CONTRACT DOCUMENTS
AND
SPECIFICATIONS
FOR
PROJECT NO. SP 20-03
TULSA ZOO RAINFOREST ROOF
REPLACEMENT

ATTENDANCE AT PRE-BID CONFERENCE IS MANDATORY

PREPARED BY:
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PAUL D. ZACHARY, P.E., DIRECTOR
ENGINEERING SERVICES DEPARTMENT

Account Numbers: 203400001Z.Buildings.4250-42504111;
203400001Z.Buildings.401-4014111-541104;
203400001Z.Buildings.402-4024111-541104

Engineering Services Department
2317 South Jackson Avenue
Tulsa, Oklahoma 74107
(918) 596-9565
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PROJECT MANUAL
Published in the Tulsa World and The Oklahoma Eagle:
March 6, 9, 10, 11, 12, and 13, 2020

NOTICE TO BIDDERS
SEALED BIDS FOR
PROJECT NO. SP 20-03

Notice is hereby given that pursuant to an order by the
Mayor of the City of Tulsa, Oklahoma, sealed bids will be
received in Room 260 of the Office of the City Clerk, City of
Tulsa, 175 E. 2nd Street, Tulsa, Oklahoma 74103 until 8:30
a.m. the 27th day of March, 2020 for furnishing all tools,
materials and labor and performing the work necessary to
be done in the construction of the following:

PROJECT NO. SP 20-03 Tulsa Zoo Rainforest Roof
Replacement

The entire cost of the improvement shall be paid from
Account No. 203400001Z.Buildings.4250-42504111;
203400001Z.Buildings.401-4014111-541104;
203400001Z.Buildings.402-4024111-541104

A MANDATORY Pre-Bid Conference is scheduled for
Tuesday, March 17, 2020 at 9:30 a.m. in the 2nd Floor
Conference Room, Room S213, South Building, 2317
South Jackson Tulsa, Oklahoma.

Attendance at the Pre-Bid Conference is MANDATORY.
Bids will not be received from contractors who did not
attend the Pre-Bid Conference.

Bids will be accepted by the City Clerk from the holders of
valid pre-qualifications certificates from the City of Tulsa in
one or more of the following classifications: A or B

Drawings, specifications and contract documents for
construction of said public improvements of the said
project have been adopted by the Mayor of said City.
Copies of same may be obtained at the Office of the
Director of Engineering Services at the City of Tulsa
Engineering Services, 2317 South Jackson, Room 103,
North Building, for a non-refundable fee in the amount of
$50.00 made payable to the City of Tulsa by check or
money order.

Contract requirements shall include compliance as
required by law pertaining to the practice of non-
discrimination in employment.
The overall aspirational Small Business Enterprise utilization goal for this project is ten (10) percent.

Attention is called to Resolution No. 18145 of August 23, 1988, requiring bidders to commit to the goal of employing on the project at least fifty percent bona fide residents of the City of Tulsa and/or MSA in each employment classification.

Attention is called to Resolution 7404 of November 8, 2006, requiring bidders, their subcontractors and their lower-tier subcontractors to hire only citizens of the United States.

The City of Tulsa itself is exempt from the payment of any sales or use taxes, and pursuant to Title 68 O.S. Section 1356(10), direct vendors to the City are also exempt from those taxes. A bidder may exclude from his bid appropriate sales taxes, which he will not have to pay while acting for and on behalf of the City of Tulsa.

A Certified or Cashier’s Check or Bidders Surety Bond, in the sum of 5% of the amount of the bid will be required from each bidder to be retained as liquidated damages in the event the successful bidder fails, neglects or refuses to enter into said contract for the construction of said public improvements for said project and furnish the necessary bonds within thirty days from and after the date the award is made.

The bidder to whom a contract is awarded will be required to furnish public liability and workmen’s compensation insurance; Performance, Statutory, and Maintenance bonds acceptable to the City of Tulsa, in conformity with the requirements of the proposed contract documents. The Performance, Statutory, and Maintenance bonds shall be for one hundred percent (100%) of the contract price.

All bids will be opened and considered by the Bid Committee of said City at a meeting of said Committee to be held in the City Council Room of City Hall in said City at 9:00 a.m. on the 27th day of March 2020.

Dated at Tulsa, Oklahoma, this 6th day of March 2020.

(SEAL)

Melissa C. Stice
City Clerk
INSTRUCTIONS TO BIDDERS

B-1. BIDS

Each bid Proposal shall be completed electronically on the electronic media provided, then printed, signed and submitted along with the electronic media and the complete bound copy of the contract documents. In the event of a discrepancy between the pricing on the electronic media and hard copy of a Proposal, the hard copy pricing will govern. If electronic media is not provided and the bid Proposal is manual, the bid Proposal shall be submitted in ink. The written words shall govern over the figures if there is a difference between the two. No alterations, additions, or erasures shall be made on the Proposal. Erroneous entries shall be lined out, initialed by the bidder, and the correct entry inserted. The unit price bid must cover all expense for furnishing the labor, materials, tools, equipment, and apparatus of every description to construct, erect, and furnish all work required by and in conformance with the Drawings and Specifications.

Each bid shall be enclosed in a sealed envelope addressed to the City of Tulsa, 175 E. 2nd Street, Room 260, City Hall, Tulsa, Oklahoma, identified on the outside with the words:

PROJECT NO. SP 20-03 Tulsa ZOO RAINFOREST ROOF REPLACEMENT

Pre-qualification Certificate Number ____________.

And shall be filed with the City Clerk in Room 260, City Hall.

All addenda to the contract documents, properly signed by the bidder, shall accompany the bid when submitted.

B-2. BID SECURITY

Each bid shall be accompanied by a cashier’s check, a certified check, or bidder’s bond, in the amount of five percent (5%) of the total amount bid.

The bid security shall be made payable, without condition, to the City of Tulsa, Oklahoma. The bid security may be retained by and shall be forfeited to the City as liquidated damages if the bid is accepted, a contract based thereon is awarded, and the bidder fails to enter into a contract in the form prescribed, with legally responsible sureties, within thirty (30) days after such award is made by the City.

B-3 RETURN OF BID SECURITY

The bid security of each unsuccessful bidder will be returned when his bid is rejected. The bid security of the bidder to whom the contract is awarded will be returned when he executes a contract and files satisfactory bonds. The bid security of the second lowest responsible bidder may be retained for a period of
time not to exceed sixty (60) days pending the execution of the contract and bonds by the successful bidder.

B-4 WITHDRAWAL OF BIDS

No bidder may withdraw his bid for sixty (60) days after the date and hour set for the opening. A bidder may withdraw his bid any time prior to expiration of the period during which bids may be submitted by making a written request signed in the same manner and by the same person who signed the Proposal.

B-5 REJECTION OF BIDS

Bids received more than ninety-six (96) hours before the time set for opening bids, excluding Saturdays, Sundays, and holidays, as well as bids received after the time set for opening bids, will not be considered and will be returned unopened.

The City of Tulsa reserves the right to reject any and all bids when such rejection is in the best interest of the City of Tulsa. All bids are received subject to this stipulation and the City reserves the right to decide which bidder shall be deemed lowest responsible bidder.

A violation of any of the following provisions by the bidder shall be sufficient reason for rejecting his bid, or shall make any contract between the City of Tulsa and the Contractor that is based on his bid, null and void: divulging the information in said bid before the bids have been opened; submission of a bid which is incomplete, unbalanced, obscure, incorrect, or which has conditional clauses, additions, or irregularities of any kind not in the original proposal form, or which is not in compliance with the Instruction to Bidders and published Notice to Bidders, or which is made in collusion with another bidder. The City shall have the right to waive any immaterial defects or irregularities in any bid received.

B-6 DISQUALIFICATION OF BIDDERS

No contract will be awarded to any person or persons, firm, partnership, company, or corporation which is in arrears to the City upon any debt of contract, or in default as surety or otherwise upon any obligation to the City.

B-7 SIGNATURE OF BIDDERS

Each bid shall be properly signed with the full name of the company or individual submitting the bid, the bidder’s address, and the name and title of all persons signing printed below their signature lines. Bids by partnerships shall be signed with the partnership name followed by the signature and title of one of the partners. Bids by corporations shall be signed with the name of the corporation followed by the signature and title of the president, vice president, chairman, or vice chairman of the Board of Directors with attestation by the corporate secretary or assistant corporate secretary. Bids by joint ventures shall be signed by each participant in the joint venture. Bids by limited liability companies shall be signed with the name of the limited liability company followed by the signature
and title of the Manager or Managing Member. Bid by limited partnerships shall be signed with the name of the limited partnership followed by the signature of the general partner. Note: The signature requirements listed above are for Oklahoma entities; entities organized in other states must follow the law of the state in which they are organized.

A bid by a person who affixes to his signature the word "President", "Manager", "General Partner", "Agent", or other title, without disclosing the name of the company for which he is signing, may be held to be the bid of the individual signing.

B-8 INTERPRETATION OF CONTRACT DOCUMENTS

If any person who contemplates submitting a bid is in doubt as to the true meaning of any part of the drawing, specifications, or other proposed contract documents, he may submit to the Engineer a written request for interpretation thereof. The person submitting the request shall be responsible for its prompt delivery. Interpretation of the proposed contract documents will be made only by addendum. A copy of each addendum will be mailed or delivered to each person obtaining a set of contract documents from the Engineer. The City will not be responsible for any other explanations or interpretations of the proposed contract documents.

B-9 LOCAL CONDITIONS AFFECTING WORK

Each bidder shall visit the site of the work and shall completely inform himself relative to construction hazards and procedure, labor, and all other conditions and factors, local and otherwise, which would affect prosecution and completion of the work and its cost. Such considerations shall include the arrangement and condition of existing structures and facilities, the procedure necessary for maintenance of uninterrupted operation of existing structures and facilities, the availability and cost for labor, and facilities for transportation, handling, and storage of materials and equipment. All such factors shall be properly investigated and considered in the preparation of the bid. There will be no subsequent financial adjustment for lack of such prior information.

B-10 TIME OF COMPLETION

The time of completion is an essential part of the contract and it will be necessary for each bidder to satisfy the City of his ability to complete the work within the allowable time set forth in the Bid Form. In this connection, attention is directed to the provisions of the General Conditions and Special Conditions relative to delays, extension of time, and liquidated damages.

B-11 QUALIFICATION OF BIDDERS

No bid will be received and filed by the City Clerk of the City of Tulsa unless the person submitting the bid has been pre-qualified as provided by ordinance, and is the holder of a current certificate of Pre-qualification in force and effect on the date such bid is to be submitted and filed.
B-12  **TAXES AND PERMITS**

Attention is directed to the requirements of the General Conditions regarding payment of taxes and obtaining permits. Contractor shall comply with all zoning ordinances of the City, as provided in the Tulsa Zoning Code, Title 42 Tulsa Revised Ordinances and conform with all zoning requirements established by the Tulsa Metropolitan Area Planning Commission and the Board of Adjustment. Contractor can call the Indian Nations Council of Governments (INCOG) at (918) 584-7526, to determine if any zoning requirements must be met.

B-13  **OKLAHOMA LEGAL REQUIREMENTS**

The Contractor must comply with the Oklahoma Scaffolding Law, 40 Oklahoma Statutes, Sections 174 - 177, which cover erection and use of scaffolds, hoists, cranes, stays, ladders, supports, or other mechanical contrivances.

In accordance with Oklahoma Statutes, Title 68, Section 1701-1707, before commencing any work pursuant to this contract, any nonresident contractor shall give written notice by certified mail, return receipt requested, to the Oklahoma Tax Commission, the Oklahoma Employment Security Commission, the Workers Compensation Court, and the county assessor of each county in which work will be performed. The notices shall comply with the requirements set forth in said statute.

B-14  **BONDS**

The bidder to whom a contract is awarded will be required to furnish bonds as follows:

a. **Performance Bond** – A Performance Bond to the City in an amount equal to one hundred percent (100%) of the Contract price.

b. **Statutory Bond** – A Statutory Bond to the State of Oklahoma in an amount equal to one hundred percent (100%) of the contract price.

c. **Maintenance Bond** – A Maintenance Bond to the City in an amount equal to one hundred percent (100%) of the contract price.

The bonds shall be executed on the forms included in the contract documents by a surety company authorized to do business in the State of Oklahoma and acceptable as Surety to the City of Tulsa.

Accompanying the bonds shall be a “Power-of-Attorney” authorizing the attorney-in-fact to bind the Surety Company and certified to include the dates of the bonds.
BOUND COPY OF CONTRACT DOCUMENTS

The Bid Form or other pages shall not be removed from the bound copy of contract documents. The copy of contract documents filed with each bid shall be complete and shall include all items in the Table of Contents and all addenda.

EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

Each bidder agrees to comply with the terms of Title 5, Chapter 1, Section 111, of the Tulsa Revised Ordinances relating to Non-Discrimination.

BASIS FOR AWARD OF CONTRACT

The basis for award of a contract shall be the total base bid submitted by the lowest responsible bidder unless otherwise directed in the form of proposal. The City of Tulsa reserves the right to withhold the awarding of a contract for a reasonable period of time from the date of opening of bids. The awarding of a contract upon a successful bid shall give the bidder no right or action or claim against the City of Tulsa upon such contract until the same shall have been reduced to writing and duly signed by the contracting parties. The award of a contract will not be completed until the contract is duly executed and the necessary bonds and insurance approved.

TIME FOR AWARDING OF CONTRACT

The awarding of a contract to the lowest responsible bidder will be made within thirty (30) days after the opening of bids unless the City of Tulsa by formal recorded action and for good cause shown, provides for a reasonable extension to that period, which extension period shall not in any event exceed fifteen (15) days where only state or local funds are involved, or not to exceed ninety (90) days on any award of contract for the construction of public improvements where funds are utilized which are furnished by an agency of the federal government.

SAFETY AND HEALTH REGULATIONS

Bidders should note that they are subject to "Safety and Health Regulations for Construction", Chapter XVII of Title 29, CFR, Part 1926 and that compliance, review and enforcement are the responsibility of the U.S. Department of Labor.

The Contractor is fully responsible for the safety of the work site and is expected to train their employees in all applicable safety issues. This should include but not be limited to: trench safety, confined space entry, head protection, etc. In accordance with construction contracts with the City, Authority, Board, or Commission, all applicable Labor and OSHA safety regulations must be followed.

Work sites must be monitored by the Contractor and safety provisions enforced. Contractors are asked to ensure that all employees are properly informed and trained in construction, work site safety.
B-20 VENDORS AND SUBCONTRACTOR IDENTIFICATION

Where Vendor and Subcontractor Identification Questionnaires are included in the bid documents, each bidder shall submit the Questionnaire directly to the Engineer no later than 5:00 p.m. on the first working day following the bid opening. Failure to submit the questionnaire may render the bid unresponsive and not eligible for award. The award of the Contract will be subject to the acceptability of the vendors and subcontractors listed. If an award is made, the vendors and subcontractors listed on the questionnaire shall be used on the project. No changes in the vendor and subcontractor list will be permitted unless prior consent is obtained from the Engineer.

B-21 U.S. ENVIRONMENTAL PROTECTION AGENCY NPDES REQUIREMENTS FOR STORMWATER DISCHARGES

The bidder’s attention is directed to U.S. Environmental Protection Agency (EPA) NPDES requirements for stormwater discharges. The Contractor shall be responsible for filing a Notice of Intent and development and implementation of a Stormwater Pollution Prevention Plan (PPP).

B-22 AMERICANS WITH DISABILITIES ACT

The Contractor shall take the necessary actions to ensure its facilities are in compliance with the requirements of the Americans with Disabilities Act (ADA). It is understood that the program of the Contractor is not a program or activity of the City of Tulsa. The Contractor agrees that its program or activity will comply with the requirements of the ADA. Any costs of such compliance will be the responsibility of the Contractor. Under no circumstances will the Contractor conduct any activity, which it deems non-compliant with the ADA.
RESOLUTION NO. 18145

A RESOLUTION REQUIRING THE INCLUSION IN PLANS AND SPECIFICATIONS FOR PUBLIC IMPROVEMENT CONTRACTS OF PROVISIONS PROVIDING FOR THE EMPLOYMENT OF BONA FIDE RESIDENTS OF THE CITY OF TULSA; AND/OR THE MSA; ALSO PROVIDING THAT AT LEAST OF FIFTY PERCENT (50%) OF EACH CLASS OF EMPLOYEES USED ON A PROJECT BE BONA FIDE RESIDENTS OF THE CITY OF TULSA AND/OR THE MSA; THAT THE DIRECTOR OF THE DEPARTMENT OF HUMAN RIGHTS IS CHARGED WITH ENSURING THAT ALL BIDS FOR PUBLIC CONSTRUCTION CONTRACTS COMPLY WITH THIS RESOLUTION; AND DECLARING AN EMERGENCY.

WHEREAS, City of Tulsa, Oklahoma, desires to achieve a goal of full employment.

WHEREAS, it is necessary for the protection of the health, safety and welfare of all residents of the City of Tulsa, Oklahoma, to accomplish this goal.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF THE CITY OF TULSA, OKLAHOMA:

SECTION 1. The City of Tulsa is committed to the policy of achieving full employment of its citizens by encouraging the employment of bona fide Tulsa and MSA residents in public improvement contracts.

SECTION 2. Definitions. The definitions of certain terms used in this resolution are as follows:

a. "Bidding Documents" or "Bid" means the bid notice, plans and specifications, bidding form, bidding instructions, special provisions and all other written instruments prepared by or on behalf of an awarding public agency for use by prospective bidders on a public construction contract.

b. (i) "Bona Fide Residents" shall include only those persons who are either registered to vote in the City of Tulsa or who have resided within the city limits for at least six months, or who have purchased a permanent residence within the city limits or who have leased a residence for at least a six month term. Residency may be further determined by a valid Oklahoma driver's license, a current Oklahoma license tag, and a valid Oklahoma automobile inspection sticker. (ii) Bona fide residents of MSA shall include only those persons who are registered to vote in outlying MSA areas or who have resided within the outlying MSA area for at least six months, or who have purchased a permanent residence within the outlying MSA areas or who have leased a residence for at least a six month term. Residency may be further determined by a valid Oklahoma driver's license, a current Oklahoma license tag, and a valid Oklahoma automobile inspection sticker.

c. "Public Construction Contract" or "Contract" means any contract exceeding Seven Thousand Five Hundred Dollars ($7,500.00) in amount, awarded by the City of Tulsa for the purpose of making any public improvements or constructing any public building or making repairs to the same.

d. "Public Improvement" means any beneficial or valuable change or addition, betterment, enhancement or amelioration of or upon any real property, or interest therein, belonging to the City of Tulsa, intended to enhance its value, beauty or utility or to adapt it to new or further purposes. The term does not include the direct purchase of materials, equipment or supplies by the City of Tulsa.
e. "MSA". All of the land areas composed of Creek County, Osage County, Rogers County, Tulsa County and Wagoner County.

SECTION 3. Residency Requirements of Contractor's Employees. Every employee and/or agent of the City of Tulsa, Oklahoma, charged or involved with the preparation of plans and specifications for any public improvement funded in whole or in part with funds of the City of Tulsa, is hereby charged to include in said plans and specifications the following provisions which shall be binding upon the successful bidders:

a. Each bid shall be accompanied by a sworn statement that the bidder is committed to the goal of employing at least 50% bona fide residents of the City of Tulsa and/or the MSA in each classification as determined by the Oklahoma Commissioner of Labor.

b. The successful bidder will be responsible for having like requirements placed upon any subcontractor.

c. The successful bidder will submit to the Director or his designated representative of the Department of Human Rights any compliance reports involving the bidder and its subcontractors required by Title 31, Chapter 1, Section 9, of the Tulsa Revised Ordinances. The reports shall include information about the residence of each employee in each laboring and trade class applicable to any City project.

SECTION 4. Unresponsive Bids. The failure to submit the documents required by Section 3 shall render a bid unresponsive. Said documents must be submitted prior to the opening of the bids. The Director of the Department of Human Rights Section of City Development is charged with ensuring that all bids comply with Section 3 prior to the bid opening date.

SECTION 5. Duty of Employees and/or Agents of the City of Tulsa. Any employee and/or agent of the City of Tulsa who fails to include the goals for residency requirements found in Section 3 in the plans and specifications for any public improvement may be subject to disciplinary action, including dismissal.

SECTION 6. Severability. The invalidity of any section, subsection, provision or clause or portion of this chapter, or the invalidity of the application thereof to any person or circumstance shall not affect the validity of the remainder of this chapter or the validity of its application to other persons or circumstances.

SECTION 7. Effect Date. This resolution shall take effect as of July 1, 1988.

SECTION 8. Emergency Clause. That an emergency exists for the preservation of the public peace, health and safety, by reason whereof this resolution shall take effect immediately upon its passage, approval and publication.

PASSED, with the emergency clause ruled upon separately and approved this 23rd day of August, 1988.

APPROVED, this 23rd day of August, 1988.

Rodger Randle

Mayor

ATTEST: Philip W. Wood

CITY AUDITOR

APPROVED: Neal E. McNeil

CITY ATTORNEY
PASSED, with the emergency clause ruled upon separately and approved this 23 day of August, 1988.

APPROVED, this 23 day of August, 1988.

[Signature]
Mayor

ATTEST:

[Signature]
City Auditor

APPROVED:

[Signature]
City Attorney

CITY OF TULSA
FILED
AUG 23 1988

Office of City Auditor

R-3
01.23.18

POLICY STATEMENT

The City of Tulsa (hereinafter City) is committed to implementing the City of Tulsa Small Business Enterprise (SBE) Program of the City of Tulsa, hereinafter referred to as SBE Program. The stated objectives of the programs are:

- To ensure the employment of SBE(s) in the award and administration of City agreements and contracts;
- To create a level playing field on which SBE firms can compete fairly for City contracts;
- To ensure that only firms that fully meet the eligibility standards are permitted to participate as SBE participants;
- To help remove barriers to participation in City contracts;
- To assist in the development of SBE firms so that they may graduate from the SBE Program and ultimately compete successfully in the marketplace.

