, height, branching level, number of canes, ball sizes shall be in strict accordance with the latest edition of the American Standard for Nursery Stock, unless otherwise noted on the plans. Plants used on the project shall meet or exceed all minimum requirements indicated in the size, condition, and remarks sections of the planting legend on the plan sheets.

I. All stock shall be balled and burlapped or container grown stock. Bareroot stock of any kind is unacceptable.

J. All plant material must be watered the same day it is planted in order to comply with these Specifications.

K. All trees shall be staked and guyed as shown on Drawings.

2.4 FERTILIZER

A. All fertilizers shall be horticultural grade complete formula fertilizers and shall conform to the applicable State Fertilizer Laws.

B. Plant Stock: Fertilizer shall be "AGRIFORM" slow release fertilizer tablets. To be applied per manufacturer's specifications. Perennials areas: Fertilizer shall be applied at the same rate as the lawn areas.

2.5 MYCORRHIZAL

A. All mycorrhizal shall be horticultural grade complete formula mycorrhizal and shall conform to the applicable State Mycorrhizal Laws.\

B. MYKE Pro Landscape Granular Mycorrhizal Inoculant

1. Distributor: Subject to compliance with requirements, provide products by the following:
2. Arbor Valley Nursery, Brighton, CO, (303) 654-1682, ArborValleyNursery.com
3. For approved equal, reference specific written instructions from manufacturer

2.6 MULCHES FOR PLANTINGS

A. Hardwood Mulch: Mulch in all open planting beds labeled as hardwood mulch shall be shredded double ground oak or dark hardwood mulch of its natural color. Cypress, or dyed or colored mulch is unacceptable. Bark shall be of a relative uniform particle size with a median size of one and one-half inches (1-1/2") and shall be free of sticks, stones, leaves and any other debris.

B. Rock Mulch: Mulch in all open landscape beds labeled as rock mulch shall be 1-1/2” Black Trap Rock as supplied by Riverbend Rock and Mulch, 15101 Industrial Dr., Independence, MO 64058, or approved equal. Contact number: 816.257.7625. Weed preventative fabric shall be included within rock areas.

2.7 WEED PREVENTATIVE FABRIC

A. Place fabric below all rock mulch in plant beds. Fabric shall be a woven polypropylene, 3.5 to 4.0 ounce product.

2.8 EDGING

A. Shrub bed edge adjacent to turf areas shall be black powder coat steel 3/16” x 4”x 16’ edging as manufactured by Sure-Loc Edging. or approved equal. 1.800.787.3562

B. Bed edging adjacent to concrete curb, pavement and sidewalk shall be manicured “V” edge per details.

2.9 GUYING AND STAKING MATERIALS

A. Stakes for tree support shall be steel "T" bar fence post, 8' long, painted dark green with the top 6” painted white.

B. Tree tie systems shall be easily adjustable, strong in all weather, and easily attached and removed. Hose and wire are not acceptable for staked trees. Tree tie systems shall be the following or approved equal:

1. Cinch Ties, J. Lichtenthaler
   P.O. Box 938
   Cerritos, CA 90701

2. Adj-A-Type
   Heavyweight only, plastic chain twist tie

3. A.M. Leonard and Sons

Piqua, Ohio 43356
Plastic Binder Tye, tie with tapered beads that snap lock

2.10 TRUNK WRAPPING MATERIAL

A. Tree wrap products

1. Paper tree wrap shall be two thicknesses of crinkled paper cemented together with a layer of bituminous material. Wrapping material shall be a minimum of 4” in width and have a stretch factor of 33 1/3 percent. Twine for tying shall be a grafting cord.
2. 50% white wash latex paint. Product shall be submitted to Landscape Architect prior to contractor applying.

2.11 WATER

A. Water shall not contain elements toxic to plant life. It shall be the Contractor’s responsibility to obtain water to be used for watering of plant material.

2.12 ANTI-DESICCANT

A. Anti-desiccant shall be an emulsion that will provide a film over plant surfaces permeable enough to permit transpiration, and not damage the plant.

2.13 HERBICIDES

A. Herbicides used must comply with all applicable State and Federal laws and be registered with the U.S. Environmental Protection Agency.

1. Herbicide control shall be: Pre-emergence application of "Dacthal" or equivalent applied according to manufacturer's recommendations and incorporated into soil as specified. Herbicide shall be in dry/pellet form.
2. Post-emergence application of "Roundup" or equivalent, applied as specified by manufacturer. Use with extreme care to avoid contact with landscape plantings.