GOALS BY BUSINESS CATEGORY – SBE

There are seven (7) Business Categories for the City of Tulsa: Construction Contractors (Prime and Subcontractor), Architecture / Engineering (Consultant and Subconsultant), Professional Services, Other Services, and Goods and Supplies. A general description of each category follows:

**Construction**
- General building contractors engaged primarily in the construction of commercial buildings.
- Heavy construction such as airport runways, bridges, plants, grading and drainage, roadways, and other municipal infrastructure.
- Light maintenance construction services such as carpentry work; electrical work; installation of carpeting; air-conditioning repair, maintenance, and installation; plumbing; and renovation.
- Other related services such as water and sewer lines and maintenance, asbestos abatement, drainage, dredging, grading, hauling, landscaping (for large construction projects such as boulevards and highways), paving, roofing, and toxic waste clean-up.

**Architecture and Engineering**
- Licensed Architect
- Landscape Architect
- Professional Engineer
- Professional Land Surveyor
- Construction observation
- Other professional design / construction related services
CITY OF TULSA, OKLAHOMA
SMALL BUSINESS ENTERPRISE (SBE) UTILIZATION INSTRUCTIONS
BID OPENING AND AWARD SYSTEM

Professional Services
- Financial Services
- Legal services
- Medical services
- Educational services
- Real Estate services
  Planning services.
- Other professional services

Other Services
- Janitorial and maintenance services
- Uniformed guard services
- Computer services
- Certain job shop services
- Graphics, photographic services
- Landscaping
- Other non-technical professional services

Good and Supplies
- Office goods
- Medical supplies
- Miscellaneous building materials
- Computers

The goals are to reflect resource availability and capability. The City of Tulsa’s goal is to mitigate and
close the disparity between the availability/capability versus actual utilization of SBE firms in Creek,
Okmulgee, Osage, Pawnee, Rogers, Tulsa, and Wagoner counties in Oklahoma.

The City enters various agreements and contracts with the private sector for services, goods and
supplies, and construction activities. The agreements or contracts may have a specific or primary
deliverable associated with one of the Business Categories. However, supplementary efforts may
exist to fulfill the agreement or contract. Therefore, the table below is provided to show goals for all
Business Categories. Good faith efforts shall first be focused on the Business Category or Categories
that relate directly to the deliverables. Additional good faith efforts shall be in supplementary efforts
from other categories to assist in meeting the overall project goal.

The project goals will be monitored and periodically adjusted to address the disparity between the
available / capable / willing SBE firms versus actual utilization of SBE firms. The overall project goal
is 10%.

SBE firms identified for utilization in an agreement or contract must be paid from the proceeds from
that agreement or contract.
CITY OF TULSA, OKLAHOMA  
SMALL BUSINESS ENTERPRISE (SBE) UTILIZATION INSTRUCTIONS  
BID OPENING AND AWARD SYSTEM

<table>
<thead>
<tr>
<th>Business Category</th>
<th>SBE Goal (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction (Prime Contractors)</td>
<td>10</td>
</tr>
<tr>
<td>Construction (Subcontractors)</td>
<td>10</td>
</tr>
<tr>
<td>Architecture / Engineering (Consultant)</td>
<td>10</td>
</tr>
<tr>
<td>Architecture / Engineering (Subconsultant)</td>
<td>10</td>
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<tr>
<td>Professional Services</td>
<td>10</td>
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<tr>
<td>Other Services</td>
<td>10</td>
</tr>
<tr>
<td>Goods and Supplies</td>
<td>10</td>
</tr>
</tbody>
</table>

BIDDER'S ACTIONS

When the City has established SBE contract goals (hereinafter referred to as "goals"), the City will award a contract only to a bidder who makes good faith efforts to meet the goals. The following summary outlines the procedures.

Summary:

1. RECORD OF SOLICITATION FOR SBE form:
   These forms MUST be submitted with the bid documents. These documents establish the initial good faith, outreach efforts. In the event the bidder submitted the lowest bid, the SBE firms identified on these forms submitted with the bid are the only SBE firms that will be considered for establishing the bidder’s projected utilization percentages for consideration of the award of bid.

2. LETTER OF INTENT TO CONTRACT WITH SBE form:
   The bidder that submits the apparent lowest bid will be notified by City staff no later than the Monday following bid opening. The apparent low bidder MUST submit these forms and the associated attachments by close of business on Thursday following bid opening. Only SBE firms documented on the RECORD(s) OF SOLICITATION FOR SBE forms submitted with the bid will be considered for establishing the bidder’s projected utilization percentages for consideration of the award of bid. If Letters of Intent are not submitted, the projected utilization will be 0% and the apparent lowest bidder is subject to being deemed non-responsive.

3. ADMINISTRATIVE RECONSIDERATION:
   If the City determines that a bidder failed to meet the requirements above, City staff will contact the bidder by phone to define the issue and clarify any miscommunications and/or inadvertent actions. If issue was not due to miscommunication and/or inadvertent actions, the bidder will be notified per the Administrative Reconsideration process defined below. If the apparent low bidder is deemed non-responsive, City staff will notify the next lowest bidder to submit their LETTERS OF INTENT TO CONTRACT WITH SBE by close of business of the 6th day following notification or may exercise its right to reject any and all bids.
CITY OF TULSA, OKLAHOMA
SMALL BUSINESS ENTERPRISE (SBE) UTILIZATION INSTRUCTIONS
BID OPENING AND AWARD SYSTEM

4. CITY OF TULSA SBE UTILIZATION form:
   This form is completed by the contractor (successful bidder) and submitted as part of the contract to perform the project. This form documents the “projected” utilization for the project. At the end of the project, this form is submitted with the final pay request documenting the “actual” utilization. The “actual” utilization must meet or exceed the “projected” utilization. Any change in the "projected" utilization must be documented, submitted to the City on the CHANGE REQUEST FOR SBE PARTICIPATION form, and approved by the City. Approval of the change must occur at the time of the change. If the change is a reduction and not submitted and approved per the instructions, the amount will be deducted from the contractor’s final pay request.

5. CHANGE REQUEST FOR SBE PARTICIPATION form:
   This form documents any change to the “projected” utilization for the project. Change in utilization includes reduction, substitution, and/or increase. Utilization shall be checked with the submission of partial pay requests, but not longer than 30 day intervals throughout the project. The contractor's acknowledgement that they have verified changes in his/her utilization is required as part of partial pay request documents. Reductions in utilization not approved prior to the final pay request will result in pay reduction to the contractor. If, at the completion of the project, the contractor has failed to meet the SBE contract goals, does not have an approved change request, and has not demonstrated good faith efforts to meet the contract goal, the contractor will be assessed liquidated damages for the difference between the contract goal and the actual SBE participation achieved.

Record of Solicitation

All bidders shall, with the submissions of their bids, show their RECORD(s) OF SOLICITATION FOR SBE that demonstrates the good faith outreach effort to meet or exceed the SBE goals established for the project.

If bidders cannot meet the established SBE goals, the bidders shall document and submit with their bid proposal, justification stating why they could not meet the established SBE goals. To demonstrate good faith efforts to meet the SBE goals, the bidders shall document their efforts to obtain SBE participation. City will review and determine that the information is complete, accurate and adequately documents the bidder's good faith efforts before committing to the award of the contract to the bidder. In the event that the City awards a contract to a bidder who cannot meet the established SBE goals, the findings of the City's review shall be in written form and shall be incorporated into and become part of the contract documents.

If the bidder to whom City proposes to award the contract is able to demonstrate good faith efforts, City may accept the bidder's proposed goal. Acceptance by the City of the bidder's proposed goal does not release the bidder from its contractual obligation to continue to make efforts throughout the duration of the project to utilize SBE firms on the project.

All bidders shall submit with their bid the completed and signed RECORD OF SOLICITATION FOR SBE form.
Letter of Intent

The bidder must submit to the Engineering Contract Coordinator written confirmation from the SBE firms on the form LETTER OF INTENT TO CONTRACT WITH SBE that it is participating in the contract as provided in the contractor's bid commitment. This may be submitted with the bid, but not later than the City's close of business of the Thursday following the bid opening. The signed forms will define the contractor's final proposed utilization and will be the basis of a final evaluation. If inadequate utilization is proposed, the bid shall be considered non-responsive.

The SBE firms submitted on the LETTER OF INTENT TO CONTRACT WITH SBE forms shall be considered binding and changes of committed SBE firms may only be made after the contract is fully executed, and may only be changed through the submission, review and approval of form CHANGE REQUEST FOR SBE PARTICIPATION.

Failure to make the written assurance (City form LETTER OF INTENT TO CONTRACT WITH SBE), which includes the names of the SBE firms to be used, the work they will perform, and the price for the work, or failure to demonstrate good faith efforts that is deemed acceptable to the City to meet or exceed the SBE goals, shall render a bid non-responsive.

It is the contractor's responsibility to submit the information necessary for the City to ascertain compliance with the good faith efforts requirement. Extra cost involved in finding and utilizing SBE firms shall not be deemed adequate reason for the bidder's failure to meet the project SBE goals unless such costs are grossly excessive.

In instances where a successful bidder's SBE commitment exceeds the actual SBE contract goals, the submitted goals of the bidder become the contractual obligation.

In instances where a successful bidder's SBE commitment is below the SBE contract goals, the submitted utilization goals become the contractual obligation.

Good Faith Efforts

The steps taken by the bidder to obtain SBE participation shall be documented in writing and shall include, but are not limited to, the following good faith efforts:

A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) in the interest of all certified SBE firms capable to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the SBE firms to respond to the solicitation. The bidder must determine with certainty if the SBE firms are interested by taking appropriate steps to follow-up on the initial solicitation.

B. Selecting portions of the work to be performed by SBE firms in order to increase the likelihood that the SBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate SBE participation, even when the contractor might otherwise prefer to perform these work items with its own forces.
C. Providing interested SBE firms with adequate information about the plans, specifications and requirements of the contract in a timely manner to assist them in responding to a solicitation.

D. Negotiating in good faith with interested SBE firms:

(1) It is the bidder’s responsibility to make a portion of the work available to SBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available SBE subcontractors and suppliers, to facilitate SBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of SBE firms that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for SBE firms to perform the work. RECORD OF SOLICITATION FOR SBE form will be submitted.

(2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including available SBE subcontractors, and would take a firm’s price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using SBE firms is not sufficient justification for a bidder’s failure to meet the contract SBE goals, as long as such costs are reasonable. Also, the ability or desire of a contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Contractors are not, however, required to accept higher quotes from SBE firms to fulfill the SBE contract requirements if the price difference is excessive or unreasonable. Documentation of quotes shall be submitted to the City with the bid as part of the bidder’s record of solicitation.

E. Thoroughly analyzing the capabilities of SBE firms before determining a firm’s qualification for a project. The following shall not be legitimate causes for the rejection or non-solicitation of SBE quotes in the efforts of the contractor to meet the project goal: (1) the subcontractor’s standing, unrelated to job performance, within the industry; (2) membership in specific groups or organizations; or, (3) association with certain political and/or social organizations.

Administrative Reconsideration

If City determines that a bidder fails to meet the requirements stated above, the bidder will be provided an opportunity for administrative reconsideration. City staff will contact the bidder by phone to define the issue and clarify any miscommunications or inadvertent actions. If issue was not due to miscommunication and/or inadvertent actions, the following process will be followed:

1. The bidder will be notified by fax/email within ten working days following the bid opening.

2. The bidder will have 2 working days from time of notification to schedule a meeting for the purpose of administrative reconsideration with a City of Tulsa Attorney. Reconsideration meetings will generally be held within 7 days of notification of a bidder being determined non-responsive.
CITY OF TULSA, OKLAHOMA
SMALL BUSINESS ENTERPRISE (SBE) UTILIZATION INSTRUCTIONS
BID OPENING AND AWARD SYSTEM

As part of this administrative reconsideration, the bidder will have the opportunity to meet in person with a City of Tulsa Attorney to present arguments concerning whether it met the goal or made adequate good faith efforts to do so. Submittal of additional information documenting solicitation, which was due with the original bid submission, will not be accepted or considered.

3. The decision on reconsideration will be made by a City of Tulsa Attorney who did not take part in the original determination that the bidder failed to meet the goal or make adequate good faith efforts to do so.

4. No awards will be made until all administrative reconsiderations as outlined herein are complete. A City of Tulsa Attorney will provide a written decision on reconsideration to the bidder. This decision will explain the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. The determination is copied to the Contract Administrator, City Engineer, and the Director of Human Rights.

CONTRACTOR ACTIONS AFTER AWARD OF THE CONTRACT:

Counting SBE Participation Toward the Goal

When a SBE participates in a contract, only the value of the work actually performed by the SBE is counted toward the contract goal.

The entire amount of that portion of a contract that is performed by the SBE firm’s own forces is counted, including the cost of supplies and materials obtained by the SBE for the work on the contract, including supplies purchased or equipment leased by the SBE (except supplies and equipment the SBE purchases or leases from their Prime Contractor).

When a SBE performs as a participant in a joint venture, the portion of the total dollar value of the contract equal to the clearly defined portion of the work that the SBE performs with its own forces may be counted toward the goal.

Only expenditures to a SBE contractor who performs a commercially useful function may be counted toward a SBE goal.

Commercially Useful Function

A SBE performs a commercially useful function when it is responsible for the execution of the work of its contract and is carrying out its responsibilities by actually performing, managing and supervising the work involved. The SBE must be responsible, with respect to materials and supplies used on the
contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.

To determine whether a SBE is performing a commercially useful function, City will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid is commensurate with the work it is actually performing and the SBE credit claimed, and other relevant factors.

A SBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction through which funds are passed in order to obtain the appearance of SBE participation. In determining whether a SBE is acting as a pass-through, City will examine similar transactions, particularly those in which SBE firms do not participate.

Manufacturers and Material Suppliers

If the materials or supplies are obtained from a certified SBE manufacturer, 100 percent of the cost of the materials or supplies will be counted toward the SBE goals. A manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials required under the contract as described by the specifications.

If the materials or supplies are purchased from a certified SBE regular dealer, 100 percent of the cost of the materials or supplies will be counted toward the SBE goals. A regular dealer is a firm that owns, operates or maintains a store, warehouse, or other establishment in which the materials, supplies, articles, or equipment described by the specification and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating or maintaining a place of business as provided for in the above paragraph if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers’ own distribution equipment shall be by a long-term lease agreement and not on an ad-hoc or contract-by-contract basis.

In order for a firm to qualify as a SBE supplier of metal and/or concrete pipe, the firm must also fabricate the pipe. Metal or concrete pipe is specialty pipe which is project specific and is inspected during the manufacturing process. This arrangement provides for no warehousing of metal or concrete pipe and essentially requires the manufacturer to be the supplier. Merely ordering pipe from the fabricator and in turn selling it to contractors is not consistent with normal industry practice. Contractors normally purchase pipe directly from the manufacturer, thus eliminating the middleman. Supplying metal or concrete pipe is viewed as brokering and is considered inconsistent with SBE program requirements.

Change Request for SBE Participation
Substitution or replacement of a SBE firms will only be permitted or allowed after award and execution of the City contract.

A contractor may not terminate for convenience a SBE listed in their contract (or an approved substitute SBE firm) and then perform the work of the terminated subcontract with its own forces or those of an affiliate, without City's prior written consent.

When a SBE is terminated, or fails to complete the work of the contract for any reason, the contractor must make good faith efforts to find another SBE to substitute for the original SBE. These good faith efforts shall be directed at finding another SBE to perform at least the same amount of work (not necessarily the same work) under the contract as the SBE that was terminated, to the extent needed to meet the SBE goals established in the contract.

When the contractor obtains a substitute SBE, the contractor shall provide the Engineering Contract Coordinator with copies of the CHANGE REQUEST FOR SBE PARTICIPATION form and supporting documentation.

If the contractor is unable to replace the SBE with another SBE, then the contractor must provide City with evidence in writing that they have made a good faith effort. The contractor must submit to the Engineering Contract Coordinator a CHANGE REQUEST FOR SBE PARTICIPATION form along with documentation to support they have made a good faith effort. City may adjust the goal as appropriate.

In the case where a contractor cannot meet the SBE goals of a contract, he or she should request a change of that portion of the SBE goal, which cannot be met. The request will be subject to the following:

- A written request for change will be initiated by the contractor at the time he or she reasonably knows that despite good faith efforts the contract goal cannot be achieved. The request will be included on the CHANGE REQUEST FOR SBE PARTICIPATION form and will contain written document all good faith efforts made to meet the goal as well as the reason for the change.

- The request for change, CHANGE REQUEST FOR SBE PARTICIPATION form, will be submitted for review to the Engineering Contract Coordinator. The City will make the decision on the approval or denial of the change request and inform the contractor.

- If, at the completion of the project, the contractor has failed to meet the SBE contract goals, does not have an approved change request, and has not demonstrated good faith efforts to meet the contract goal, the contractor will be assessed liquidated damages for the difference between the contract goal and the actual SBE participation achieved. The City shall deduct the liquidated damages from the final payment. In the event insufficient earnings remain for the reduction of liquidated damages, the City may claim against the contractor’s bond, suspend the contractor under performance suspension, withhold further proposals, suspend prequalification and/or other remedies available under the law.
CITY OF TULSA, OKLAHOMA
SMALL BUSINESS ENTERPRISE (SBE) UTILIZATION INSTRUCTIONS
BID OPENING AND AWARD SYSTEM

- In those instances when the goal is not met due to a change in quantity, which occurs through no fault of the contractor, but due to City and/or changed site conditions, a change request will be recommended by Field Engineering at the time the change becomes known, but not later than the next progressive payment application from the contractor which covers the work identified for the SBE firm. The change request will include the statement of quantity change(s). The contractor shall endeavor, with good faith efforts, to mitigate underruns by utilizing other SBE firms.

Change in utilization includes reduction, substitution, and/or increase. Utilization shall be checked with the submission of each partial pay request, but not longer than 30 day intervals throughout the project. The contractor's acknowledgement that they have verified changes in his/her utilization is required as part of partial pay request documents. Reductions in utilization not approved prior to the final pay request, will result in pay reduction to the contractor.

If a contractor fails to comply with this section, appropriate administrative remedies may be taken including, but not limited to:

- No additional progressive payments may be processed
- Refusal to issue proposals
- Liquidated damages
- Suspension of work on the project
- Suspension of prequalification
- Termination of the contract

Prompt Payments

To ensure that contractors' obligations under City contracts are met, the contractor shall endeavor to pay all subcontractors for satisfactory performance of their contracts no later than fifteen (15) calendar days after receipt of each progressive payment from City. The contractor must further endeavor to make prompt release of retainage held to the SBE within thirty days after the work is satisfactorily completed, whether the contractor's work is complete or not. The term "satisfactorily completed" is defined as when; 1) City finds the work completed in accordance with the Plans and Specifications; 2) any required paperwork, including material certification, payrolls, etc., have been received and approved by City; 3) Field Engineering has determined the final quantities on the subcontractor's portion of the work; and 4) Contractor has received progressive payments from City which includes subcontractors' work.

In an effort to accelerate payments to subcontractors, the City may pay the Contractor for acceptable material stockpiled or delivered to the project, at other approved or designated locations, or at a plant site required for Contractor's operations as approved by the City. This is governed by Oklahoma Department of Transportation Standard Specifications for Highway Construction 2009 or latest edition.

Contractor shall endeavor to include invoices from SBE for materials on hand, partially completed work, or complete work on the earliest partial payment request submitted to the City. It is incumbent on the SBE to submit invoices to the Contractor in a timely manner.
Failure to comply with the prompt payment and return of retainage provisions of the contract may result in sanctions under the contract, as listed below:

- Refusal to issue proposals
- Liquidated damages
- Suspension of work on the project
- No additional progressive payments may be processed
- Suspension of prequalification

Any delay or postponement of payment among the parties may take place only for good cause, with City written approval. The explanation from the contractor must be made in writing to the City.

**Record Keeping Requirements**

The contractor shall keep such records as are necessary to determine compliance with the SBE contract obligations. The records kept by the contractor will indicate:

1. The name(s) of SBE firms or other subcontractors, the type of work being performed, and payment for work, services and business.

2. Documentation of correspondence, verbal contracts, telephone calls, etc., to obtain services of SBE firms on the project.

Upon request, the contractor shall submit all subcontracts, purchase orders, contracts, agreements, and financial transactions, including canceled checks, executed with SBE firms with the reference to records referred to in this provision, in such form, manner, content prescribed by City.

The contractor should list all SBE firms in the contract and summarize total amounts paid to SBE firms and the project goal amount for each SBE firm.

**Reciprocity**

The City will grant reciprocity of membership in the SBE program to certified Oklahoma Department of Transportation Disadvantaged Business Enterprises which are located in the Tulsa Metropolitan Statistical Area.
(Must be submitted with Bid)

CITY OF TULSA
BIDDER'S AFFIDAVIT FOR
SMALL BUSINESS ENTERPRISE (SBE) UTILIZATION GOALS

STATE OF )
) ss:
COUNTY OF )

___________________________, of lawful age, being first duly sworn, says that s/he is the
agent authorized by the bidder to submit the attached bid. Affiant further states that the bidder
agrees to fully comply with the City of Tulsa's Resolution requiring that a good faith effort be
made to utilize small business enterprises as subcontractors.

Affiant further states that s/he will document on pages SBE-2BID, -3BID, -4BID, and -5BID
for public record, his/her good faith efforts in solicitation.

Affiant further states that s/he is responsible for having like requirements placed upon any
subcontractor of said bidder.

Affiant further states that s/he has read and agrees to the current CITY OF TULSA,
OKLAHOMA SMALL BUSINESS ENTERPRISE (SBE) UTILIZATION INSTRUCTIONS
FOR BID OPENING AND AWARD SYSTEMS.

___________________________
BIDDER (Company Name)

___________________________
SIGNED

___________________________
TITLE

SUBSCRIBED and SWORN to before me this _____ day of ________________, 20____.

___________________________
NOTARY PUBLIC

MY COMMISSION EXPIRES:

___________________________
SBE-1BID
**RECORD OF SOLICITATION FOR SMALL BUSINESS ENTERPRISE (SBE)**
(MUST BE SUBMITTED WITH BID)

- Project Name:  
- Project Number:  
- Prime Contractor:  
- Prime Contractor Representative:  

**Consultants, Subcontractors, Service, Regular Dealers, Material Suppliers, & Fabricators:**

- Contact Date(s):  
- Name of Company:  
- Address (Street, City, County, State):  

- City of Tulsa SBE: ☐ Yes ☐ No  
- City of Tulsa SBE Certificate Number:  
- Other SBE Certificate Number(s):  

- Company Contact Person:  
- Phone No.:________________________ Email:______________________  
- Description of Work:  

- Contract Documents provided to and/or reviewed by Company: ☐ Yes ☐ No  
- Will City of Tulsa SBE be utilized? ☐ Yes ☐ No  
- If Yes, Estimated Agreement Amount: $  
- If No, description of reasons why agreement could not be reached for City of Tulsa SBE to perform work:  

---

SBE – 2BID

---

09 Record of Solicitation for SBE BID 20180123.docx
LETTER OF INTENT
TO CONTRACT WITH SMALL BUSINESS ENTERPRISE (SBE)
(Must be submitted by close of business on Thursday following bid opening)

Engineering Services Department, Attn: Contract Administration
CITY OF TULSA
2317 South Jackson, N-103
Tulsa, Oklahoma 74107
Ph.: 918.596.9637
Fax: 918.596.1299

Project Name: ________________________________
Project Number: ______________________________
Submittal Date: ______________________________

<table>
<thead>
<tr>
<th>Prime Contractor</th>
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<tbody>
<tr>
<td>HEREBY, intends to subcontract items of work generally described as</td>
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| to: |

<table>
<thead>
<tr>
<th>SMALL BUSINESS ENTERPRISE</th>
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<tr>
<td>Total amount of participation by City of Tulsa SBE: $ ________________</td>
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(City of Tulsa SBE, quote must be attached)

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<tr>
<th>City of Tulsa SBE: □ Yes □ No</th>
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<tr>
<td>City of Tulsa SBE Certificate Number: ________________________________</td>
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<tr>
<td>Other SBE Certificate Number(s): ________________________________</td>
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<tr>
<th>SMALL BUSINESS ENTERPRISE</th>
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<td>Signature: ____________________</td>
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<tr>
<td>Title: ________________________</td>
<td>Title: ________________________</td>
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<tr>
<td>Date: ________________________</td>
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Signatures of Authorized representatives of the Prime Contractor and the City of Tulsa SBE firm above represent the written commitment by the Prime Contractor to subcontract with the City of Tulsa SBE firm and a written commitment by the City of Tulsa SBE firm to subcontract for work as described in the attached quote.

This form, along with the City of Tulsa SBE firm’s quote must be submitted to the City with the executed Contract documents. If this form is not received, the proposed utilization will NOT be counted as part of the Prime Contractor’s agreement. This may cause the agreement to be considered non-compliant and be rejected by the City of Tulsa.

SBE – 3BID
CHANGE REQUEST
FOR SMALL BUSINESS ENTERPRISE (SBE) PARTICIPATION

Project Name: ____________________________________________
Project Number: ____________________________________________
Prime Contractor: ____________________________________________

CHANGE: From / To (fill in both sides) OR ADD: To (fill in this side only)
FROM:
Name: ____________________________ Name: ____________________________
City of Tulsa SBE: □ Yes □ No City of Tulsa SBE: □ Yes □ No
City of Tulsa SBE Certificate Number: ________________
Other SBE Certificate Number(s): ____________________________

Change in service to be performed: ____________________________
________________________________________________________________________
________________________________________________________________________

Change in amount of participation by City of Tulsa SBE: $ ________________
Reason for Change: ____________________________________________
________________________________________________________________________
________________________________________________________________________

NOTE: Attach a copy of the Letter of Intent for the original City of Tulsa SBE and a new Letter of Intent for the proposed City of Tulsa SBE.

PRIME CONTRACTOR SBE SUBCONTRACTOR
Signature: ____________________________ Signature: ____________________________
Date: ________________________________ Date: ________________________________
Title: ________________________________ Title: ________________________________

Approved / Disapproved: ___________________ Date: _________________________
Mayor’s Office for Human Rights

Approved / Disapproved: ___________________ Date: _________________________
Engineering Services / Contract Admin.

Distribution: Mayor’s Office for Human Rights
Field Engineering / Engineering Services Department

SBE – 4BID

11 Change Request for SBE BID 20180123.docx
# CITY OF TULSA
## SMALL BUSINESS ENTERPRISE (SBE) UTILIZATION

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<thead>
<tr>
<th>Project No.</th>
<th>Contractor</th>
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<tr>
<th>Projected Contract %</th>
<th>Actual Contract %</th>
<th>Total</th>
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**PROJECTED:**

Contractor Representative

Date

**ACTUAL (Update and Submit with Final Payment):**

Contractor Representative

Date

NOTE: REFER TO UTILIZATION INSTRUCTIONS

SBE – 5BID
(Must be submitted at time of Bid)
CITY OF TULSA
RESOLUTION NO. 7404
AFFIDAVIT OF COMPLIANCE

_____________________, of lawful age, being first duly sworn, states that
she is the authorized agent of the Company set forth below.

Affiant further states that the Company, in compliance with City of Tulsa Resolution No.
7404, shall not hire or knowingly allow any of its subcontractors or lower tier
subcontractors to hire anyone who is not a United States citizen or legal immigrant or
anyone who does not have legal status as a temporary worker to perform work on any
project which is the subject of a contract between the Company and the City of Tulsa.

Affiant further states that the Company shall not fail to comply with and shall not
knowingly allow any of its subcontractors or lower tier subcontractors to fail to comply
with all applicable laws including, but not limited to, labor, employment and taxation
laws, in the performance of any work on any project which is the subject of a contract
between the Company and the City of Tulsa.

Affiant further states that the Company shall make available to the City of Tulsa, at the
City’s request, sufficient information and/or affirmations to allow the City to confirm
Company’s compliance with Resolution No. 7404 relating to the performance of any
contract between the Company and the City of Tulsa.

Company: ______________________

Signed: ______________________

____________________
Title

SUBSCRIBED and SWORN to before me, this ___ day of __________, 20__.

____________________
NOTARY PUBLIC

MY COMMISSION EXPIRES:

____________________
COMMISSION NO.:

Resolution No. 7404
RAC-1
(Must be submitted at time of Bid)

CITY OF TULSA
50% RESIDENT RESOLUTION
AFFIDAVIT FOR BID

STATE OF

) ss:

COUNTY OF

) ss:

___________________________, of lawful age, being first duly sworn, states that s(he) is the agent authorized by the bidder to submit the attached bid. Affiant further states that the bidder, in compliance with City of Tulsa Resolution No. 18145, is committed to the goal of employing at least 50% bona fide residents of the City of Tulsa and/or the Metropolitan Statistical Area (composed of Creek, Okmulgee, Osage, Pawnee, Rogers, Tulsa, and Wagoner counties).

Affiant further states that bidder is responsible for having like requirements placed upon any of its subcontractors.

___________________________

BIDDER (Company Name)

___________________________

SIGNED

Title

SUBSCRIBED and SWORN to before me this ___ day of __________, 20___.

___________________________

NOTARY PUBLIC

MY COMISSION EXPIRES:

___________________________

COMMISSION NO.:

___________________________

RRA-1
(Must be submitted at time of bid)

NON-COLLUSION AFFIDAVIT

STATE OF )
COUNTY OF ) ss:

, of lawful age, being first duly sworn, says that:

1. I am the duly authorized agent of the bidder submitting the competitive bid associated with this sworn statement for the purpose of certifying facts pertaining to the existence of collusion among bidders and between bidders and municipal officers or employees, as well as facts pertaining to the giving or offering of things of value to governmental personnel in return for special consideration in the letting of any contract pursuant to the bid;

2. I am fully aware of the facts and circumstances surrounding the making of the bid and have been personally and directly involved in the proceedings leading to the submission of such bid;

3. Neither the bidder nor anyone subject to the bidder's direction or control has been a party:
   a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding;
   b. to any collusion with any municipal official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract; nor
   c. in any discussions between bidders and any municipal official concerning exchange of money or other things of value for special consideration in the letting of a contract.

4. If awarded the contract, neither the bidder nor anyone subject to the bidder's direction or control has paid, given or donated or agreed to pay, give or donate to any officer or employee of the City of Tulsa or of any public trust where the City of Tulsa is a beneficiary, any money or other thing of value, either directly or indirectly, in procuring the contract for which the bid is submitted.

_______________________________
BIDDER (Company Name)

Signed

_______________________________
Title

SUBSCRIBED and SWORN to before me this ___ day of ________________, 20__.

_______________________________
NOTARY PUBLIC

_______________________________
COMMISSION NO.:

NA-1
(Must be submitted at time of bid)

BUSINESS RELATIONSHIP AFFIDAVIT

STATE OF

) ss:

COUNTY OF

, of lawful age, being first duly sworn, says that
s/he is the agent authorized by the bidder to submit the attached bid. Affiant further
states that the nature of any partnership, joint venture or other business relationship
presently in effect or which existed within one (1) year prior to the date of this statement
with the architect, engineer, or other party to the project is as follows:


Affiant further states that any such business relationship presently in effect or which
existed within one (1) year prior to the date of this statement between any officer or
director of the bidding company and any officer or director of the architectural or
engineering firm or other party to the project is as follows:


Affiant further states that the names of all persons having any such business
relationships and the positions they hold with their respective companies or firms are as
follows:


(If none of the business relationships herein above mentioned exist, affiant should so
state.)

Signed:

BIDDER (Company Name)

Title:

SUBSCRIBED and SWORN to before me this _____ day of ______, 20__

NOTARY PUBLIC

MY COMMISSION EXPIRES:

COMMISSION NO.:
INTEREST AFFIDAVIT

STATE OF __________________ )
                             )ss.
COUNTY OF __________________ )

I, _________________________, of lawful age, being first duly sworn, state that I am the agent authorized by Contractor, Engineer, Architect or provider of professional service [“Services Provider”] to submit the attached Agreement. Affiant further states that no officer or employee of the City of Tulsa either directly or indirectly owns a five percent (5%) interest or more in the Services Provider’s business or such a percentage that constitutes a controlling interest. Affiant further states that the following officers and/or employees of the City of Tulsa own an interest in the Services Provider’s business which is less than a controlling interest, either direct or indirect.

________________________________
________________________________
________________________________

By ___________________________

Signature

Title __________________________

Subscribed and sworn to before me this ___ day of __________, 20__.

________________________________
Notary Public

My Commission Expires: ________________

Notary Commission Number: ________________

County & State Where Notarized: ________________

The Affidavit must be signed by an authorized agent and notarized.

IA-1
ELECTRONIC BID PROPOSAL INSTRUCTIONS - EXCEL SPREADSHEET
Tulsa Zoo Rainforest Roof Replacement
PROJECT NO. SP20-03

Please read the following instructions carefully.
1. After opening this file re-save it as your company’s name.
2. Open the BID FORM Sheet from the tabs below.
3. Input the unit price of the appropriate pay item in the Data input cells.
4. Review all data input and check calculations to ensure accuracy of Bid.
5. Print 1 hardcopy of the "PROPOSAL" tab, BID FORM and the "SIGNATURE PAGE" tab.
6. Complete and sign the "Signature Page" document.
7. Submit hardcopy and electronic disk with Contract Documents and Specifications for Bid opening date.

LEGEND
$ 1.00 Cells Requiring Data Input.
$ 1.00 Internal Data Transfer.
$ 2.00 Calculated Results.

AGREEMENT FOR USING ELECTRONIC BID PROPOSAL

By and Between: Cynergy, (ARCHITECT/ENGINEER) and RECIPIENT. The enclosed electronic media is provided pursuant to your request and is for your limited use in connection with your submittal of Bid Proposal for Project No. SP20-03. In no event shall the information be used for any other purpose or be released to third parties without the written consent of the ARCHITECT/ENGINEER. In the event of a discrepancy between the hard copy and this electronic media at delivery or in the future, the hard copy shall govern. ARCHITECT/ENGINEER hereby disclaims any and all liability for the consequences from use of the electronic media and makes no warranty or guarantee of accuracy. RECIPIENT shall assume full responsibility for the uses and consequences of the electronic media. It is agreed that ARCHITECT/ENGINEER has and retains ownership of the electronic media. ARCHITECT/ENGINEER does not warrant or guarantee that the electronic data is compatible with RECIPIENT’S computer hardware or software, and ARCHITECT/ENGINEER’S responsibility for the electronic media is limited to replacement of defective media for a period of thirty (30) days after delivery to RECIPIENT. By opening and using this FILE, You AGREE to these TERMS AND CONDITIONS.
PROPOSAL
Tulsa Zoo Rainforest Roof Replacement
PROJECT NO. SP20-03

TO: HONORABLE MAYOR
CITY OF TULSA, OKLAHOMA

THE UNDERSIGNED BIDDER, having carefully examined the drawings, specifications, and other Contract Documents of the above project presently on file in the City Clerk, City of Tulsa Oklahoma:

CERTIFIES THAT he has inspected the site of the proposed work and has full knowledge of the extent and character of the work involved, construction difficulties that may be encountered, and materials necessary for construction, class and type of excavation, and all other factors affecting or which may be affected by the specified work; and

CERTIFIES THAT he has not entered into collusion with any other bidder or prospective bidder relative to the project and/or bid: and

HEREBY PROPOSES: to enter into a contract to provide all necessary labor, materials, equipment and tools to completely construct and finish all the work required by the Contract Documents hereto attached and other documents referred to therein: to begin demolition Work on July 13, 2020 and complete said all Work no later than September 15th, 2020 (approximately 60 calendar days after the work order is issued); and to accept in full payment therefore the amount set forth below for all work actually performed as computed by the Engineer as set forth in the Contract.

**Basis of Award**
IT SHOULD BE NOTED THAT THE LOWEST RESPONSIBLE BID SHALL BE DETERMINED BY THE TOTAL BASE BID PLUS ADDITIVE ALTERNATE NO. ONE. THE ITEMS IN ADDITIVE ALTERNATE NO. ONE MAY OR MAY NOT BE INCLUDED IN THE CONTRACT AWARD AT THE SOLE DISCRETION OF THE CITY OF TULSA. ANY PROPOSAL SUBMITTED WITH THE ADDITIVE ALTERNATE ONE INCOMPLETE SHALL BE CONSIDERED NON-RESPONSIVE.

**Note:** Item numbers omitted are not a part of the Contract.
(Must be submitted at time of bid)
NON-COLLUSION AFFIDAVIT

STATE OF )
COUNTY OF )

_________________________ , of lawful age, being first duly sworn, says that:

1. I am the duly authorized agent of the bidder submitting the competitive bid associated with this sworn statement for the purpose of certifying facts pertaining to the existence of collusion among bidders and between bidders and municipal officers or employees, as well as facts pertaining to the giving or offering of things of value to governmental personnel in return for special consideration in the letting of any contract pursuant to the bid;

2. I am fully aware of the facts and circumstances surrounding the making of the bid and have been personally and directly involved in the proceedings leading to the submission of such bid;

3. Neither the bidder nor anyone subject to the bidder’s direction or control has been a party:
   a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding;
   b. to any collusion with any municipal official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract; nor
   c. in any discussions between bidders and any municipal official concerning exchange of money or other things of value for special consideration in the letting of a contract.

4. If awarded the contract, neither the bidder nor anyone subject to the bidder’s direction or control has paid, given or donated or agreed to pay, give or donate to any officer or employee of the City of Tulsa or of any public trust where the City of Tulsa is a beneficiary, any money or other thing of value, either directly or indirectly, in procuring the contract for which the bid is submitted.

BIDDER (Company Name) _______________________________ Signed _______________________________

______________________________
Title ________________________________

SUBSCRIBED and SWORN to before me this _____ day of _____________, 20__.

______________________________
NOTARY PUBLIC ________________________________

MY COMMISSION EXPIRES: ________________________________

COMMISSION NO.: ________________________________

NA-1
(Must be submitted at time of bid)

BUSINESS RELATIONSHIP AFFIDAVIT

STATE OF )
  ) ss:
COUNTY OF )

______________________________, of lawful age, being first duly sworn, says that
s/he is the agent authorized by the bidder to submit the attached bid. Affiant further
states that the nature of any partnership, joint venture or other business relationship
presently in effect or which existed within one (1) year prior to the date of this statement
with the architect, engineer, or other party to the project is as follows:


Affiant further states that any such business relationship presently in effect or which
existed within one (1) year prior to the date of this statement between any officer or
director of the bidding company and any officer or director of the architectural or
engineering firm or other party to the project is as follows:


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relationships and the positions they hold with their respective companies or firms are as
follows:


(If none of the business relationships herein above mentioned exist, affiant should so
state.)

Signed: __________________________

______________________________
BIDDER (Company Name)

______________________________
Title:

SUBSCRIBED and SWORN to before me this _____ day of ________, 20__

______________________________
NOTARY PUBLIC

MY COMMISSION EXPIRES:

______________________________
COMMISSION NO.:

BR-1
INTEREST AFFIDAVIT

STATE OF _______________________

CITY OF ________________________

I, ____________________________, of lawful age, being first duly sworn, state that I am the agent authorized by Contractor, Engineer, Architect or provider of professional service ["Services Provider"] to submit the attached Agreement. Affiant further states that no officer or employee of the City of Tulsa either directly or indirectly owns a five percent (5%) interest or more in the Services Provider’s business or such a percentage that constitutes a controlling interest. Affiant further states that the following officers and/or employees of the City of Tulsa own an interest in the Services Provider’s business which is less than a controlling interest, either direct or indirect.

____________________________________

____________________________________

By________________________________

Signature

Title________________________________

Subscribed and sworn to before me this ___ day of ________, 20__.

Notary Public

My Commission Expires:______________

Notary Commission Number:_________

County & State Where Notarized:________

The Affidavit must be signed by an authorized agent and notarized.

IA-1
ELECTRONIC BID PROPOSAL INSTRUCTIONS - EXCEL SPREADSHEET
Tulsa Zoo Rainforest Roof Replacement
PROJECT NO. SP20-03

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LEGEND
$ 1.00 Cells Requiring Data Input.
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TO: HONORABLE MAYOR
CITY OF TULSA, OKLAHOMA

THE UNDERSIGNED BIDDER, having carefully examined the drawings, specifications, and other Contract Documents of the above project presently on file in the City Clerk, City of Tulsa Oklahoma:

CERTIFIES THAT he has inspected the site of the proposed work and has full knowledge of the extent and character of the work involved, construction difficulties that may be encountered, and materials necessary for construction, class and type of excavation, and all other factors affecting or which may be affected by the specified work; and

CERTIFIES THAT he has not entered into collusion with any other bidder or prospective bidder relative to the project and/or bid: and

HEREBY PROPOSES: to enter into a contract to provide all necessary labor, materials, equipment and tools to completely construct and finish all the work required by the Contract Documents hereto attached and other documents referred to therein: to begin demolition Work on July 15, 2020 and complete said all Work no later than September 15th, 2020 (approximately 60 calendar days after the work order is issued); and to accept in full payment therefore the amount set forth below for all work actually performed as computed by the Engineer as set forth in the Contract.

Basis of Award
IT SHOULD BE NOTED THAT THE LOWEST RESPONSIBLE BID SHALL BE DETERMINED BY THE TOTAL BASE BID PLUS ADDITIVE ALTERNATE NO. ONE. THE ITEMS IN ADDITIVE ALTERNATE NO. ONE MAY OR MAY NOT BE INCLUDED IN THE CONTRACT AWARD AT THE SOLE DISCRETION OF THE CITY OF TULSA. ANY PROPOSAL SUBMITTED WITH THE ADDITIVE ALTERNATE ONE INCOMPLETE SHALL BE CONSIDERED NON-RESPONSIVE.

Note: - Item numbers omitted are not a part of the Contract.
# PROPOSAL
Tulsa Zoo Rainforest Roof Replacement
PROJECT NO. SP20-03

<table>
<thead>
<tr>
<th>BID ITEM</th>
<th>SPEC NO.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY</th>
<th>DATA INPUT UNIT PRICE</th>
<th>TOTAL EACH ITEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Div One</td>
<td>General Requirements</td>
<td>EA</td>
<td>1</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>002</td>
<td>012100</td>
<td>Owner Allowance</td>
<td>ALLOW</td>
<td>1</td>
<td>$20,000.00</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>003</td>
<td>076200, 076510, 079200, 086300</td>
<td>Remove existing and replace with new Translucent Roof System, Gutters &amp; Downspouts, etc. (Complete)</td>
<td>EA</td>
<td>1</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>TOTAL BASE BID</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$20,000.00</td>
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</tbody>
</table>

## ADD ALTERNATE ONE -

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</thead>
<tbody>
<tr>
<td>004</td>
<td></td>
<td>Remove existing and replace with new Translucent Wall System (Complete)</td>
<td>EA</td>
<td>1</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>$</td>
</tr>
</tbody>
</table>

## TOTAL BASE BID plus ALTERNATE ONE

|                |                               |                               |                               |                               | $20,000.00      |
Enclosed is a ( ) Bidder's Surety Bond, ( ) Certified Check, ( ) Cashier's Check for

__________________________ ___________________________
Words Dollars ( $_________ ) Figures

which the City of Tulsa may retain or recover as liquidated damages in the event that the undersigned fails to enter into contract for the work covered by this proposal, provided the Contract is awarded to the undersigned within thirty (30) days, from the date fixed for opening of bids and the undersigned fails to execute said Contract and furnish the required bonds and other requirements as called for in these Contract Documents within thirty (30) days after award of Contract.