2.14 PESTICIDES

A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

PART 3 - EXECUTION

3.1 GENERAL PREPARATION

A. Clearing

1. All planting bed areas are to be cleared by the Contractor.

2. Clearing shall consist of the satisfactory removal and disposal of brush, rubbish, and other vegetative growth occurring within all planting bed areas. All debris associated with this work shall be gathered and removed from the project by the Contractor.

B. Preparation of Planting Mixture

1. Mix recommended soil amendments and fertilizers with topsoil at rates recommended by the soil test results. Delay addition of fertilizer if planting mixture will not be used within two (2) days.

C. Protection of Existing Vegetation

1. All areas under drip lines of existing trees shall be kept free of construction equipment, trailers, material storage, and vehicles.
2. Exercise extreme care when working around existing trees to remain. No soil scarification or compaction from construction vehicles shall occur under any existing tree dripline.
3. In areas of established turf, the surrounding turf area shall be covered in a manner that will provide protection before excavations begin.

3.2 TREE, SHRUB, AND PERENNIAL PLANTING

A. All planting shall be performed by personnel familiar with the accepted procedure of planting and under the constant supervision of a qualified planting foreman.

B. All planting is to be done as shown on drawings and as specified herein and in strict accordance with standard horticultural practices.

C. Layout

1. Plant material locations and planting bed outlines shall be staked on the project site by the Contractor and approved by the Owner or Landscape Architect before any plant pits or beds are excavated. Plant material locations and bed outlines may be adjusted by the Landscape Architect to meet field conditions.

D. Installation of Trees and Shrubs

1. Planting pits shall be excavated to produce vertical sides and flat bottoms. Scarify side walls to alleviate glazing and loosen any hard subsoil in bottom of pit. Minimum pit sizes shall be as shown on drawings. Tree pits within diamond parking lot islands shall be excavated per detail removing existing soil to depth shown prior to gravel and geotextile placement.
2. Dispose of all subsoil, clay, and rock (off-site) removed from planting excavations. The top six (6) inches of topsoil excavated from the planting pit, if free from subsoil, clay, rocks, roots, or other debris, may be utilized in the topsoil mixture as specified.
3. Setting Plants

a. Balled and burlapped and container grown plants shall be handled and moved only by the ball or container. Plants shall be set plumb and held in position until a sufficient quantity of planting soil mixture has been firmly placed around roots or ball. Plants shall be set in relation to surrounding grade so that they are 2" higher than the depth at which they are grown in the nursery, collecting field, or container. Fertilizer in tablet form shall be placed prior to backfilling and in accordance with the manufacturer’s specifications. Mycorrhizal

b. Apply Mycorrhizal to the top 2/3 of root balls of all plant material according to the manufacturer's recommended rates. Inoculant must be physically rubbed onto the root ball thoroughly prior to backfilling planting hole. There is no restriction for use of slow release fertilizers with Mycorrhizal inoculant.
c. Balled and bur lapped stock shall be backfilled with the specified planting soil mixture to approximately half the depth of the ball and then tamped and watered. Burlap and tying materials shall be carefully removed or opened and folded back from top 1/3 of root ball. The remainder of backfill of planting soil mixture shall be tamped and watered.
d. Container-grown stock shall be removed from containers without damaging plant or root system. Planting shall be completed as specified for balled or burlapped plants.

4. Edging Planting Beds

a. All planting beds shall be edged with edging as indicated on the drawings.

5. Mulching

a. Prior to the installation of mulch, all areas to be covered shall be weed free and treated with the specified pre-emergent herbicide as specified herein.
b. Mulch for planting beds shall be installed to a minimum depth of three inches (3") in all planting bed areas specified on the Drawings. Mulch for all tree plantings shall be three inches (3") in depth.
c. Mulching shall take place within 48 hours after planting.
d. Mulch shall be kept out of the crowns of shrubs and off walls, sidewalks, light standards, and other structures.
e. The top of all areas covered with of mulch shall be 1" below the top of adjacent curb, walk, wall, wall cap, or edge of pavement.

6. Staking and Guying

a. Plants shall be staked and guyed as indicated on plans within 24 hours of planting.
b. Stakes shall be driven vertically into the ground to a depth specified in details and in such a manner as not to damage the ball or roots.
c. Tree tie systems shall be installed as per manufacturer's specifications.
d. All trees two and one half inches (2 1/2") caliper or less shall be staked with two metal "T" stakes. All trees greater than two and one half inches (2 1/2") caliper shall be staked with three metal "T" stakes, spaced equal distant around the tree.