Dated at Tulsa, Oklahoma, this ______ day of _______________________, 20__.

Respectfully submitted,

______________________________________
(Complete legal name of company)

______________________________________
(State of Organization)

By: ATTEST:

__________________________
Title: Corporate Secretary
Printed Name: _______________________
(SEAL)

__________________________
Address: _______________________
__________________________
__________________________
__________________________

Telephone Number: ______________ Fax Number: ______________

By signing above the bidder acknowledges receipt of the following Addenda (give number and date of each):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Certificate of Secretary

The undersigned ______________________ (Assistant) Secretary of ______________________, a ______________________ corporation, (the "Corporation") hereby certifies that the following is a true and correct copy of a Resolution duly adopted by the Board of Directors of the Corporation on the _____ day of _________, 20____.

RESOLVED, that ______________________ is authorized to execute and enter into bids, contracts, bonds, affidavits and any ancillary documents, on behalf of the Corporation.

The undersigned further certifies that this Resolution is in full force and effect as of the date of this Certificate and has not been amended, modified, revoked or rescinded.

IN WITNESS WHEREOF, I have executed this Certificate this ____ day of _________, 20____.

______________________________
(Signature)

______________________________
Printed Name

______________________________
(Assistant) Secretary
## PROPOSAL
Tulsa Zoo Rainforest Roof Replacement  
**PROJECT NO. SP20-03**

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<td>EA</td>
<td>1</td>
<td>$</td>
<td>-</td>
</tr>
</tbody>
</table>

**TOTAL BASE BID**  
$ 20,000.00

## ADD ALTERNATE ONE -

| 004      | 076200, 076310, 079200, 086300 | Remove existing and replace with new Translucent Wall System (Complete) | EA   | 1   | $                       | -              |

**TOTAL ADD ALTERNATE ONE**  
$                      

**TOTAL BASE BID plus ALTERNATE ONE**  
$ 20,000.00
Enclosed is a ( ) Bidder's Surety Bond, ( ) Certified Check, ( ) Cashier's Check for

Words

Dollars ($__________)

Figures

which the City of Tulsa may retain or recover as liquidated damages in the event that the undersigned fails to enter into contract for the work covered by this proposal, provided the Contract is awarded to the undersigned within thirty (30) days, from the date fixed for opening of bids and the undersigned fails to execute said Contract and furnish the required bonds and other requirements as called for in these Contract Documents within thirty (30) days after award of Contract.

Dated at Tulsa, Oklahoma, this _____ day of ________________________, 20__.

Respectfully submitted,


(Check legal name of company)

(State of Organization)

By:

ATTEST:

Title: Corporate Secretary
Printed Name: (SEAL)

Address: ________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Telephone Number: __________________ Fax Number: __________________

By signing above the bidder acknowledges receipt of the following Addenda (give number and date of each):

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
Certificate of Secretary

The undersigned ________________ (Assistant) Secretary of ________________, a ________________ corporation, (the “Corporation”) hereby certifies that the following is a true and correct copy of a Resolution duly adopted by the Board of Directors of the Corporation on the _____ day of ________, 20__.

RESOLVED, that ________________ is authorized to execute and enter into bids, contracts, bonds, affidavits and any ancillary documents, on behalf of the Corporation.

The undersigned further certifies that this Resolution is in full force and effect as of the date of this Certificate and has not been amended, modified, revoked or rescinded.

IN WITNESS WHEREOF, I have executed this Certificate this ___ day of ________, 20__.

(Signature)

Printed Name

( Assistant) Secretary
[SAMPLE CONSENT OF MEMBERS]

[NAME OF COMPANY], LLC

Consent of Members

The undersigned, being all of the Members of [Name of Company], LLC, an Oklahoma Limited Liability Company, hereby authorize, consent to, approve and ratify the execution by _________________ on behalf of [Name of Company], LLC of bid proposals, contracts, affidavits and related documents in connection with [Name of Project] of the City of Tulsa.

DATED, this ______ day of ______, 20__.

Name Printed: ________________________

[ADD ADDITIONAL LINES FOR ADDITIONAL MEMBERS]

Disclaimer Statement: This form is made available for example purposes only and is not intended to be legal advice nor intended to be relied upon in lieu of consultation with an attorney.

CM-1
Date

Contractor

RE: City of Tulsa Project No.

TO WHOM IT MAY CONCERN:

Please be advised that the City of Tulsa, Oklahoma, a municipal corporation, has contracted for the construction of a public improvement project as referenced above, and that pursuant to Title 68 § Section 1356 (10), sales on tangible personal property or services to be wholly consumed in the performance of such projects are exempt from Oklahoma and City of Tulsa Sales Tax when:

"...Any person making purchases on behalf of such subdivision or agency of the state shall certify, in writing, on the copy of the invoice or sales ticket to be retained by the vendor that the purchases are made for and on behalf of such subdivision or agency of this state and set out the name of such public subdivision or agency."

This letter of authorization expires.

A photostatic copy of this letter may be considered as the original.

CITY OF TULSA

Paul D. Zachary, P.E.
City Engineer

cc: Ryan McKaskle

HAS:AT: STED-1
EXTENSION OF TIME REQUEST
(to be submitted with each partial payment application)

DATE: __________________________________________

CONTRACTOR: ____________________________________

ADDRESS: _______________________________________

_________________________________________________

CONTRACT NO.: __________________________________

PROJECT NO.: ____________________________________

DESCRIPTION: ____________________________________

ARE THERE ANY CHANGES TO YOUR SBE UTILIZATION? _____ YES _____ NO

IF YES, GIVE REASON AND ATTACH CHANGE REQUEST FORM (SBE-4):

_________________________________________________________________________

EXTENSION OF CONTRACT TIME REQUIRED: _____ YES _____ NO

TOTAL OF EXTENSION TIME REQUESTED: _______________________________________

IF YES GIVE REASON: _______________________________________________________

_________________________________________________________________________

SIGNATURE - CONTRACTOR

CONSULTING ENGINEER OR DEPARTMENT OF PUBLIC WORKS STAFF RECOMMENDATIONS

APPROVED: _______________________ REJECTED: _______________________

REASON: _______________________________________________________________

_________________________________________________________________________

SIGNATURE

DATE

ACTION WILL BE TAKEN WITHIN 30 DAYS FROM RECEIPT OF REQUEST

ETR-1
CONTRACT FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS
TULSA, OKLAHOMA

THIS CONTRACT made and entered into the ___ day of ____________, 2020, by
and between ___ an _______ (Corporation or Limited Liability Company) of _______,
Oklahoma, hereinafter called the "CONTRACTOR," and the CITY OF TULSA -
TULSA, OKLAHOMA, a Municipal Corporation, herein called the "CITY."

WITNESSETH:

WHEREAS, the City has caused to be prepared the necessary Drawings,
Specifications, and other Contract Documents for the public improvements herein
described, and has invited bids for the construction thereof in accordance with the
terms of this Contract, all of which is hereby designated as:

PROJECT NO. SP 20-03 TULSA ZOO RAINFOREST ROOF REPLACEMENT

WHEREAS, the Contractor, in response to the Advertisement, has submitted to
the City, in the manner and at the time specified, a sealed bid in accordance with
the terms of this Contract; and,

WHEREAS, the City, in the manner prescribed by law, has publicly opened,
examined, and canvassed the bids submitted, and has determined the above
named Contractor to be the lowest responsible bidder for the work and has duly
awarded to the said Contractor therefore, for the sum or sums named in the
Contractor's bid, a copy of the Bid Form being attached to and made a part of this
Contract;

NOW, THEREFORE, in consideration of the compensation to be paid to the
Contractor and of the mutual agreements and covenants herein contained, the
parties to this Contract have agreed and hereby agree, as follows:

ARTICLE I. That the Contractor shall (a) furnish all tools, equipment, supplies,
superintendent, transportation, and other construction accessories, services, and
facilities; (b) furnish all materials, supplies, and equipment specified and required
to be incorporated in and form a permanent part of the completed work; (c)
provide
and perform all necessary labor; and (d) in a good, substantial, and workmanlike
manner and in accordance with the requirements, stipulations, provisions, and
conditions of the Contract as defined in the attached General Conditions, said
documents forming the Contract and being as fully a part thereof as if repeated
verbatim herein, perform, execute, construct, and complete all work included in
and covered by the City's official award of this Contract to the said Contractor,
such award being based on the acceptance by the City of the Contractor's bid, or
part
thereof, as follows:

C-1
ARTICLE II. That the City shall pay to the Contractor for performance of the work embraced in this Contract, and the Contractor will accept as full compensation therefor, the sum (subject to adjustment as provided by the Contract) of AND /100 ($______________) for all work covered by and included in the Contract award and designated in the foregoing Article I; payments therefore to be made in cash or its equivalent, in the manner provided in the General Conditions.

ARTICLE III. That the Contractor shall start work within ten (10) days following the date stipulated in a written order from the City to proceed with the work to be performed hereunder, and shall complete the work within the number of consecutive calendar days after the authorized starting date, as stipulated below:

All Work Completed: 60 calendar days

ARTICLE IV. The sworn, notarized statement below shall be signed and notarized before this Contract will become effective.

ARTICLE V. Prior to submitting a final payment request, the Contractor shall furnish a lien waiver certifying that all subcontractors and suppliers have been paid.

IN WITNESS WHEREOF, the parties have hereto set their hands and seals,

this ________ day of ______, 2020.
CITY OF TULSA, OKLAHOMA
a municipal corporation

By: ____________________________ ATTEST:  ( SEAL )

_________________________ Date: ________  _______________________ Date: ________
Mayor                        City Clerk

APPROVED:

_________________________ Date: ________  _______________________ Date: ________
City Attorney                City Engineer

CONTRACTOR

By: ____________________________

Printed Name ____________________________

_________________________ Date: ________  _______________________ Date: ________
Title                        Title

ATTEST:

__________________________
Corporate Secretary

( SEAL )

C-3
AFFIDAVIT

STATE OF ________________
COUNTY OF ________________

___________________________________, of lawful age, being first duly sworn, on oath says that (s)he is the agent authorized by the Contractor to submit the above Contract to the CITY OF TULSA, Tulsa, Oklahoma. Affiant further states that Contractor has not paid, given, or donated or agreed to pay, give, or donate to any officer or employee of the City of Tulsa, any money or other thing of value, either directly or indirectly, in the procuring of the Contract.

___________________________________
Signature

Subscribed and sworn to before me this _____ day of _____________, 2020

___________________________________
NOTARY PUBLIC

My Commission Expires:

___________________________________

C-4
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we, the undersigned, _______________________________ (hereinafter called the Contractor”), duly authorized by law to do business as a construction contractor in the State of Oklahoma, and _______________________________ (hereinafter called the "Surety"), a corporation organized under the laws of the State of _______________________________, and authorized to transact business in the State of Oklahoma, as Surety, are hereby held and firmly bound unto the City of Tulsa, Tulsa, Oklahoma (hereinafter called the “City”), in the penal sum of _______________________________

(full amount of the Contract), ($ ___________________) lawful money of the United States, for the payment of which, well and truly to be made unto the said City, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents, as follows:

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT, WHEREAS, the Contractor has on the _____ day of __________, ______, entered into a written contract with the City of Tulsa, Tulsa, Oklahoma, for furnishing all materials, labor, tools, equipment, and transportation necessary for:

PROJECT NO. SP 20-03 TULSA ZOO RAINFOREST ROOF REPLACEMENT

NOW, THEREFORE, if said Contractor shall well and truly perform and complete said project in accordance with said Contract, Advertisement for Bids, General Conditions, Instructions to Bidders, Bid Form, Plans and Specifications, and related documents, shall comply with all the requirements of the laws of the State of Oklahoma; shall pay as they become due all just claims for work or labor performed and materials furnished in connection with said contract, and shall defend, indemnify and save harmless said City against any and all liens, encumbrances, damages, claims, demands, expenses, costs and charges of every kind, including patent infringement claims except as otherwise provided in said specifications and other contract documents, arising out of or in relation to the performance of said work and the provisions of said Contract, then these presents shall be void; otherwise, they shall remain in full force and effect.

This obligation is made for the use of said City and also for the use and benefit of all persons who may perform work or labor, or furnish any material in the execution of said Contract, and may be sued on thereby in the name of the City.

The 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 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 of the terms of the Contract, or to the work or to the specifications.
IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact, duly authorized so to do, the day and year first above written.

__________________________________________
CONTRACTOR (Principal)

BY: ________________________ ATTEST: ( SEAL )

_________________________ Date: ___________ _________________________ Date: ___________
Title: ____________________ Title: Corp. Sec.

_________________________ Date: ___________ _________________________ Date: ___________
Attorney In Fact ** Surety ( SEAL )

**This date shall match the notarized certificate on the Power-of-Attorney

(Accompany this Bond with Power Of Attorney)

APPROVED AS TO FORM:

________________________________________ Date: __________
City Attorney

________________________________________ Date: __________
City Clerk
STATUTORY BOND

WHEREAS, the undersigned __________________________ has entered into a certain contract dated the _____ day of ____________, ____, designated as Project No SP 20-03 Tulsa Rainforest Roof Replacement, for the construction of certain public improvements Consisting of ________ to be situated and constructed on and through the property described in said Contract, including all of the work mentioned and described in said Contract, and to be performed by the undersigned strictly and punctually in accordance with the terms, conditions, drawings and specifications thereof, on file in the office of the office of the City Clerk.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS: That ____________________________, as Principal, and ____________________________, _________, a Corporation organized under the laws of the State of ____________, and authorized to transact business in the State of Oklahoma, as Surety, are held and firmly bound unto the State of Oklahoma in the penal sum of ________

(Full Amount of Contract) ($__________________), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our successors, and assigns, jointly and severally firmly by these presents.

NOW, THEREFORE, if the said Principal shall fail or neglect to pay all indebtedness incurred by Principal or sub-contractors of said principal who perform work in the performance of such contract, for labor and materials and repairs to and parts for equipment used and consumed in the performance of said contract within thirty (30) days after the same becomes due and payable, the person, firm or corporation entitled thereto may sue and recover on this bond the amount so due and unpaid.

The 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 the contract or to the specifications.
IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact, duly authorized so to do, the day and year first above written.

________________________________________
CONTRACTOR (Principal)

BY: ________________________________  ATTEST: ________________________________

Date: ____________________________  Date: ____________________________

Title: ____________________________  Title: Corp. Sec.

Date: ____________________________  Date: ____________________________

Attorney-In-Fact ____________________________  Surety ( SEAL )

**This date shall match the date of the notarized certificate on the Power-of-Attorney.

(Accompany this Bond with Power-Of-Attorney)

APPROVED AS TO FORM:

________________________________________
Date: ____________________________

City Attorney

________________________________________
Date: ____________________________

City Clerk
MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That ________________________________________, as Principal, and
__________________________________________________________, a
corporation organized under the laws of the State _____________ of and authorized to transact
business in the State of Oklahoma, as Surety, are held and firmly bound unto the City of Tulsa in
the Penal sum of ________________________________________

(full amount of Contract) ($___________) in lawful money of the United States of America
for the payment of which, well and truly to be made, we bind ourselves and each of us, our heirs
executors, administrators, trustees, successors, and assigns, jointly and severally, firmly by these
presents.

The condition of this obligation is such that:

WHEREAS, said Principal entered into a written contract with the City of Tulsa, Oklahoma
dated______________________________,_____, for

Project No. SP 20-03 Tulsa Rainforest Roof Replacement

all in compliance with the drawings and specifications therefore, made a part of said Contract
and on file in the office of the City Clerk, Tulsa, Oklahoma.

NOW, THEREFORE, if said Principal shall pay or cause to be paid to the City of Tulsa,
Oklahoma, all damage, loss, and expense which may result by reason of defective materials
and/or workmanship in connection with said work, occurring within a period of one (1) year for
all projects, from and after acceptance of said project by the City of Tulsa, Oklahoma; and if
Principal shall pay or cause to be paid all labor and materials, including the prime contractor and
all subcontractors; and if principal shall save and hold the City of Tulsa, Oklahoma, harmless
from all damages, loss, and expense occasioned by or resulting from any failure whatsoever of
said Principal, then this obligation shall be null and void, otherwise to be and remain in full force
and effect.

It is further expressly agreed and understood by the parties hereto that no changes or alterations
in said Contract and no deviations from the plan or mode of procedure herein fixed shall have the
effect of releasing the sureties, or any of them, from the obligation of this Bond.

MB-1
IN WITNESS WHEREOF, the said Principal has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its duly authorized officers, and the said Surety has caused these presents to be executed in its name and its corporate seal to be hereunto affixed by its attorney-in-fact, duly authorized so to do, the day and year first above written.

__________________________
CONTRACTOR (Principal)

BY:

ATTEST:  

__________________________ Date: __________  

Title: ____________________________ Date: __________

Title: Corp. Sec.

__________________________ Date: __________  

Attorney-In-Fact  **  Surety  

__________________________ Date: __________

** This date shall match the date of the notarized certificate on the Power of Attorney (Accompany this Bond with Power-Of-Attorney)

APPROVED AS TO FORM:

__________________________ Date: __________________________
City Attorney

__________________________ Date: __________________________
City Clerk

MB-2
AFFIDAVIT OF CLAIMANT

STATE OF __________________________

COUNTY OF _________________________

The undersigned, of lawful age, being first duly sworn, on oath says that this contract is true and correct. Affiant further states that the work, services or materials will be completed or supplied in accordance with the contract, plans, specifications, orders or requests furnished the affiant. Affiant further states that (s)he has made no payment directly or indirectly of money or any other thing of value to any elected official, officer or employee of the City of Tulsa or any public trust of which the City is a beneficiary to obtain or procure the contract or purchase order.

By: ____________________________________________
   Signature

Name: __________________________________________

Company: __________________________________________

Title: __________________________________________

Subscribed and sworn to before me this _____ day of _____________________, 20___.

_____________________________________________
Notary Public

My Commission Expires: __________________________

Notary Commission Number: ________________________

AC-1

060619
SPECIFICATIONS
AN ORDINANCE AMENDING TITLE 11, TULSA REVISED ORDINANCES ENTITLED "PUBLIC WORKS DEPARTMENT" BY AMENDING CHAPTER 10 ENTITLED "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION," AMENDING SECTION 1001, TO REVISE STANDARD SPECIFICATIONS SET FORTH IN PARTS 411.04.N AND 414.04.R; AND PROVIDING FOR SEVERABILITY; AND PROVIDING FOR REPEAL OF CONFLICTING ORDINANCES.

BE IT ORDAINED BY THE CITY OF TULSA:

Section I. That Title 11, Chapter 10, Tulsa Revised Ordinances, be and the same is hereby amended and shall read as follows:

"CHAPTER 10. STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION"

Section 1000. Adoption of State Standard Specifications.
Section 1001. Additions, Revisions, Deletions and Exceptions

SECTION 1000. ADOPTION OF STATE STANDARD SPECIFICATIONS.

Those certain documents, three (3) copies of which have been filed in the Office of the City Clerk of the City of Tulsa, being marked and designated as Standard Specifications for Highway Construction, 2009 Edition, as published by the Oklahoma Department of Transportation, are hereby adopted as the standard specifications for public improvement projects for the City with the exceptions given in SECTION 1001.

SECTION 1001. ADDITIONS, REVISIONS, DELETIONS AND EXCEPTIONS.

1001.A. The following terms, listed as numbered in the 2009 Edition of the Standard Specifications for Highway Construction, are hereby revised for all sections of this chapter:

101.05. Definitions.

101.05.A. Acceptance Date. Delete

101.05.P. Bond. All references to the "Department" shall mean "City of Tulsa," a municipal corporation.
101.05.V. **Commission.** All references to the “Commission” shall mean “The City of Tulsa, Oklahoma, a municipal corporation acting by and through its duly authorized officers and agents.”

101.05.Y. **Contract.** Replace definition with the following: “The written agreement between the City and the Contractor setting forth obligations of the parties thereunder, including, but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment.”

The Contract includes the Notice to Bidders, Proposal, Contract Form, all Contract Bonds, Specifications, Special Specifications, Special Provisions, all Plans, Work Orders and Change Orders that are required to complete the construction of the work in an acceptable manner, including authorized extensions.

101.05.AG. **Department.** Replace definition with the following: “Engineering Services Department of the City of Tulsa, Oklahoma.”

101.05.AI. **Director.** Replace definition with the following: “The Director of the Engineering Services Department of the City of Tulsa.”

101.05.AL. **Engineer.** Replace definition with the following: “The City Engineer of the City of Tulsa or his designee.”

101.05.AT. **Holiday.** Replace definition with the following: “Those days declared to be holidays for regular Civil Service employees of the City of Tulsa.”

101.05.AV. **Inspector.** Replace definition with the following: “The City of Tulsa’s Engineering Services Department authorized representative assigned to make inspections of the work.”

101.05.AX. **Letter of Credit.** All references to the “State” shall mean “The City of Tulsa, Oklahoma, a municipal corporation acting by and through its duly authorized officers and agents.”

101.05.BF. **Materials Division.** Replace definition with the following: “The Director of the Engineering Services Department of the City of Tulsa.”

101.05.BG. **Materials Engineer.** Replace definition with the following: “The City Engineer of the City of Tulsa or his designee”.

101.05.BZ. **Resident Engineer.** Replace definition with “The direct representative of the Engineering Services Department of the City of Tulsa for the oversight of construction projects with authority for oversight of all aspects of the construction project.”

101.05.CC. **Right-of-Way.** Replace definition with the following: “Right-of-Way or ROW shall mean the surface, the airspace above ground, and the area below the surface of any public street, highway, parkway, lane, path, alley, sidewalk, boulevard, drive, bridge, tunnel,"
stormwater drainage system, easement, park, or similar property in which the City now or hereafter holds a property interest and/or a maintenance responsibility which, consistent with the purposes for which it was granted or dedicated, may be used to install, operate and maintain Facilities.

101.05.CH. State. All references to the “State” shall mean the “The City of Tulsa, Oklahoma, a municipal corporation acting by and through its duly authorized officers and agents.”

101.05.CP. Supplemental Agreement. Delete

1001.B. City of Tulsa exceptions to the following provisions, listed as numbered in the 2009 Edition of the Standard Specifications for Highway Construction, are hereby described as follows:

102.01. Pre-Qualification. Replace section with “The City of Tulsa requires General / Prime Contractors to be Prequalified according to Title 11 Chapter 11 of the City of Tulsa Ordinances.”

102.06. Examination of Plans, Specifications, Special Provisions, and the Work Site. Replace the fourth paragraph with, “If the City has boring logs and subsurface investigation results, bidders may contact the Contract Administrator at the following address during normal business hours:

City of Tulsa
Engineering Services Department
2317 S. Jackson Ave.
Tulsa, OK 74107”

102.10. Delivery of Proposal. Replace section with the following: “Each bid Proposal shall be completed electronically on the electronic media provided, then printed, signed and submitted along with the electronic media and the complete bound copy of the contract documents or as instructed in the Notice to Bidders. In the event of a discrepancy between the pricing on the electronic media and the hard copy of a Proposal, the hard copy pricing will govern. If an electronic media is not provided and the bid Proposal is manual, the bid Proposal shall be submitted in ink. The written words shall govern over the figures. Erroneous entries shall be lined out, initialed by the bidder, and the correct entry inserted. The unit price bid must cover all expense for furnishing the labor, materials, tools, equipment, and apparatus of every description to construct, erect, and furnish all work required by and in conformance with the Plans and Specifications.

Each bid shall be enclosed in a sealed envelope addressed to the:

City Clerk’s Office
The City of Tulsa
One Technology Center
175 E. 2nd Street, Suite 260
Tulsa, Oklahoma 74103

m/rwk

12-9-15
or as otherwise instructed in the Notice to Bidders, and identified on the outside with the words:

PROJECT NO.

Pre-qualification Certificate Number

All addenda to the contract documents shall accompany the bid when submitted. Any bid turned in prior to 96 hours before opening is non-responsive.”

102.13. Public Opening of Proposals. Replace section with the following: “Proposals shall be publicly opened and read on the date and at the hour and place set forth in the advertisement and Notice to Bidders in the manner established by the City.”

102.16. Non-Collusive Bidding Certification. Replace ODOT form and replace with the form provided in the Bid Documents.

103.08. Approval of Contract. Replace section with the following: “The Contract shall not be binding upon the City until it has been executed and approved in the manner set forth in the Tulsa City Charter.”

105.17.C. Final Acceptance. Replace definition with the following: “The date on which the Request for Action (RFA) for final payment has been signed by the Mayor of the City of Tulsa.”

105.18. Claims for Adjustment. Delete section.

106.03. Samples, Tests and Cited Specifications. Insert the following after the second sentence: “FAST Guide shall mean current City of Tulsa testing guidance as shown in the Special Provisions.”

106.04.D. Distribution of Certifications. Replace section with the following: “The Contractor shall submit certifications to the Engineer with another copy mailed to:

Construction Engineer
City of Tulsa
Engineering Services Department
2317 S. Jackson Ave.
Tulsa, OK 74107”

106.05. Plant Inspections. In this section, “Oklahoma City” shall mean “Tulsa.”

106.11. Guarantees and Warranties. In this paragraph replace “six month” with “twelve month.”

107.19. Regulated Floodways. Add the sentence, "The Contractors shall also follow the requirements of Title 11A of the City ordinances."

107.20. Stormwater Management. Insert after the first sentence, "The Contractors shall also follow the requirements of Title 11A of the City ordinances."

108.02. Notice to Proceed and Preconstruction Conference. Modify the second paragraph to read: "After the Contractor and Resident Engineer hold a preconstruction conference, the Contractor shall receive a Notice to Proceed, before the start of construction."

108.07.B. Calendar Day Contract. Delete the second paragraph and replace with the following: "There are fifteen (15) working days in every month of the year."

108.08. Incentive/Disincentive for Early/Late Completion. Delete section.

108.09. Failure to Complete on Time. Delete Table 108:1.

109.04.B. Submitting a Claim. Delete Sections 1 through 4. Insert the following after the first paragraph: "Change Orders to be processed according to City policy."

109.06. Progress Payments. In the second paragraph delete language regarding "semi-monthly progressive estimates."

109.08. Final Payment. Delete last paragraph of the section and replace with the following: "Contractor shall submit final payment within 90 days of completion of job unless otherwise approved by the City."


109.11. Payment to Subcontractors. Delete last paragraph of the section.

220.04.C. Contractor Responsibilities for SWPPP. Delete the first sentence of the second paragraph and replace with the following: "A Contractor Certification statement for subcontractors is "required."

401.04.A. Tolerances. Delete entire section and replace with the City of Tulsa Special Provision for Pavement and Bridge Deck Smoothness provided in the contract documents.

411.04.N. (2) Acceptance. Replace this section with the following: "ODOT pay factors for average lot density, asphalt cement content, and air voids shall not be used for this project. Failure to reach average lot density of 92% to 97%, asphalt cement content of +/- 0.40 of job mix formula, or air voids greater than 1.5 deviation from target will result in rejection of the work. In addition the thickness of the asphalt must be equal to or greater than what is specified."

414.03.B. Placing and Finishing Equipment. In the first paragraph add the sentence, “If paving is not performed by a slip form paver a hand vibrator shall be required.”

414.04.R. Acceptance of Pavement. Replace this section with the following: “ODOT pay factors for strength and thickness shall not be used on this project. Failure to reach less than 300 psi of the target strength from the mix design will result in rejection of the work. In addition, the thickness of the Portland Cement Concrete Pavement must be equal to or greater than what is specified.”

509.06. Basis of Payment. Delete pay factors for air content.

516.06. Basis of Payment. Delete the Obstructions pay item.


801.02. Materials. Replace Department’s Traffic Engineering Division Qualified Products List (QPL) with the City of Tulsa Traffic Engineering’s Approved Products List (APL).

801.04.B. Bonding and Diagram. Delete and replace section with the following:

“Provide mechanically and electrically secure conduit, poles, and highway lighting cabinets to form a continuous system.

Provide No. 8 AWG copper wire for grounding traffic signal cabinet.

Provide at least No. 6 AWG THHN green stranded copper wire for bond and ground jumpers for all other equipment.

Provide at least No. 6 AWG THHN green stranded copper wire for ground poles, securely attached to the pole and the ground rod, as shown on Plans.

All identified neutrals shall be white.”

802. Electrical Conduit. Delete section and refer to City of Tulsa Specification 602, Electrical Conduit.


804. Concrete Footings. Delete section and refer to City of Tulsa Specification 603, Signal Pole Footings.
805.01. **Description.** Delete section and replace with the following: "This work consists of the removal and delivery of traffic signal and highway lighting items, to the City of Tulsa Operations facility, which equipment shall remain the property of the City of Tulsa: Traffic signal poles, signal heads, pedestrian heads, backplates, controller cabinet assembly, cabinet guard, mast arm signs, astro-brackets, span wire equipment and any other traffic signal equipment removed except for the pull boxes, conduit and wire which shall become the property of the contractor. Work to include the removal of all footings below ground or as directed by the engineer. Footings shall become the property of the contractor."

805.04. **Construction Methods.** Replace the second paragraph with the following: "Do not damage traffic signal equipment during removal and storage. Remove all footings to below ground level or as directed by the engineer. Footings, pull boxes, conduit and wire shall become property of the contractor."

806. **Poles and Mast Arms.** Delete section and refer to City of Tulsa Specification 617, Poles and Mast Arms.

810. **Power Supplies.** Delete section and refer to City of Tulsa Specification 607, Power Supplies.

811. **Electrical Conductors Highway Lighting.** Delete section and refer to City of Tulsa specification 621, Electrical Conductors Highway Lighting.

825. **Traffic Signal Controller Assembly.** Delete section and refer to City of Tulsa specification 610, Traffic Signal Controller Assembly.

828. **Vehicle Loop Detector and Loop Detector Wire.** Delete section and refer to City of Tulsa specification 604, Detector Wire.

830. **Pedestrian Push Button.** Delete section and refer to City of Tulsa specification 613, Pedestrian Push Button.

831. **Traffic Signal Heads.** Delete section and refer to City of Tulsa specification 614, Traffic Signal Heads.

832. **Optically Programmed Adjustable Traffic Signal Heads.** Delete section.

833. **Traffic Signal Backplanes.** Delete section.

834. **Electrical Conductors for Traffic Signals.** Delete section and refer to City of Tulsa specification 611, Electrical Conductors for Traffic Signals.
Section 2. SEVERABILITY. If any section, subsection, paragraph, subparagraph, sentence, clause or phrase of this Ordinance shall be declared invalid for any reason whatsoever, such decision shall not affect the remaining portions of this Ordinance, which shall remain in full force and effect, and to this end the provisions of this Ordinance are hereby declared to be severable.

ADOPTED by the Council: JAN 14 2016
Date

Chairman of the Council

OFFICE OF THE MAYOR

Received by the Mayor: at Date Time

Dewey F. Bartlett, Jr.

By: Secretary

APPROVED by the Mayor of the City of Tulsa, Oklahoma: JAN 22 2016
Date

Mayor

Attest:

Clerk

APPROVED:

City Attorney
SPECIFICATIONS

A. Oklahoma Department of Transportation Standard Specifications for Highway Construction, 2009 Edition, shall be used on this project including Section 100-General Provisions, as modified by Ordinance No. 23427

B. City of Tulsa, Engineering Services Department Construction Specifications – October 2013 are incorporated herein as if fully set forth and are on file, including all revisions posted on internet prior to bid opening, with the Engineering Services Department, Engineering Design Division, 2317 S. Jackson Ave. Tulsa, Oklahoma or access on the internet at: http://www.cityoftulsa.org/government/departments/engineering-services/specification-checklists-and-details
SPECIAL

PROVISIONS
1. Successful Contractor shall return fully executed contract documents (including bonds and insurance) to the City of Tulsa, Contract Administration Section, Room N-103, 2317 South Jackson Avenue within two (2) weeks after bid opening.

2. If the successful Contractor can provide proper bonds and insurance and the contract is executed, the Pre-Construction Conference for this project will be held within eight (8) weeks after bid opening.
SPECIAL PROVISIONS

INSURANCE REQUIREMENTS

In reference to Ordinance No. 23427 Adoption of State Specification for Highway Construction, Section 107.12 shall be modified as follows:

The CONTRACTOR (and any subcontractors) shall carry and keep in force during this Contract, policies of insurance issued by an insurer authorized to transact business in Oklahoma in minimum amounts as set forth below or as required by the laws of the State of Oklahoma. The CONTRACTOR shall also furnish an Owner’s Protective Policy in the same amounts naming the City of Tulsa as the assured, issued by the same insurance company as the CONTRACTOR’S liability coverage and indemnifying the City of Tulsa against any and all actions, claims, judgments or demands arising from injuries of any kind and character sustained by any person or persons because of work performed by the CONTRACTOR.

General Liability Insurance with a bodily injury and property damage combined single limit of not less than $1,000,000.00 for each occurrence.

Employer’s Liability and Workmen’s Compensation in the amounts as required by law.

The CONTRACTOR shall provide proof of such coverage:

(a) By providing Certificate(s) of Insurance prior to the execution of this contract; and

(b) By submitting updated Certificate(s) of Insurance with each and every subsequent request for payment. The Certificate(s) should show that the policies are current and should be dated within 30 days of payment request.

The CONTRACTOR shall not cause any required insurance policy to be cancelled or permit it to lapse. If the CONTRACTOR cancels, allows to lapse, fails to renew or in any way fails to keep any required insurance policy in effect, the City will suspend all progress and/or final payments for the project until the required insurance is obtained. Further, a CONTRACTOR who fails to keep required insurance policies in effect may be deemed by the City to be in breach of contract, ineligible to bid on future projects, and/or ineligible to engage in any new contracts.

The Contractor shall execute and furnish a Statutory Bond for the protection of laborers, mechanics, and material men in a sum equal to one hundred percent (100%) of the contract price.

The Contractor shall execute and furnish a Performance Bond in a sum equal to one hundred percent (100%) of the contract price.

The Contractor shall execute and furnish a Maintenance Bond in a sum equal to one hundred percent (100%) of the contract price.

Prior to doing blasting, the Contractor shall furnish a Certificate of Insurance, which shall certify that any damage caused by blasting is within the coverage of the Contractor’s liability insurance to the full limits thereof.

All bonds and insurance must be executed by a company licensed to do business in the State of Oklahoma and must be acceptable to the City.

IR-1
SPECIAL PROVISIONS
GENERAL

1. Work Days: All work to be completed within 60 calendar days for the Base Bid.

2. Work Hours: 7:00 a.m. to 7:00 p.m.

3. Traffic Control: All work shall be done in cooperation with the City to establish, install, maintain and operate complete, adequate and safe traffic control during the entire construction period. Barricades, signs, lights, flags and all other traffic control devices shall meet the requirements and specifications of the Standard Drawings entitled “Typical Applications of Traffic Control Devices”, and shall be approved by the Traffic Engineer of the City of Tulsa. Two-way traffic shall be maintained at all times, unless otherwise approved by the Engineer. All contractors shall contact the City of Tulsa Traffic Engineering Section before removing or replacing traffic devices, detector loops and street signs. A traffic plan must be submitted for any temporary street closure at least 2 working days prior to planned closing.

4. Contractor shall provide an acceptable 10' straightedge for this Project. All transverse joints shall be straight edged and approved by the Engineer.

5. The Engineer may do quality assurance testing in addition to that performed by the Contractor. The Engineer or a testing laboratory designated by the Engineer will do any testing for quality assurance. The City will pay all costs of quality assurance.

6. Full depth sawing of patches is required. This area to be removed shall be marked by the Contractor under the direction of the Engineer. The Contractor will provide personnel and equipment for marking of the patches as directed by the Engineer. Cost of full depth sawing shall be included in bid item for patching areas.

7. Areas to be patched shall be delineated in a straight-line geometric pattern. When completed, the patch shall be level and provide a smooth riding surface. Portland Cement Concrete patches will be protected from all traffic for a minimum period of 24 hours before removal of protective devices. No open excavations will be left overnight.

8. All asphalt patch work will require that asphalt rollers and an asphalt laydown machine be available for use on the job as directed by the Engineer.

9. Contractor will be required to employ the use of an Automatic Grade Referencing System. The equipment shall be capable of accurately and automatically establishing grades along each edge of the machine by referencing the existing
pavement by means of a ski or joint matching shoe, or from an independent grade control. Minimum length of ski shall be 40’.

10. Prior to application of tack coat, the street shall be blown clean with compressed air to the satisfaction of the Engineer.

11. The tack coat must be uniformly distributed and adequately cured prior to beginning the overlay.

12. Contractor shall be responsible for cleanup and/or removal of any excessive over spray of any tack coat material to the satisfaction of the Engineer.

13. Debris from routing of cracks and cold milling shall be swept and vacuumed from the street to the satisfaction of the Engineer.

14. Contractor will be responsible for preparation and distribution of a written notice to residents within 48 hours of beginning milling and overlay operations. Costs associated with this requirement will be included in other items of work.

15. Contractor shall provide a continuous work effort towards total completion of the work in an area prior to moving to a different location.

16. All full depth asphalt patches will be made only after milling is complete, if milling is required, and prior to overlay.

17. No masonry structures shall be used in street right of way. Either precast or cast-in-place structures shall be used.

18. No lifting holes will be allowed in any reinforced concrete pipes or reinforced concrete boxes.

19. No fly ash is allowed to be used on this project.

20. The Contractor certifies that it and all of its Subcontractors to be used in the performance of the Contract are in compliance with 25 O.S. Sec. 1313 and participate in the Status Verification System. The Status Verification System is defined in 25 O. S. Sec. 1312 and includes but is not limited to the free Employee Verification Program (E-Verify) available at [www.dhs.gov/E-Verify](http://www.dhs.gov/E-Verify).

21. Driveways. Access to properties and businesses adjacent to the right of way must be provided and maintained at all times unless otherwise directed/approved by the Engineer. The Contractor will contact the business or property owner at least 5 days in advance of any driveway closure. Driveways and patches in front of driveways, which are removed, shall not be left unusable overnight. If concrete cannot be placed the same day as removal, the Contractor shall furnish screening or other suitable aggregate material to maintain temporary access until
concrete can be placed. The cost of placing and removing the material for temporary access shall be included in the pay item for Concrete Driveway (High Early Strength). **Failure to leave any driveway usable will subject the Contractor to a $1000.00 per day fine for each and every calendar day that the driveway remains non-useable.** The only exception for a driveway to be non-useable is to allow for curing time for concrete. Cure time will not exceed 48 hours.

22. Driveways in excess of 18-feet in width shall be constructed in half-sections and access shall be maintained at all times.

23. Contractor shall prepare and present a schedule and plan for lane and driveway closures throughout the project. The Contractor shall include in the plan, driveway signage for local business access. Payment for signs will be included under the pay item “**Signage for Local Business Access**” and will be paid for by the square foot. Coordination with the City of Tulsa and local business operators shall be required before a driveway schedule and plan is approved.

24. Contractor shall coordinate with the City of Tulsa and local business operators to identify opportunities to perform weekend or “after business hours” construction on driveways to minimize impacts to the area.

25. Local and through traffic shall be maintained at all times through the project unless otherwise permitted by the Engineer. All public and private streets shall be accessible at all times. All detours, horizontal traffic movements, etc. are directly related to the sequence of work; therefore, the Contractor shall proceed with his construction operation in conformity with the details shown on the plans and as required by this special provision.

26. Traffic must be handled appropriately through the entire project during construction and it shall be the responsibility of the Contractor to provide for the safety and comfort of the traveling public at all times. The Contractor shall be required to give the traveling public at least 48 hours advance notice of any lane and/or street closures.

27. The Contractor may propose/recommend modifications to the sequence of work for consideration by the Engineer. Any major recommended modification by the contractor shall include any changes to the various pay items, impact to traffic, and effect of overall project in time and cost, etc. The Contractor shall not proceed with any construction operations based on a revised phase/sequence until the Contractor obtains written approval from the Engineer.
28. Two lanes shall remain open to traffic, one in each direction, throughout all phases of construction, unless otherwise approved/directed by the Engineer. Left turn lanes shall remain open to traffic throughout all phases of construction, unless otherwise approved/directed by the Engineer. Transitions from pavement elevations through construction areas to access driveways or intersections shall be the Contractor's responsibility. Contractor shall maintain signs and markings on a continuous basis.
SPECIAL PROVISIONS
TIME FOR COMPLETION

1. The work shall commence within ten days from and after the date of a written work order from the City. The Contractor agrees that the work shall be prosecuted regularly, diligently and uninterruptedly at a uniform rate of progress so as to ensure completion within the number of days after the day on which the work order is issued. If the Contractor shall fail to complete all work within the time specified, then the Contractor agrees to pay the City, not as a penalty, but as liquidated damages for Breach of Contract, the Sum of Two Thousand Five Hundred Dollars ($2,500.00) for each and every calendar day for failure to complete all work within the time specified. The said amount is fixed and agreed upon because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the City would in such event sustain. It is expressly understood and agreed that the said time for completion of the work described herein is a reasonable time for the completion of same.

2. If the Contractor shall fail to complete reconstruction of a segment of roadway within thirty (30) days of beginning the reconstruction operation, then the Contractor agrees to pay the City, not as a penalty, but as liquidated damages for such breach of contract, the sum of Two Thousand Five Hundred Dollars ($2,500.00) for each and every calendar day of failure to complete the work after the specified time. The said amount is fixed and agreed upon because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the City would in such event sustain. This time constraint applies only to roadways to be reconstructed and includes all subsidiary work items required to complete the reconstruction. Subsidiary items not required to complete the reconstruction are not subject to this time constraint.

3. If the Contractor shall fail to complete overlaying of any separately milled segment of roadway within twenty (20) days of beginning the milling operation, then the Contractor agrees to pay the City, not as a penalty, but as liquidated damages for such breach of contract, the sum of Two Thousand Five Hundred Dollars ($2,500.00) for each and every calendar day of failure to complete the work after the specified time. The said amount is fixed and agreed upon because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the City would in such event sustain. The City will authorize when milling is to be done based on weather conditions. This time constraint applies only to segments to be milled and includes all subsidiary work items required to complete the overlay. Subsidiary items not required to complete the overlay are not subject to this time constraint.

4. The Contractor shall commence work within 24 hours of traffic control devices being established at the project location. If the Contractor shall fail to commence work within 24 hours of traffic control devices being established at the project location, the Contractor agrees to pay the City, not as a penalty, but as liquidated damages for Breach of Contract.

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location, then the Contractor agrees to pay the City, not as a penalty, but as liquidated damages for such breach of contract, the sum of **One Thousand Dollars ($1,000.00)** per lane for each day of failure to commence work after the specified time set forth. The amount is fixed and agreed upon because of the impracticability and extreme difficulty of fixing and ascertaining the actual damage the City would in such event sustain.