7. Wrapping: The trucks of deciduous trees shall be wrapped within 24 hours after planting. Contractor shall coordinate with Landscape Architect which trees get wrapped or white wash prior to completion.

a. Tree Wrap: The wrapping shall be securely tied with grafting cord at the top and bottom and at 24" maximum intervals.
b. White Wash: Apply 50% white latex paint 50% water mix to trunk

8. Pruning: The Contractor shall prune new plant material in the following manner: Dead and broken branches shall be removed. Evergreen plants shall not be thinned out or sheared. Shrubs shall not be sheared. All plants shall meet or exceed the minimum requirements indicated in the size, condition, and remarks sections of the planting legend on the plan sheets after pruning has taken place. Cuts shall be made with sharp instruments, and shall be flush with trunk or adjacent branch to insure elimination of stubs. "Headback" cuts at right angles to line of growth shall not be permitted. All trimmings shall be removed from the site.

3.3 TREE, SHRUB, AND VINE PRUNING

A. Remove only dead, dying, or broken branches. Do not prune for shape.

B. Prune, thin, and shape trees, shrubs, and vines as directed by Landscape Architect.

C. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Landscape Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.

D. Do not apply pruning paint to wounds.

3.4 PLANT MAINTENANCE

A. The Contractor shall maintain trees, shrubs, and other plants by pruning, cultivating, and weeding as required for healthy growth until issuance of the letter of Substantial Completion for the entire site and scope of work. The Contractor shall tighten and repair stake and tree tie systems, reset trees and shrubs to proper grades or vertical position, restore or replace damaged wrappings, and apply herbicides and pesticides to keep trees, shrubs, and other plant material free of insects and disease as required until issuance of the letter of Substantial Completion.

B. The Contractor shall be responsible for watering trees, shrubs, and other plant material until the new irrigation system is completely functional and the letter of Substantial Completion has been issued. Contractor shall be responsible for watering trees by hand where irrigation system does not cover. Hand watering of these trees shall continue for 90 days after letter of Substantial Completion has been issued. Watering shall supplement natural rainfall and shall assure that the trees, shrubs, and other plant material receive a minimum of one (1) inch of water per week.

END OF SECTION 329300

SECTION 329210 - NATIVE GRASS SEEDING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Final preparation of topsoil, seeding, herbicide applications and maintenance to specified time limit and mowing.

B. Maintenance.

1.2 RELATED SECTIONS

A. Section 328400 – Automatic Irrigation System
B. Section 329200 – Turf and Grasses
C. Section 329300 – Plants

1.3 DEFINITIONS

A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horestail, Morning Glory, Rush Grass, Mustard, Lambs quarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

B. PLS: Pure Live Seed

1.4 MAINTENANCE DATA

A. Maintenance Data: Include maintenance instructions.

1.5 QUALITY ASSURANCE

A. Provide seed in unopened containers certifying percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

B. The seeded areas will be inspected for acceptable coverage and will be acceptable when the grasses designated are growing, are in good condition and no area more than ½ of one percent of the total area shall be bare, or which no single area shall be more than 1 square ft. in area. Any area larger than 1 square ft. shall be reseeded.

1.6 REGULATORY REQUIREMENTS

A. Comply with regulatory agencies for leguminous inoculate.

B. Comply with regulatory agencies for handling of “Roundup”, systemic non-selective herbicide.

C. Provide certificate of compliance from governmental authorities indicating approval of seed mixture.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of this project manual.

B. Deliver grass seed to site in original unopened containers. Seed in wet, moldy or otherwise damaged packaging is not acceptable.

C. Deliver leguminous inoculate in original, unopened waterproof containers showing name of manufacturer, expiration date of inoculate, and manufacturer’s directions for inoculation.

1.8 COORDINATION

A. Coordinate work with all other construction activities on-site.

PART 2 - PRODUCTS

2.1 IINSTALLER

A. Native Grasses Seed Mix shall be installed by Flick Bros. Seed Company, 1781 NW. 50, Kingsville, MO 64061, Phone No. (816) 597-3822.

B. Or approved equal with at a minimum 10 years experience with seeding native grass mixes. Submit installer name and qualifications for approval

2.2 SEED MIXTURE

A. All seed shall be guaranteed by the vendor to be true to name, origin, purity, germination and percent pure live seed per pound as specified.

B. Where state certification laws and/or applicable federal laws are in force all seed will bear certification of tests acceptable to that state’s control agency and shall be free of all noxious weeds. The amount of all other weed seeds shall not exceed one percent.

C. Seed quality chart for grasses shall be submitted to the Owner’s Representative for approval with seed test results for the various seeds as supplied by Vendor.

D. All seed species shall be pure clean seed, free of bracts and other plant parts or any other inert materials.

E. Seed Mixture:

Dry Detention Basin Blend seed mix, as supplied by Pure Air Natives, Inc. 4630 Florissant Ave. Saint Louis, MO 63115. Contact: Betsy Tribble Ph: 314.956.3323, or approved equal.

1. The contractor shall incorporate the following additional seed to the specified seed mixture:
   a. Regreen Sterile Wheat 5 PLS lbs/acre

2.3 EQUIPMENT

A. The following items are the preferred equipment for bed preparation and seeding. Requests to use any other equipment deemed necessary or equipment the contractor wishes to use as substitute equipment shall be submitted in writing for the Owner's approval at least 60 days prior to the time of seeding.

B. Use equipment and procedures recommended by seed mix supplier.

2.4 ACCESSORIES

A. Water: In the absence of adequate rainfall, the Contractor may request from the local water authority the approval for water from the on-site or off-site fire hydrants for this work. The Contractor shall pay the local water authority for the cost of the water from the fire hydrants. The Contractor shall provide all needed hoses, sprinkler heads and other appurtenances. If the Contractor provides his own water. It shall not contain any material harmful to plant growth.

B. All other materials not specifically described but required for a complete and proper installation or construction, shall be as selected by the Contractor subject to the approval of the Landscape Architect.

PART 3 - EXECUTION

3.1 EXAMINATION OF SURFACE CONDITIONS

A. Inspections:
   1. Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where seeding may commence.
   2. Weeds that have emerged or persisted shall be removed by hand or eradicated with an acceptable post-emergent herbicide that is compatible with seeding and approved in writing by the Landscape Architect.
   3. Verify that seeding may be completed in accordance with the original design and the referenced standards.

B. Discrepancies
   1. In the event of discrepancy, immediately notify the Landscape Architect.
   2. Do not proceed with seeding in areas of discrepancy until all such discrepancies have been dully resolved.

3.2 SURFACE PREPARATION

A. Ensure soil surface is smooth and free of dirt clods over 2" diameter.

B. Ensure all rutted areas are flattened and will not hold water.

C. Follow seed supplier's recommendations for surface preparation.

3.3 SEEDING

A. All areas to be seeded with grass seed as indicated on the plan shall be seeded per seed supplier instruction or as approved by landscape architect. Seed with temporary cover crop as specified and in strict accordance with standard horticultural practices.

B. Planting Season: Seeding shall be completed per seed supplier's recommendations and specifications. When delays in operations carry the work beyond the most favorable planting season for the grasses designated, or when conditions are such, by reason of drought, high winds, excessive moisture, or other factors, that satisfactory results are not likely to be obtained, the seeding operation shall be stopped and work shall be resumed only when conditions are again favorable, or when approved alternate or corrective measures and procedures have been put into effect and approved by Landscape Architect.

C. Drills to have no-till coulters and press wheels per drop down tube. Native box to implement an agitator to keep seed in suspension while seeding. Drilling of mixture to be installed 1/8 to ¼ inch into soil. Recommended drills are Tye, Truax, or Grasslander drills.

D. If observation shows that areas have been skipped (during seeding operations or after there is a show of green) the sowing of additional seed on these areas shall be required.

E. Do not sow seed immediately following rain, when ground is too dry, or during windy periods.

3.4 MAINTENANCE

A. Begin maintenance immediately after sowing seed.

B. Maintain native grass area until all the following minimum requirements have been met:
   1. For not less than 60 days after substantial completion as determined by the Landscape Architect for the work in this section.
   2. Partial acceptance of native grass areas is not allowable. If not given a full 60 days of maintenance, or if not considered acceptable at that time, continue maintenance until acceptable native seeded area is established.

C. No post-emergent herbicides shall be used after seeding operations.

3.5 CLEANUP AND PROTECTION

A. During seeding operations, keep all areas clean and in an orderly condition. Properly dispose of all resultant dirt, debris and other waste materials.

B. Protect all work and materials from damage due to seeding operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace landscape work as directed at no additional cost to the Owner.

3.6 OBSERVATION AND ACCEPTANCE

A. When seeding work is completed, including maintenance, the Landscape Architect will, upon minimum 48 hour notification, make a site visit to determine acceptability of seeding.

B. When observed seeding work does not comply with requirements, replace rejected work and continue specified maintenance until re-observed by the Landscape Architect and found to be acceptable. If the work continues to be unacceptable upon re-observation and additional site visits are required, the Contactor shall pay the Landscape Architect for his time and reasonable expenses for travel to and from the site and other necessary expenses until the work is found to be acceptable.

END OF SECTION 329219