5. **Within 14 days** after Bid Opening and prior to Award of Bid the successful Contractor will be required to furnish the Engineer with a progress schedule, in a format approved by the Engineer, setting forth in detail the procedure he proposes to follow, and giving the dates on which he expects to start and to complete separate portions of the work. If at any time, in the opinion of the Engineer, proper progress is not being maintained, such changes shall be made in the schedule of operations, which will satisfy the Engineer that the work will be completed within the period stated in the Proposal. Monthly progress meetings will be conducted to maintain coordination between all project entities.

6. The Contractor will be required to provide a full-time, onsite English speaking superintendent for this Project for direct contact with City and coordination of subcontractors. A working foreman is not acceptable as a project superintendent. The superintendent shall be required to be present at the work site whenever the Contractor or subcontractors are performing work. The superintendent shall be a representative of the Contractor with the authority to make decision. If the Contractor shall fail to provide a non-working superintendent on a day when work is being performed, then the Contractor agrees to pay the City, not as a penalty, but as liquidated damages for such breach of contract, the sum of **One Thousand Dollars ($1,000.00)** for each and every calendar day of failure to provide a non-working superintendent at the work site. The said amount is fixed and agreed upon because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the City would in such event sustain.

7. It is further agreed that time is of the essence of each and every portion of this Contract and the specifications wherein a definite and certain time is fixed for the performance of any act whatsoever; and where under the contract an allowance of additional time for completion of any work is made, the new time fixed by such extension shall be of the essence of this Contract.

8. Should the Contractor be delayed in the final completion of the work by any act or neglect of the City of Tulsa, or of any employees of either, or by strikes, injunctions, fire or other cause or causes outside of and beyond the control of the Contractor and which, in the opinion of the Engineer, could have been neither anticipated or avoided, then an extension of time sufficient to compensate for the delay as determined by the Engineer, shall be granted by the City, provided however, that the Contractor shall give the City and the Engineer notice in writing of the cause of the delay in each case on the Extension of Time Request Form enclosed in these documents, and agrees that any such claim shall be fully
compensated for by an extension of time to complete performance of the work included herein.

9. The Contractor shall submit the Extension of Time Request Form with each partial payment application. Failure to submit the Extension of Time Request with a partial payment application shall constitute a complete waiver of any claim for time extension for the period covered by the partial payment.

10. Extension of time may be granted for delays caused by unsuitable weather. Extension of time will not be granted for delays caused by ground condition, inadequate construction force, or the failure of the Contractor to place orders for equipment or materials a sufficient time in advance to ensure delivery when needed. Any extension of time by the City shall not release the Contractor and surety herein from the payment of liquidated damages for a period of time not included in the original contract or the time extension as herein provided.

11. Failure to complete project within specified time, as set forth in the Contract, may be grounds for disqualification for future consideration for contracts with the City of Tulsa.

12. Final Acceptance of the Project will be in strict accordance with ODOT Specification 105.17—Project Completion and Acceptance and ODOT Specification 104.10—Final Cleaning Up and defined as "The date on which the Request for Action (RFA) for final payment has been signed by the Mayor of the City of Tulsa."

13. Contract Evaluation forms will be compiled by City staff upon completion of this Project to provide a record of the Contractor's performance for use in subsequent projects.
SPECIAL PROVISIONS
FOR ADJUSTMENT OF ROADWAY UTILITIES

1. Contractor is to remove the rings and covers of manholes and water valves and the frames and grates of single grate drop inlets and double grate drop inlets. If these items are to be reused, the Contractor is to mark, store and protect these materials for later placement in the exact orientation existing at the beginning of the Project. After removal of these obstructions, the Contractor shall place over each hole 5/8" thick steel plate cut to the proper size as directed by the Engineer. After placement of steel plate, the hole shall be filled with compacted asphalt to the established street grade. It shall be the Contractor's responsibility to make the necessary measurements to ensure that all utilities can be easily located after overlay. After the overlay the Contractor shall raise the utilities to the new grade.

2. Manholes and inlet basins shall be raised or lowered as required by using a solid, continuous layer of bricks and mortar. The upper portion of manhole or basin shall be removed as required for correct raising or lowering adjustment. If existing basin or manhole walls are concrete, the Contractor may dowel apron into wall in lieu of removing the upper portion of wall. Dowels shall be #4, at 1' – 0" O.C. grade 60 steel.

3. All existing I-beams on double or triple grate frames shall be re-established under grates.

4. Where basins or manholes are covered for construction or other purposes, curbs shall be marked with green paint.

5. Silicone construction joint material per Public Works Standards shall be used where concrete aprons meet existing or new concrete pavement. Bituminous construction joint material per Public Works Standards shall be used where concrete aprons meet existing or new asphalt pavement.

6. The Contractor shall place a minimum ½" thick flexible gasket bitumastic sealant material in two concentric rings, along the inside and outside edge of the top of the manhole prior to reinstalling the frame. The gasket shall be E-Z STIK Butyl Rubber Sealant, PRO-STIK Performed Joint Sealant or equal. The material shall be able to withstand hydrogen sulfide and other corrosive gasses. After the frame has been set, a normal ½ coat of trowelable bitumastic joint sealant shall be applied to the entire outside circumference of the manhole. The sealant shall be applied from the top of the lower flange down a minimum of 6" below the frame connection. It shall then be wrapped with a 6 mil plastic to protect against damage from backfill. The trowelable material shall be Joint Mastic Sewer Joint Compound or equal. The cost of the material and labor associated with installing it shall be included in the price bid for manholes, adjust to grade.
PLAN VIEW

SECTION A

LAMPHOLES IN ASPHALT
ADJUST TO GRADE

N.T.S.

ARU-2
PLAN VIEW

SECTION A

WATER VALVES TO GRADE IN ASPHALT STREET

N.T.S.

ARU-3
SPECIAL PROVISION  
FOR SPECIAL SPECIFICATIONS OF  
ASPHALT SPEED HUMPS  

1. GENERAL  

1.1. **Intent and Scope.** Furnish all labor, materials, equipment, tools, transportation and supplies necessary to install a speed hump (singular) or a series of speed humps (multiple) (herein referred to as an Installation) for the City of Tulsa (herein referred to as City), complete and in accordance with these specifications.

1.2. **Description of Work.** The work is as specified by the Engineer in writing on the “Work Order.” Construction traffic control is required.

1.3. **Quantities.** The City does not guarantee any specific quantities. All listed quantities are estimates only. Claims will be processed to cover work as it is completed during the contract period. Bids are to establish unit prices only.

2. WORK PERFORMANCE  

2.1. Use personnel with appropriate experience for placement of construction traffic control, construction layout, forming, spreading and finishing of asphalt mixture, application of pavement marking and sign installation. Contractor is responsible to:

2.1.1. Place construction traffic control in accordance with the latest edition of the *Manual on Uniform Traffic Control Devices (MUTCD)* handbook.

2.1.2. Install materials as-specified on City of Tulsa standards,

• 12' Asphalt Speed Hump,

• 22' Asphalt Speed Hump, and

Oklahoma Department of Transportation standards,
• Square Sign Post Details (SSP-1-1),
• Typical Installation of Ground Mounted Signs (GMS1-1),
• Sheet Sign Assembly Details (SSA1-1), and
• Sign Blank and Bracket Details (SBS1-1), and

Oklahoma Department of Transportation 1999 Standard Specifications for Highway Construction and the Manual on Uniform Traffic Control Devices (MUTCD) handbook, at the location as shown on the “Work Order” and that which is specified herein.

2.1.3. Exercise precaution to minimize damage to existing pavement, sidewalk, landscaping, curb, utilities, guardrail, vegetation, signs, lawn sprinklers, and other appurtenances in the right-of-way. The contractor is responsible for damages in the right-of-way incurred while performing speed hump and traffic calming device installation.

2.1.4. Contractor shall install permanent warning signs no later than five days after the last speed hump is installed in a multiple installation, and shall upon completing sign installation, remove all warning signs, immediately.

2.2. Work Sequence and Construction Traffic Control

2.2.1. At the discretion of the Engineer and depending on the magnitude of the scope, Contractor may be required to submit a written work sequence and construction traffic control plan (CTCP). The plan will be required before commencing work.

2.3. Quality Assurance

2.3.1. Horizontal Alignment

2.3.1.1. Horizontal asphalt hump layout and pavement marking layout shall not deviate more than 3" from centerlines shown on standard drawings and in “Work Order”.

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2.3.2. Vertical Alignment

2.3.2.1. Vertical asphalt hump profile alignment shall not deviate more than ¼"± from thickness shown on standard drawings.

2.3.3. Compaction

2.3.3.1. Compaction acceptance will be based on the Contractor performing compaction as approved by the Engineer to obtain optimum compaction. The 2009 Oklahoma Department of Transportation Specification for Highway Construction, percent of maximum theoretical density requirements are waived. Other parts of the specification remain in effect.

3. PAYMENT

3.1. Method of Measurement. Accepted speed hump quantity shall be measured by the cross sectional linear foot for a 12 or 22-foot hump which includes asphalt concrete, and pavement markings. Sign quantity shall be measured per each by the combination(s) defined per speed hump Installation.

3.2. Basis of Payment. Accepted quantities shall be paid as:

<table>
<thead>
<tr>
<th>SPECIAL</th>
<th>12' Asphalt Speed Hump w/ Pavement Markings</th>
<th>L.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIAL</td>
<td>22' Asphalt Speed Hump w/ Pavement Markings</td>
<td>L.F.</td>
</tr>
<tr>
<td>SPECIAL</td>
<td>Speed Hump (W17-1) Sign &amp; Post1</td>
<td>EA</td>
</tr>
<tr>
<td>SPECIAL</td>
<td>Speed Hump (W17-1) Sign &amp; Post1 w/ Optional Sign (W16-4)</td>
<td>EA</td>
</tr>
<tr>
<td>SPECIAL</td>
<td>Roadside Delineator (OM2-2V) &amp; Post2</td>
<td>EA</td>
</tr>
</tbody>
</table>

1 Square tube size: 2 ¼" (Single)(14 Ga.) 2 Manufacture post in accordance with 1999 Oklahoma Department of Transportation Standard Specifications for Highway Construction, Section 710.02. Install roadside delineator so that top of object marker panel is 4.0 ft. above the near roadway edge.
This work shall consist of the construction of bike path symbols in reasonably close conformity with the Plan Details for “Bike Path Symbol”, “Bike Path Callout”, or as established by the Engineer.

Materials shall be 3M, Series 380 High Performance Tape and Epoxy, Stamark Contact Cement E-44-T. Methods of Construction shall meet ODOT specifications 711.05, 711.07, and 858.04 of the standard specifications.

Construction of bike path symbols will be measured by each complete symbol and shall be paid at the Contract unit price for:

| BIKE PATH MARKINGS | EA |

Which will be full compensation for performing the work specified and the furnishing of all materials, labor, tools, equipment, and incidentals necessary to complete the work as specified.
SPECIAL PROVISIONS
FOR COLD MILLING BITUMINOUS PAVEMENT

1. Contractor will perform milling operation in accordance with ODOT Specifications as stated in Section 417.

2. Contractor will be required to perform the following as a minimum:
   
   A. Milling of Asphalt Pavement per Specifications and Special Provision.
   
   B. Provide all Traffic Control per Specifications and Special Provision.
   
   C. Clean-up Milling Operation as directed by Engineer. This will include removal of unbonded asphalt overlays and sweeping.

3. All streets designated for milling shall be milled as shown on typical sections. If street is full depth Asphalt the depth of cut shall be as specified for each segment. If street is concrete with an Asphalt Overlay then all existing asphalt shall be removed. Boring logs are included as Appendix A. No payment will be made for any additional passes necessary to remove asphalt to the required cross section. Care should be exercised not to mill into the underlying concrete pavement. The Contractor will be responsible for damage to concrete caused by excessive milling.

4. The Contractor shall provide a power operated milling machine capable of planing a minimum depth of three inches in a single pass. The equipment shall be self-propelled with sufficient power, traction and stability to maintain accurate depth of cut and slope. The equipment shall be capable of accurately and automatically establishing profile grades along each edge of the machine by referencing the existing pavement by means of a ski, or matching shoe or from an independent grade control, and shall have an automatic system for controlling cross slope at a given rate. The machine shall be equipped with an integral loading means to remove the material being cut from the pavement surface and to discharge the cuttings into a truck, all in a single operation.

5. Milled material to remain the property of the contractor.

6. The Contractor shall provide butt joints as directed by the Engineer. Wherever the planned overlay of an asphalt street meets existing pavement, or at the end of a paving run, butt joints shall be provided to a depth matching the planned overlay thickness. The transition shall extend a minimum of 10 feet longitudinally from the joint for residential streets and a sufficient length to provide a smooth riding surface for arterial streets. Butt joints will not be paid for directly, but the cost shall be included in the price bid for milling.
7. Entrance and Exit Areas to projects:

After an entrance or exit area has been milled, the Contractor shall construct access ramps. These ramps shall be a minimum of 20' in length and shall be placed across full width of street. These ramps shall be maintained by Contractor and shall remain in place until lanes are closed for overlay. Ramps will be provided at driveways and non-arterial streets as needed to maintain a smooth transition for abutting properties during construction. Ramps will not be paid for directly, but the cost shall be included in the price bid for milling.

8. The existing pavement shall be uniformly milled to provide a uniform texture, true to line, grade and cross section; it shall have no deviations in excess of 3/16 inch in ten feet. Any portion of the planed surface not meeting this requirement shall be corrected in a manner approved by the Engineer.
SPECIAL PROVISIONS
FOR
CONTRACTOR’S QUALITY CONTROL

The units for this project will be those specified in the project plans.

643.01.
DESCRIPTION.
Furnish Quality Control of materials and construction in accordance with the Standard Specifications, Plans and Special Provisions. This includes, but is not limited to preparing and following a Quality Control Plan. Obtain samples and perform tests for Quality Control (and acceptance, when directed by the Engineer). Provide inspection, and exercise management control to produce materials and workmanship that conforms to contract requirements. Unless otherwise noted in the plans, all pavements and bridges (except culverts) will be subject to requirements of any or all of the Special Provisions which are included in this contract.

643.02.
MATERIALS.
Meet materials quality requirements.

643.03.
EQUIPMENT.
Provide equipment at own expense, unless otherwise specified. All equipment and supplies shall conform with Standards and applicable Specifications. Certify the calibration of all equipment.

643.04.
CONSTRUCTION.
a) General. Provide quality of all construction covered in the contract.

b) Quality Control Personnel Qualifications. All personnel directly involved in sampling and/or testing materials for either control or acceptance purposes shall be certified in the appropriate area(s) by the Oklahoma Highway Construction Materials Technician Certification Board. Manager certification for material sampling and testing is not required unless he or she is directly involved in sampling and/or testing materials.

c) Contractor’s Quality Control Plan. Submit a written Quality Control Plan at least one week prior to the pre-work conference. Include the following in the plan:

1. Sources of principal materials including names of suppliers and locations.
2. Names and resumes of key Quality Control personnel.
3. Duties, responsibilities, and authorities (to suspend production, alter mixtures, etc.) granted to key Quality Control personnel.
4. Description of testing laboratories, including qualifications, key equipment and locations.
5. Description of start-up operations, including but not limited to:
   a. Review of submittal requirements and all other Contract requirements with the performance of the work.
   b. Examine the work area to ascertain that all preliminary work has been completed.
   c. Verify all field dimensions and advise the Engineer of any discrepancies.
6. Detailed testing schedule based on production.
7. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification requiring the test, feature of work to be tested, and person responsible for each test.
8. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.

d) **Sampling and Testing.** Perform sampling and testing according to the accepted Quality Control plan using personnel certified in appropriate areas and laboratories approved by the Engineer. Keep laboratory facilities clean and maintain all equipment in proper working condition.

e) **Inspection.** Provide inspection necessary to ensure compliance with applicable standards and specifications.

f) **Records.** Maintain complete testing and inspection records and make them accessible to the Engineer.

1. **Test Results.** Maintain control charts that identify the project number, contract item, test number, each test parameter, the upper and/or lower specification limit applicable to each test parameter, and the test results. Use the control charts as part of the Quality Control system to document process variability, to identify production and equipment problems, to make necessary corrections, and to identify potential pay factor adjustments.

   i. Post control charts in an accessible location, keep them up to date, and make them available to the Engineer upon request. Make corrections to the process when problems are evident, including ceasing production if necessary.

2. **Inspection Results.** For each day of work, prepare an “Inspector’s Daily Record of Construction Operations” on an approved form. Include the following certification signed by the person with overall responsibility for the inspection system:

   i. “It is hereby certified that the information contained in this record is accurate, and that all work documented herein complies with the requirements of the contract. Any exceptions to this certification are documented as a part of this record.”

3. Submit the record and certification to the Engineer within two working days of the work being performed. If the record is incomplete, in error, or otherwise misleading, a copy of the record will be returned with corrections noted. When chronic errors or omissions occur, correct the procedures by which the records are produced.

g) **Use of Contractor Test Results for Acceptance Purposes.** Abbreviated test procedures are allowed for Contractor use. The Quality Control Plan shall list all abbreviated test procedures, describe all deviations from standard procedures for each, and note their intended purpose. Test results from abbreviated procedures will not be used for any purpose by the City of Tulsa. It is the Engineer’s discretion to use or not use any of the Contractor’s test results for acceptance purposes.
h) **Changes.** Submit, in writing, all proposed changes in key Quality Control personnel, equipment or procedures from those previously approved by the Engineer. Submit written changes at least one week prior to the proposed action.

643.05. **METHOD OF MEASUREMENT.**
Payment for Contractor’s Quality Control will be measured on a lump sum basis.

643.06. **BASIS OF PAYMENT.**
Accepted Contractor’s Quality Control measured for payment as prescribed above will be paid for at the Contract unit price for:

**CONTRACTOR’S QUALITY CONTROL ......................................LUMP SUM**

This payment will be full compensation for furnishing all materials, facilities, equipment, labor and incidentals to complete the work.

Subject to acceptable performance, payment for Contractor’s Quality Control will be made in accordance with the following schedule:

- **25%** on the next estimate after the Engineer’s approval of the Contractor’s Quality Control Plan and other required initial documentation
- **plus 25%** when 50% of the work subject to Quality Control requirements is complete
- **plus 25%** when 75% of the work subject to Quality Control requirements is complete
- **plus 25%** when all test results and records related to Quality Control work have been furnished to and accepted in writing by the Engineer

As stated above, this payment is based upon acceptable performance. Payment will be reduced for unacceptable portions of the Quality Control work. Serious deficiencies in Quality Control work may result in the project being shut down.
SPECIAL PROVISIONS
FOR COLD WEATHER CONCRETE CURING

Placement of asphalt on street cut repair sections of cold weather concrete or opening of street cut repair sections of cold weather concrete to traffic shall be allowed when the concrete achieves a compressive strength of 3,000 pounds per square inch (psi). Construction equipment loads shall not be applied to the concrete repair section until the 3,000 psi compressive strength is achieved.
SPECIAL PROVISIONS
FOR COLD WEATHER CONCRETE PLACEMENT

1. When early traffic placement on a repair is required, the following guidelines are provided as a minimum to assure required strength during cold weather. The Contractor is responsible for the protection and quality of concrete placed during all weather conditions. If circumstances occur which preclude following these guidelines, lower early strength may result in delays in opening areas to traffic as desired.

2. Ice, snow, and frost must be removed from the cut prior to placement of concrete. Concrete should not be placed on frozen subgrade. Removal of frozen subgrade will be paid as unclassified excavation.

3. Fresh concrete temperatures shall be a minimum of 65°F and a maximum of 90°F at time of placement. Hot mix water and preheated aggregate may be necessary to accomplish the minimum temperature during extremely cold weather. The minimum ambient temperature at time of placement should be at least 30°F.

4. Insulated blankets should be placed immediately when average daily temperatures are below 50°F or when minimum ambient temperatures are anticipated below 40°F during the curing period and left in place until opening to traffic. Insulated blankets shall be MA KA closed cell insulated blankets or approved equal. The insulated blankets shall have a minimum R-value of 2. Cost of insulated blankets shall be included in the price bid for the concrete where they are used.

5. Strict compliance with mix design slumps must be achieved to reach early strengths. "Drying out" of excessive slump mixes will not be allowed to reduce the slump.

6. All cold weather practices also apply to cementitious backfill material, except that blankets will not be required.
SPECIAL PROVISIONS
FOR CRACK SEALING OF AC STREETS
WITH RUBBERIZED ASPHALT

All cracks from ¼” wide to 1” wide shall be routed, blown and filled with rubberized asphalt by use of a melter-applicator as described in ASTM D3405 XI.I. If the manufacturer of the sealant has specifications that exceed those of ASTM D3405, then the manufacturer's specifications will be used.

Fill cracks to within 1/8 inch below pavement surface and blot any excess with approved material (no ridges).

Sealant material shall meet the requirements of ODOT 701.08 “Joint Fillers and Sealers” and meet or exceed ASTM D3405-78.

Asphalt crack seal will be measured by the linear feet of cracks that are sealed, excluding the areas that are patched.

The accepted quantities measured as provided above will be paid for at the Contract unit price as asphalt crack seal by the linear feet of cracks that are sealed, excluding the areas that are patched, which shall be full compensation for furnishing all materials, equipment, labor and incidentals to complete the work specified.

Approval of Joints: At the City of Tulsa’s request, a representative of the sealant supplier will be on site at the beginning of the final cleaning and sealing of the joint to demonstrate to the Contractor and to Inspection the acceptable standard for installation of the sealant. No sealing shall commence until the manufacturer’s representative has approved the joints. Failure of the sealant to bond to the joint/crack surfaces will be cause for rejection and repair shall be at the Contractor’s expense.

Submittals: No work shall begin until the Contractor has submitted the following to the City as a minimum:

A. Manufacturer’s Material Specifications
B. Manufacturer’s Installation Specifications
C. Manufacturer’s Joint/Crack Dimension Specifications.

Concrete curb: Concrete curb and combined curb and gutter to be removed and replaced shall receive joints per ODOT Specification 609.04(e) and be sealed with silicone. Costs for joints and sealer to be included in the unit price bid for either concrete curb or combined curb and gutter.

All sawing necessary for sealing shall be included in the cost of the sealant where used.

CSAS - 1
SPECIAL PROVISIONS
FOR SPECIAL SPECIFICATION
OF HANDICAP RAMP

This work shall consist of the construction of concrete handicap ramps in reasonable close conformity with the location, lines and grades shown on the Standard Drawing for "Typical Curb Ramp" or established by the Engineer.

Materials and Methods of Construction shall meet ODOT specification 610.02 and 610.04 of the standard specifications.

The subgrade for ramps shall be compacted to a density of 90% standard density for depth of 6".

The minimum thickness of concrete on any portion of the ramp shall be 6" except in that portion of the ramp which extends over the pavement, which shall be 8".

The handicap ramp shall be flush where it meets the street. This will supersede the standard drawing.

The handicap ramps shall be installed according to City of Tulsa Standard Drawing No. 790—Standard Sidewalk Ramp.

Construction of handicap ramps will be measured by each ramp and shall be paid for at the contract unit price for:

HANDICAP RAMP EA.

Which shall be full compensation for performing the work specified and the furnishing of all materials, labor, tools, equipment and incidental necessary to complete the work as specified. Aggregate base, truncated domes and pipe railing, if necessary, shall be paid for separately.
SPECIAL PROVISIONS
FOR SPECIAL SPECIFICATION
OF HIGH EARLY STRENGTH CONCRETE

DESCRIPTION

This work shall consist of furnishing and placing, High Early Strength Concrete.

MATERIALS

High Early Strength Concrete shall conform to Section 701, Portland Cement Concrete, of the Oklahoma Department of Transportation (ODOT) Standard Specification for Highway Construction, Current Edition, with the following modifications:

- Air Content: 5-7 percent
- Maximum Water - Cement Ratio: 0.41
- Slump: 1-3 inches

Batching shall measure the weights of each material required within a tolerance of one percent for cement and two percent for aggregates (account for moisture content). The quantity of water used shall be within plus or minus one percent of that required by the design. Water may be measured either by volume or by weight. All materials shall be used in strict accordance with the manufacturer's recommendations.

Submittals shall be delivered to the City of Tulsa at a date set by the Engineer. Submittals shall include the items outlined in ODOT Specification 701.03.

CONSTRUCTION METHODS

The concrete shall be mixed between 70 to 100 revolutions of the ready-mix truck. Mixing shall be in a mechanical mixer capable of combining the aggregates, cement, and water into a thoroughly mixed and uniform mass within the manufacturer's specified mixing period. There shall be no water in the mixing drum prior to adding the aggregates.
Following are the testing requirements for the High Early Strength Concrete mix:

Compressive Strength:\(^1\)  2,500 pounds per square inch (psi) – 12 hours
                        3,000 psi – 24 hours

  Slump:     1 inch minimum
              3 inches maximum

  Air Content:  5-7 percent

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\(^1\) During cool weather (less than 50 degrees Fahrenheit), specimens shall be cured in a fully insulated closed box.

During moderate weather (between 50°F and 80°F), specimens shall be cured in both open and fully insulated closed boxes with compressive strength tests performed on specimens from each curing box.

During warm weather (greater than 80°F), specimens shall be cured in a closed box placed in a shaded area.
SPECIAL PROVISIONS
FOR HOT MIX ASPHALT

DESCRIPTION

This work shall consist of furnishing and placing Hot Mix Asphalt.

MATERIALS

Hot Mix Asphalt shall conform to Section 708, Plant Mix Bituminous Bases and Surfaces, of the Oklahoma Department of Transportation (ODOT) Standard Specification for Highway Construction, Current Edition, with the following modifications to Table 708:6

<table>
<thead>
<tr>
<th></th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Cement</td>
<td>5.0</td>
<td>6.0</td>
<td>6.0</td>
</tr>
</tbody>
</table>
| % of mix mass     | (greater than or equal to )

Submittals shall be delivered to the City of Tulsa at a date set by the Engineer. Submittals shall include the test results of the physical properties of the aggregate and asphalt cement as outlined in ODOT Specification 708.
SPECIAL PROVISIONS
FOR JOINT / CRACK SEAL OF PCC STREETS WITH SILICONE

All joints from ¼" wide to 1" wide shall be sawed, blown and filled with silicone in accordance with ODOT Specifications 419. All random cracks shall be cleaned by suitable tools (no routing), blown and filled with silicone that meets ODOT specification 701.08G.

Sealing Instructions: All aspects of the material application shall as a minimum meet the specifications of ODOT 701.08G. When material covered by that specification is used for maintenance or resealing of joints that have previously contained either similar or dissimilar sealing material, it is required that the joint be dry, cleaned thoroughly with a plow, wire brush, concrete saw, or other suitable tool or tools that are designed for the purpose of neatly cleaning pavement joints. Loose material shall be blown out. The sidewalls of the joint space to be sealed shall be thoroughly sandblasted, blown free of loose sand with high-pressure air and then sealed with sealant. If the manufacturer of the sealant has specifications that exceed those of ODOT 701.08G, then the manufacturer’s specifications will be used.

Joint Shape Requirements: Specifications for the dimensions of joints and cracks shall be the same as those recommended by the sealant manufacturer.

Sealant Material: The construction of concrete joint rehabilitation shall meet the requirements of ODOT 701.08. "Joint Fillers and Sealers", except that the sealant material for concrete joint/crack rehabilitation shall meet or exceed the requirements of ODOT 701.08G.

Method of Measurement: Concrete joint rehabilitation and concrete crack seal will be measured by the linear feet of joints/cracks that are sealed, excluding the areas that are patched.

Basis of Payment: The accepted quantities measured as provided above will be paid for at the Contract unit price for Crack and Joint Sealer by the linear feet of joints/cracks that are sealed, excluding the areas that are patched, which shall be full compensation for furnishing all materials, equipment, labor and incidentals to complete the work specified. All sawing necessary for sealing shall be included in the cost of the sealant where used.
Approval of Joints: At the City of Tulsa’s request, a representative of the sealant supplier will be on site at the beginning of the final cleaning and sealing of the joint to demonstrate to the Contractor and to Inspection the acceptable standard for installation of the sealant. No sealing shall commence until the manufacturer’s representative has approved the joints. Failure of the sealant to bond to the joint/crack surfaces will be cause for rejection and repair shall be at the Contractor’s expense.

Concrete Curb: Concrete curb and combined curb and gutter to be removed and replaced shall receive joints per ODOT specification 609.04(e) and be sealed with silicone. Costs for joints and sealer to be included in the unit price bid for concrete curb and gutter. The sealant for the curbs shall meet the requirements of ODOT 701.08F.

Submittals: No work shall begin until the Contractor has submitted the following to the City as a minimum:

A. Manufacturer’s Material Specifications
B. Manufacturer’s Installation Specifications
C. Manufacturer’s Joint/Crack Dimension Specifications
D. A 3 Year History of Sealing Projects
SPECIAL PROVISION
MINIMUM ASPHALT RETAINED STRENGTH

This Special Provision revises, amends, and where in conflict, supersedes applicable sections of the 2009 Oklahoma Department of Transportation Standard Specifications for Highway Construction, (ODOT).

The "% Retained Strength, min." for asphalt as listed in ODOT Section 708 TABLE 6A "PROPERTIES OF LABORATORY MOLDED SPECIMENS" shall be 80%.
SPECIAL PROVISIONS
OWNER ALLOWANCE

The "Owner Allowance" may be used for various work and miscellaneous items not specifically identified in the Contract Documents with the following provisions:

A. The allowance shall be used for cost of design and construction, including all materials, labor, equipment, profit and overhead, of work items not specifically identified in the Construction Documents, or included in original pay items bid for the contract.

B. The allowance shall be utilized only at the discretion of the City of Tulsa. Any balance remaining at the completion of the Project will be retained by the City of Tulsa.

C. The Contractor shall provide, to the City of Tulsa, a written request for the use of any allowance, including a schedule of values and associated backup information, including validity of need, materials, labor, equipment, and time required to perform the associated work.

Contractor shall proceed with the allowance work only after receiving written permission from the City of Tulsa. Proceeding with associated allowance work without written permission from the City of Tulsa will be at the Contractor's sole expense.
SPECIAL PROVISIONS
FOR PATCHING OF CONCRETE AND ASPHALT STREETS

The City of Tulsa Standards for street cut and repair shall be followed for materials and procedures except as modified here.

Patching
Instructions: Portland Cement concrete patches will be protected from all traffic for a period of 24 hours before removal of protective devices. Sawing of the patches is required. The area to be removed shall be marked by the Contractor under the direction of the Resident Inspector. The Contractor will provide personnel and equipment for making of patches as directed by Resident Inspector. When completed, the patch shall be level and provide a smooth riding surface. All asphalt patch work will require that asphalt rollers and an asphalt laydown machine be available for use on the job as directed by the engineer. The minimum size of any patch shall be 3’ x 3’.

Testing of
Materials: The frequency of testing shall be as follows:

Subgrade Compaction: A minimum of one (1) density test of the subgrade shall be done per patch.

Concrete: Three cylinders shall be taken from every 50 cubic yards of concrete and tested for compressive strength.

Asphalt: Compaction and extraction tests shall be taken a minimum of every 50 tons of asphalt.

Weather
Limitations: The minimum temperature of the foundation course on which asphalt concrete may be laid shall be as shown in the following table:

<table>
<thead>
<tr>
<th>Compacted Lift Thickness (inches)</th>
<th>Surface Temperature (minimum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 or more</td>
<td>40° F</td>
</tr>
<tr>
<td>1 ½ to 3</td>
<td>45° F</td>
</tr>
<tr>
<td>less than 1 ½</td>
<td>50° F</td>
</tr>
</tbody>
</table>

Asphalt
Materials: All asphaltic concrete used for this Project shall meet the specifications of ODOT Section 708. Under the paragraph, “Course Aggregates”, the

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following sentence shall be added: When tested for soundness, the number of cycles shall be five (5), the solution shall be Na2 SO, the maximum loss shall be 10%.

Type I Patch
Subgrade
Replacement: Shall consist of the removal of subgrade material as measured from the bottom of the existing pavement. The removed subgrade material shall be replaced with separator fabric meeting the requirement of ODOT Section 325 and aggregate material meeting the requirement of ODOT Section 703.01 Type “A”. The existing subgrade shall be compacted to 95% standard proctor density per AASHTO T-99 and the aggregate material shall be compacted to 98% modified proctor density per AASHTO T-180-86 Method as measured by the Nuclear Density Method. Compaction shall be done with a roller or vibratory hand tamper. Certain situations may require substitution of Quick-set Fill Concrete for aggregate material. Fill concrete specifications are shown on the Standards for Pavement Cut and Repair. Separator fabric shall be used at all full depth pavement patches where aggregate base is required, as directed by the Engineer. The fabric shall be cut or overlapped to fit the size of the patch. These items will be paid separately from the bid item for patching.

Type A Aggregate
Base: This material shall have the following gradation, which is ODOT Section 703-01 Type “A”.

<table>
<thead>
<tr>
<th>Sieve (mm)</th>
<th>% Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ½ in. (37.5)</td>
<td>100</td>
</tr>
<tr>
<td>¾ in. (19.0)</td>
<td>40 – 100</td>
</tr>
<tr>
<td>3/8 in. (9.5)</td>
<td>30 – 75</td>
</tr>
<tr>
<td>No. 4 (4.75)</td>
<td>25 – 60</td>
</tr>
<tr>
<td>No. 10 (2.00)</td>
<td>20 – 43</td>
</tr>
<tr>
<td>No. 40 (0.425)</td>
<td>8 – 26</td>
</tr>
<tr>
<td>No. 200 (0.075)</td>
<td>4 – 12</td>
</tr>
</tbody>
</table>

Type I Patch in PCC Pavement: When the patch is made in PCC, the pavement shall be cut with a concrete saw full depth before removal of existing pavement. The area to be patched shall be delineated in a straight-line geometric pattern. Placement of the subgrade stabilization material shall be in accordance with the paragraph; “Type I Patch Subgrade Replacement”. After
placement of the subgrade stabilization, the pavement shall be replaced with Class A High Early Strength concrete containing 4 to 6 percent air entrainment. The concrete shall have a maximum 3” slump. The concrete shall be placed in accordance with the detail in the drawings titled “Type I PCC Patch”. The new concrete shall have a flat finish and match the grade of the adjacent pavement. Existing joint patterns shall be reestablished and sealed as specified. The concrete shall be sprayed with curing compound and protected from traffic a minimum of 24 hours. Cold Joints around the perimeter of the patch shall be sawed and sealed with silicone in accordance with ODOT specification 701.08(E). All sawing, pavement removal, and sealing costs shall be included in the bid item for patching, H.E.S. concrete.

**Type I Patch in Asphalt Pavement:** When the patch is made in asphalt, the pavement shall be cut with a concrete saw full depth before removal of existing pavement. The area to be patched shall be delineated in a straight-line geometric pattern. Placement of the subgrade stabilization material shall be in accordance with the paragraph; “Type I Patch Subgrade Replacement”. After placement of the subgrade stabilization material, the pavement shall be replaced in accordance with the detail in the drawings titled “Type I AC Patch”, a minimum of 8” or existing paving thickness, whichever is greater. All asphalt materials shall meet the specifications of ODOT 708 Plant Mix Bituminous Bases and Surface. The asphalt shall be placed and compacted in maximum 3” lifts. The edges of the patch shall be tacked prior to the placement of asphalt. The asphalt shall be compacted to 92% minimum density as determined by AASHTO T-209 Method. The patch shall be stringlined as required and all areas not matching the adjacent grade shall be immediately corrected. Cold joints around the perimeter of the patch shall be sawed and sealed with rubberized asphalt. All sawing, pavement removal, replacement, and sealing costs shall be included in the bid item for patching, AC.

**Type I Patch in APC Pavements:** Patching of PCC pavements with an asphalt overlay shall be performed as follows: Placement of the asphalt portion of the patch shall be in accordance with the paragraph “Type I Patch in Asphalt Pavements”. Placement of the PCC portion of the patch shall be in accordance with the paragraph “Type I Patch in PCC Pavements”. Placement of the subgrade stabilization material shall be in accordance with the paragraph “Type I Patch Subgrade Replacement”. After placement of the subgrade stabilization material, the pavement shall be replaced in accordance with
the detail in the drawings titled "Type I APC Patch". Payment will be made separately for each of the three materials: Type "S4" AC, H.E.S. PCC and Aggregate Base. Initial sawing, pavement removal and sealing costs shall be included in the bid items for patching as listed above. Additional sawing required to go from a Type "III" to a Type "I" patch shall be included in the bid items for H.E.S. PCC.

Type II Patch
In APC
Pavement: The asphalt overlay shall be removed prior to sawing through the PCC Pavement to determine if only the asphalt needs to be patched. Sawing of the asphalt is required, but should not penetrate the PCC pavement. If the PCC pavement needs to be replaced, a Type "I" APC patch shall be made. Payment will be made for Type "S4" or Type "S5" AC only. If only the asphalt is removed, initial sawing, pavement removal, and sealing costs shall be included in the bid items for asphalt concrete.
SPECIAL PROVISION
FOR
PAVEMENT AND BRIDGE DECK SMOOTHNESS
(ENGLISH)

These Special Provisions amend and where in conflict, supersede applicable sections of ODOT's 2009 Standard Specifications for Highway Construction, English and Metric. Units of measurement are provided in the subsections in both English and Metric equivalents. The units for this provision will be those English equivalents.

These Special Provisions apply to all types of Portland cement and asphalt concrete pavements as well as bridge decks constructed as part of this contract or as specified on the Plans.

430.01. DESCRIPTION.
This section establishes procedures for determining acceptability as it relates to smoothness requirements of pavements and bridge decks. The equipment and testing applicable to this Section shall be provided and/or operated by the party or parties designated by the City.

430.03. EQUIPMENT AND PERSONNEL.
Smoothness measurement equipment to be used for control and for acceptance testing shall include either The California Profilograph or The Lightweight Profilometer as described below. Such equipment shall be certified by the Department.

a) Profilograph. A California type profilograph produces a smoothness profilogram (or profile trace) of the surface tested. The equipment used shall be supported on multiple wheels having no common axle. The wheels shall be arranged in a staggered pattern such that no two wheels cross the same bump simultaneously. The profile is recorded from the vertical movement of a sensing wheel attached to the frame at the midpoint and is in reference to the mean elevation of the twelve points of contact with the road surface established by the support wheels.

The strip chart recorder shall be mounted on a lightweight frame 25 feet long. The relative smoothness/roughness of the pavement or bridge deck shall be measured by recording the vertical movement of a 6-inch or a larger diameter-sensing wheel attached to the midpoint of the frame.

The recorded graphical traces of the profile (termed the "profilogram") shall be on a scale of 1-inch equals 1 inch for the vertical motion of the sensing wheel. The profilogram shall be driven by the chart drive on a scale of 1 inch of chart paper equal to 25 feet of longitudinal movement of the profilograph.

b) Lightweight Profilometer. The profilometer equipment shall be mounted on a lightweight, motorized vehicle such as an All-Terrain Vehicle (ATV), Golf Cart, or
other approved vehicle. The vehicle profilometer equipment, and operator shall be capable of running on "green" concrete without causing damage. The profilometer equipment shall include an onboard, precision accelerometer which measures movement of the light weight and a non-contact vertical distance sensor mounted on the vehicle. The vertical distance sensor may be either infrared or laser type. The profilometer shall be capable of making all of the measurements and providing the information required in 430.04(b) "Evaluation" of this special provision. Additionally, the profilometer shall measure the road profile in accordance with ASTM E950-98, Class I.

c) Calibration. The profilograph or profilometer shall be calibrated within the following limits. Horizontal measurements shall be within ±5 feet per 1,000 feet of distance tested. Vertical measurements shall be the same as those of the calibration blocks measured. A profilograph and profilometer Calibration Report shall be submitted to the Engineer each time the calibration is performed. The calibration shall be performed no more than one week prior to collection of smoothness data and repeated at the Engineer's direction at any time during the Project.

d) Profilograph or profilometer Operator. The City shall provide a profilograph or profilometer operator, certified by the Oklahoma Highway Construction Materials Technical Certification Board to perform all profilograph or profilometer measurements as well as interpreting and analyzing produced profilograms at no cost to the Contractor.

430.04. CONSTRUCTION.

a) Surface Testing. The Contractor shall provide traffic control as necessary for all smoothness measurements regardless of who provides and/or operates the equipment. The surface will be tested as soon as possible after completion of the work. For overlay projects when milling is not required, the surface will be tested immediately before construction and as soon as possible after completion of the work in order to determine the percent reduction in the profile index. Profilometer readings or profilograph traces are to be collected from 25 feet prior to the beginning point of a project, including any exception areas, and run continuously through all bridges and changes in the pavement types to a point 25 feet beyond the ending point of a project, including any exception areas.

Testing shall include all mainline paving and bridge decks. Smoothness deviations occurring at construction and expansion joints will be considered in calculations of profile index and in identification of bumps.

All objects and foreign material on the surface shall be removed by the Contractor prior to testing. Protective covers, if used, shall be removed prior to testing and will be properly replaced by the Contractor after testing. Testing for smoothness shall produce a final trace; a second trace shall be made on segments on which allowable surface corrections have been made.
The profilograph shall be propelled at a speed not to exceed 3 miles per hour. Data shall be gathered at lower speeds if the pavement or bridge deck is rough or profilograms are not being produced clearly.

The profilometer shall be operated at a constant speed as recommended by the manufacturer. The sequence of position of the pavement or bridge deck to be tested will be one pass per driving lane in the wheel path farthest from the edge of a pavement or bridge deck.

Additional profiles will be taken only to define the limits of an out-of-tolerance surface variation. The evaluations shall include graphical traces of the profiles and the disks from which they were derived. The testing and evaluation will be done by a trained and certified operator and the evaluation will be so certified. The City reserves the right to verify the testing and/or evaluation. In case of differences the City's results shall be considered final. If the Contractor's results are found to be significantly in error, the City may assess the cost of the verification efforts.

b) Evaluation.

1. **Profile Index.** Unless otherwise specified in Special Provision 431-3QA, a profile index shall be calculated from the profilogram for a pavement or bridge deck on 528 feet extents or entire lengths of bridges (including approach slabs) whichever is less. The index shall be calculated using a computerized profilogram reduction system. It is understood that stations reflected by automated profilogram interpretation systems are approximate and a further survey in the field may be required to establish bump locations. The index is calculated by summing the vertical deviations outside a 0.2-inch blanking band as indicated on the profile trace. The units of this measure (inches) will be converted into inches per mile. An extent is defined as the amount of pavement or bridge deck in a 528 feet or the entire bridge deck plus both approaches in length, whichever is less. When the quantity represented is less than a full extent in length, it will be combined with an adjacent extent or treated as a separate extent, at the option of the Contractor.

2. **Bumps.** Bumps will appear as high points on the profile trace and correspond to high points on the pavement or bridge deck surfaces. Unacceptable bumps are defined as those with vertical deviations in excess of 0.60 inch (without using a blanking band) in a 25-foot span.

3. The following will not be excluded from the smoothness requirements:
   (a) Shoulders
   (b) Ramps
   (c) Turn Lanes

PBDS-3
(d) Acceleration, deceleration and climbing lanes less than 528 feet full width.

(e) Pavement with horizontal centerline curves with radii of less than 1000 feet and the super elevation transitions of such curves.

(f) In overlays only, areas in roadway within a 10 foot radius of existing inlets and utility covers. (This exception does not apply to full depth pavements.)

(g) Short isolated pavement areas, which by normal industry practice would require handwork.

Examples include driveway blockouts, phased intersection work with variable cross slope, etc.

For the above exceptions, the profile index and adjustments calculations corrections specified in this Special Provision, will not apply. However, the requirements for mandatory correction of bumps as defined in this Special Provision and tolerances defined in subsection 401.04 of the Standard Specification for Highway construction will remain in effect.

4. Special Evaluation Requirements. Bridge approach slabs will be evaluated in accordance with bridge deck smoothness requirements. New pavements and overlays within 25 feet of bridges or their approach slabs, 25 feet of beginning and ending stations of the Project, or 25 feet of changes from portland cement concrete to asphalt concrete or vice versa will not be excluded from profile index calculation. However, the requirements for mandatory correction of bumps as defined in this Special Provision and tolerances defined in subsection 401.04 of the Standard Specification for Highway Construction will remain in effect.

(c) Surface Correction. Unless otherwise permitted by the Engineer, in writing, all new pavements, overlaid pavements (with or without prior cold milling) and bridge deck surfaces having profile indices in excess of the acceptable limits of 13.0 in/mile for all streets and 27.0 in/mile for all bridges or having individual bumps with deviations in excess of 0.60 inch in a 25 foot span shall be corrected by the Contractor at no additional cost to the City. Such corrective actions shall NOT include any grinding of metal expansion joints, themselves, but may include grinding of concrete in the vicinity of the joints.

All corrective action, including the identification and correction of bumps, shall be in accordance with the requirements of the Standard Specifications and shall be subject to the approval of the Engineer. The surfaces of ground asphalt pavements shall be fog sealed. The surfaces of corrected areas shall be retextured to be similar to that of the adjacent sections of pavement or bridge deck and shall exhibit good workmanship and be neat in appearance. Cores for thickness determinations and measurement of cover of reinforcement steel will be taken subsequently to all corrective work.
SPECIAL PROVISIONS
FOR PAVING OPERATIONS

1. If the width of a street is such that it exceeds the paver’s ability to pave one-half the street width another paver will be required and shall be operated so as to lay asphalt on at least one-half of the street width at a time.

2. The longitudinal joint shall run parallel to the approximate center of the street. Transverse joints shall be kept to a minimum. If it becomes necessary to stop the paving operation short of the end of the job then the two transverse joints shall be no farther apart than 6’.

3. If for any reason the Contractor is unable to pave one-half the width of the street with one paver, paving operations shall cease.

4. A paving plan, indicating sequence of paving passes, pass widths, pass thickness, and requested temporary street closures, will be submitted prior to paving.

5. Once paving begins the Contractor should have sufficient trucks available to deliver asphalt materials in a continuous operation.

6. Adequate transitions to side streets and driveways must be provided. In general, paving shall extend to the returns of all side streets. Special consideration should be given to preventing ponding in side street intersections.

7. The contractor shall provide butt joints as directed by the Engineer. Wherever the planned overlay of an existing street meets existing pavement, or at the end of a paving run, butt joints shall be provided to a depth matching the planned overlay thickness. The transition shall extend a minimum of 10 feet longitudinally from the joint to provide a smooth riding surface. Butt joints will not be paid for directly but the cost shall be included in the cost of the paving operations where they are used.

8. Contractor shall not drive empty or loaded trucks or equipment across newly paved areas for the construction period.

9. A leveling or “wedge” course may be required to establish the required to cross-slope for the finished overlay. This item of work will be paid for separately under the bid item designated as Asphalt Concrete Type “S5” in tons.
SPECIAL PROVISIONS
PERMANENT TRAFFIC SIGNS

PART 608 - TRAFFIC SIGNS

608.1 GENERAL

608.1.1 This work shall consist of furnishing materials and installing traffic signs in accordance with these specifications and in reasonably close conformity with the location and dimensions shown on the Standards, Plans or established by the Engineer.

608.1.2 Signs shall be designed in accordance with the 2009 Manual on Uniform Traffic Control Devices (MUTCD) with revisions and the 2004 FHWA Standard Highway Signs (2012 Supplement to the 2009 MUTCD).

608.1.3 Street name sign proofs shall be submitted to the Traffic Engineer for review and approval prior to fabrication.

608.2 MATERIALS

608.2.1 General

Signs shall be composed of aluminum metal sheeting overlaid with cut-out film and a reflective sheeting material. Mounting shall be with posts, hardware and brackets as specified.

608.2.2 Sheet Aluminum

Provide 0.080-ga sheet aluminum signs in accordance with ASTM B 209, alloy 6061-T6 or alloy 5052-H38 with mill finish. Use the dimensions, filleted corners, and hole sizes and locations as shown on the sign standards. Ensure panels are flat and straight within commercial tolerances. Treat sheet aluminum signs with a chromate type chemical conversion coating in accordance with ASTM B 449, Class II.

608.2.3 Reflective Sheeting

Post-Mounted Signs: Sheeting shall be High Intensity Prismatic meeting ASTM D4956 Type III / IV (3M 3930 or approved equal).

Mast-Arm Mounted Signs: Sheeting shall be Diamond Grade meeting ASTM D4956 Type XI (3M DG3 or approved equal).

All sheeting shall have a Class I adhesive backing.
608.2.4 Overlay
Electronic cuttable sign film designed for use with electronic sign plotters (3M ElectroCut Series 1170 Film, or approved equal).

608.2.5 Mounting Hardware
Bolts, nuts, washers, brackets, and all other hardware needed for mounting shall be suitable for long-term outdoor use.

A) Bolts: 5/16" x 3", hex head

B) Nuts: flanged, self-locking, size as needed

C) Washers: ¾" O.D., maximum

D) Brackets: for mast-arm mounting, use a prefabricated mounting system (Pelco Structural Astro-Brac® or approved equal). See COT Standard 616.

608.2.6 Posts
Sign posts shall be perforated square tube (Telespar® or approved equal). Signs shall be composed of new hot-rolled carbon sheet steel, structural quality, ASTM A 1101. Provide a finish that is in-line, hot-dip galvanized zinc coating in accordance with AASHTO M120, followed by a chromate conversion coating, and a clear organic exterior coating. Provide posts with ½-in. (± 1/16-in.) diameter holes spaced 1-in. on center along the center of each of the four sides.

608.3 CONSTRUCTION METHODS

608.3.1 General
Construction methods shall involve fabrication and mounting of the sign to the appropriate type mount.

608.4 METHOD OF MEASUREMENT

608.4.1 Signs of the size and type specified will be measured by the square foot of area of the vertical front face with no deduction for rounded corners or bolt holes.

608.4.2 Posts of the size specified will be measured by the linear foot between the ends of the installed post.
608.5 BASIS OF PAYMENT

608.5.1 Accepted signs, measured as provided above, will be paid for at the contract unit price as follows:

608.5.2 SIGNS

GROUND SIGN ........................................ SF
OVERHEAD SIGN ................................. SF

Such payment shall be full compensation for furnishing all materials, equipment, labor and incidentals required to complete the work as specified.

608.5.3 POSTS

1-1/2" SIGN POST ............................... LF
1-3/4" SIGN POST ............................... LF
2" SIGN POST ................................. LF

Such payment shall be full compensation for furnishing all materials, equipment, labor and incidentals required to complete the work as specified.
SPECIAL PROVISIONS
FOR
PRICE ADJUSTMENT FOR ASPHALT BINDER

These Special Provisions revise, amend, and where in conflict, supersede applicable sections of the 2009 Oklahoma Department of Transportation Standard Specifications for Highway Construction. Units of measurements are provided in the subsections in both English and metric equivalents. The units for this project shall be those specified in the project plans.

(add the following:)

109.12 PRICE ADJUSTMENT FOR ASPHALT BINDER.
A price adjustment clause is included in this contract to provide additional compensation to the Contractor or a credit to the City of Tulsa for fluctuations in asphalt binder process. This price adjustment is dependant upon a change in the average price of asphalt binder which results in an increase or decrease in the price of products utilized on this project.

a) Payment will be made to the contractor for monthly fluctuation in the cost of asphalt binder used in performing the applicable items of Asphalt Concrete work as listed in the table below when the asphalt binder cost fluctuates by more than 3% from the base price defined below. Payments may be positive, negative, or nonexistent depending on the circumstances. Payments or deductions will only be calculated on that portion of the asphalt binder cost fluctuation that exceeds the 3% specified above. Payments or deductions for the asphalt binder cost adjustment will be included in the contractor’s progressive estimates; and the payments or deduction authorized for each estimate will be based upon the algebraic difference between the quantities for applicable items of work.

b) The Asphalt Binder Cost Adjustment (ACA) for the current estimate will be computed according to the following formula:

\[
ACA = Q \times F \times D
\]

Where

\begin{align*}
ACA &= \text{Asphalt binder cost adjustment, in dollars;} \\
Q &= \text{The algebraic difference between the quantities for the applicable items on the current estimate and the quantities shown on the previous estimate, in tons of mix;} \\
F &= \text{The Asphalt Binder Use Factor for the applicable items of work subject to this price adjustment, as listed in the following table, are:}
\end{align*}

PAFAB-1
<table>
<thead>
<tr>
<th>ITEM OF WORK</th>
<th>SPECIFICATION NUMBER</th>
<th>ASPHALT BINDER USE FACTOR PER UNIT (metric and U.S. Customary units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt Concrete, Type S5</td>
<td>411</td>
<td>0.060 ton of binder per ton of mix</td>
</tr>
<tr>
<td>Asphalt Concrete, Type S4</td>
<td>411</td>
<td>0.060 ton of binder per ton of mix</td>
</tr>
<tr>
<td>Asphalt Concrete, Type S3</td>
<td>411</td>
<td>0.050 ton of binder per ton of mix</td>
</tr>
</tbody>
</table>

Note: When the units of measure in the contract for the Items of Work listed in the table do not correspond with the units shown in the table (i.e. Asphalt Concrete paid by the square yard, etc.), those Items will not be subject to the terms of this special provision or any asphalt binder price adjustment.

\[ D = \text{Allowable price differential, in dollars;} \]

The allowable price differential, "D" for the current estimate will be computed according to the following formulas:

When the current price, \( P \), is greater than the base price, \( P_{(b)} \):

\[ D = P - [1.03 \times P_{(b)}], \text{ but not less than zero.} \]

When the current price, \( P \), is less than the base price, \( P_{(b)} \):

\[ D = P - [0.97 \times P_{(b)}], \text{ but not greater than zero.} \]

In either case, \( P_{(b)} \) shall be the base asphalt binder price, in dollars per ton (mton), defined as the average of the minimum and maximum prices for performance-graded binder using the Selling Price of PG64-22 paving grade, F.O.B. manufacturer's terminal, as listed under "Midwest/Mid-Continent Market – Tulsa, Oklahoma/Southern Kansas area" as published in the last issue of Asphalt Weekly Monitor® furnished by Poten & Partners, Inc. for the month prior to the month in which the bids for the work were received.

In either case, \( P \), shall be the current asphalt binder price, in dollars per ton (mton), as defined above for the base asphalt binder price. The publication used will be the last issue published in the month prior to the month in which the progressive estimate is generated.

c) Items included in the contract that are listed in the table above are subject to the adjustment in accordance with this provision, regardless of any amount of overrun to the plan quantity. Any new items of work added to the contract by supplemental agreement that are listed in the table above, will be subject to the asphalt binder price adjustments in accordance with this provision. The base asphalt binder price, \( P_{(b)} \), for any newly added eligible items will be the same \( P_{(b)} \) as the eligible items in the contract and the new unit price established by supplemental agreement shall be determined accordingly.
SPECIAL PROVISIONS
REMOVAL OF CASTINGS

All water, sanitary sewer, and storm sewer manhole castings, lids, frames, curb hoods, grates, hydrants, valves, and other fittings removed as part of any construction project are property of the City of Tulsa. Contractor will not take ownership.

All storm sewer and sanitary sewer castings shall be salvaged and delivered by the contractor to the Underground Collections North Sewer Base Stockyard at 9319 East 42nd Street North. Contractor will coordinate the return of such items with the Stockyard personnel at 918-669-6130.

All hydrants, valves, and other fittings from abandoned water mains shall be salvaged and delivered by the contractor to the South Yard at 2317 South Jackson Avenue. Contractor will coordinate the return of such items with the South Yard personnel at 918-596-9401.
SPECIAL PROVISIONS
TACTILE MARKERS TRUNCATED DOMES

DESCRIPTION. This work shall consist of installing Truncated Domes.

MATERIAL. The Truncated Domes shall be pre-case concrete pavers with a nominal thickness of 7/8 inch to 2 inches. They shall be constructed with a minimum of 4000 psi concrete. They shall be yellow in color and meet all ADA requirements for color contrast and dimensions.

CONSTRUCTION METHODS. The panels shall be installed according to the manufacturer’s recommendations and in accordance with City of Tulsa Standard Drawing No. 790—Standard Sidewalk Ramp.

METHOD OF MEASUREMENT. The Truncated Domes will be measured by the square foot of panel area.

BASIS OF PAYMENT. Accepted panels, measured as provided above, will be paid for at the contract unit price as follows:

<table>
<thead>
<tr>
<th>TRUNCATED DOMES</th>
<th>SQUARE FOOT</th>
</tr>
</thead>
</table>

Such payment shall be full compensation for furnishing all materials, equipment, labor and incidentals to complete the work as specified.
SPECIAL PROVISIONS FOR TREE REMOVAL

DESCRIPTION. This work shall consist of removing trees where called for on the Plans and shall include cutting such trees, removing their stumps and roots, and properly disposing of the material.

CONSTRUCTION METHODS. Trees shall be removed and disposed of in a manner approved by the Engineer. All stumps and roots shall be removed to a depth of not less than 12 inches below the finished subgrade elevation.

METHOD OF MEASUREMENT. The size of trees will be determined by the average diameter of the tree trunk taken at a point measured four feet above the base of the tree at the ground line. The diameter will be measured to the nearest full inch.

BASIS OF PAYMENT. Trees to be removed under this item will be measured as provided above and will be paid for at the contract unit price per each tree in accordance with the following schedule of size:

(A) REMOVING TREES 6-12 INCH IN DIAMETER EA.
(B) REMOVING TREES 13-18 INCH IN DIAMETER EA.
(C) REMOVING TREES 19-24 INCH IN DIAMETER EA.
(D) REMOVING TREES 25 INCH AND MORE IN DIAMETER EA.

which shall be full compensation for furnishing all materials, equipment, labor and incidentals to complete the work as specified.

Removing trees less than 6 inches in diameter will be considered as incidental work and will not be paid for directly but the cost will be included in other items.
SPECIAL PROVISIONS
FOR SPECIAL SPECIFICATION
OF TYPE I MONUMENT PAYMENTS

Under this item, the Contractor shall furnish and place for the payment requested for each monument, all materials, labor, equipment, and incidentals necessary to complete the work as shown on the sketch on the following page. The brass marker shall be provided by the City. The 5/8 inch rebar shall be a minimum of 36 inches in length. The locations will be as ordered by the Engineer.

Materials will be in accordance with Section 626.02 of ODOT's Standard Specifications for Highway Construction, current addition, with Accelerated High Early Strength Concrete substituted for Portland Cement Concrete.
SPECIAL PROVISIONS

URBAN RIGHT OF WAY RESTORATION

DESCRIPTION:
The work under this item shall consist of restoring Rights-of-Way. Contractor shall be responsible for the removal and replacement of mailboxes, drains, traffic signs, and curb street address number, sprinkler system or any other improvement within the right of way that is not paid for in other items of work.

CONSTRUCTION REQUIREMENTS:
All existing improvements as called for in this special provision to be replaced or reconstructed shall be restored to substantially the same condition as existed prior to the construction. Contractor shall document by photographing all obstructions and improvements prior to the start of construction.

As the work progresses, all streets shall be thoroughly cleaned of all rubbish, excess earth, rock, and other debris resulting from such work. All clean-up operations at the location of such work shall be accomplished at the expense of the contractor and shall be completed to the satisfaction of the engineer.

IRRIGATION SYSTEMS

DESCRIPTION:
The work shall consist of repairing any irrigation systems inside or outside the street Right of Ways as a result of damages or adjustments needed during the course of the construction to the satisfaction of the engineer.

CONSTRUCTION REQUIREMENT:
Contractor shall repair irrigation systems using like materials and shall include all materials necessary for the proper installation and function of the system. Materials such as valves, controllers, pop up spray and rotary heads, risers, seals, backflow preventer and main line pipe damaged during the course of the construction shall be re installed to its original condition. Excavation, placement, testing, back filling and compacting shall be done as required by the city of Tulsa standard specifications.

STREET ADDRESS AT CURB

DESCRIPTION:
The street address of the building, structure or lot served by the reconstructed driveway shall be painted on the curb of the driveway. Location to be approved by the Engineer. The street address shall face traffic flow.

CONSTRUCTION REQUIREMENTS:
The Street Address to be painted shall conform to city specifications as to size and form, and the
quality of paint to be used, as determined by the City of Tulsa Public Works Department.

Street Address placed on the curb shall be done using a vinyl numbers stencils; letters shall be in black paint in figures of the size of three inches in height, and impressed upon a white background of the size of five by eleven inches. Standard stencil lettering with height, color and style shall be as approved by the engineer or in accordance with the most current City of Tulsa Standards.

MAILBOX REMOVAL AND RELOCATION

DESCRIPTION:
Contractor shall remove, reset and/or reconstruct any and all mailboxes within the street right of way.

CONSTRUCTION REQUIREMENTS:
The removal, resetting and/or reconstruction of mail boxes in street right of way shall be coordinated with the local postmaster as required. Mailboxes shall be located no closer than 1' behind the face of curb to face of box.

Where Special mailboxes such as Stone, masonry brick, or non standard mail boxes exist, contractor shall replace all mailboxes in like kind. The kind and quality of materials in which mailboxes shall be reconstructed shall be to the satisfaction of the property owner and approved by the engineer.

The replaced mailbox shall be capable of withstanding wind loading and lateral load associated with the delivery of the mail.

DRAINS

DESCRIPTION:
Contractor shall reestablish drains, roof drains, and other drainage through the curb.

CONSTRUCTION REQUIREMENTS:
Removal, replacement, salvage of drains in street right of way shall be done during road construction phase.

Contractor shall replace all drains in like kind. The kind and quality of materials in which drains shall be reconstructed shall be to the satisfaction of the property owner and approved by the engineer.

All re-established drains shall include a storm water curb opening as described in City of Tulsa Standard Drawing 758.
TRAFFIC SIGNS

DESCRIPTION:
Unless otherwise directed by the plans and specifications, this item shall consist of removing, storing, and resetting all existing traffic signs. Contractor shall remove, store, and reset all traffic signage as required for construction of this project.

CONSTRUCTION REQUIREMENTS:
Roadside signs shall be placed at locations shown on the plans or at existing locations and shall be installed in compliance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

METHOD OF MEASUREMENT:
Irrigation Systems, Street Address at the Curb, Mailbox Removal and Relocation, Drains, and Traffic Signs will be measured by EACH for the project.

PAYMENT:
Special (C) Urban Right-Of Way Restoration (measured as provided above) will be paid for at the contract unit price by EACH. Such payment shall be full compensation for all equipment, tools, labor, and incidentals necessary to complete the work as specified.

Special (C) Urban Right-Of-Way Restoration ...........................................EACH
STORM WATER CURB OPENING

ATTACH DRAIN FROM HOUSE WITH COUPLER AND WATER TIGHT BAND CLAMP PER MFG RECOMMENDATION.

SECTION A-A

RESIDENTIAL CURB INLET

1. CONTRACTOR SHALL RECONNECT ANY SIDE DRAINS FROM ADJACENT PROPERTY THROUGH THE CURB.
2. INSTALL R-3262-3 SERIES HEAVY DUTY STORM WATER CURB OPENING BY NEENAH OR APPROVED EQUAL.
3. FIELD VERIFY SIZE AND LOCATION PRIOR TO PAVING OPERATIONS.
4. CONTRACTOR SHALL CAST INLETS IN PLACE DURING CURB PRODUCTION "CUT IN" NOT ACCEPTED.
SPECIAL PROVISION
FOR UTILITY RELOCATIONS
AND DESIGN ISSUES

It is the intent of this specification to provide no more than seventy-five (75) calendar days due to delays caused by required utility relocations and required design clarifications. Should the Contractor be delayed in the final completion of work by any utility relocation or design issue, additional days as determined by the Engineer shall be granted by the City. However, the Contractor shall give the Engineer notice in writing of the cause of the delay in each case on the Extension of Time Request Form enclosed in these documents, and agrees that any claim shall be fully compensated for by the provisions of this specification to complete performance of the work. An adjustment will not be made to the contract time bid for incentive purposes.

Any time granted for utility relocations or design issues up to seventy-five (75) calendar days will be in addition to the number of days shown in the proposal for computation of disincentive and liquidated damages.
ASSEMBLY OF PLYWOOD SIGN

PROJECT SIGN

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

DRAWN BY: [Signature]
CHECKED BY: [Signature]
DATE: AUGUST 2017

NOT TO SCALE
STANDARD NO. 102
PROJECT MANUAL

FOR

TULSA ZOO RAINFOREST ROOF REPLACEMENT
6421 East 36th Street North
Tulsa, OK

Project No. SP 20-3
Account No. 401 203400001Z Buildings 401
Account No. 402 203400001Z Buildings 402
Account No. 4250 203400001Z Buildings 4250

For

The City Of Tulsa
Engineering Services Department
2317 South Jackson
Tulsa, OK

Cyntergy
PROJECT MANUAL
FOR
TULSA ZOO RAINFOREST ROOF REPLACEMENT
6421 East 36th Street North
Tulsa, OK

Project No. SP 20-3
Account No. 401 2034000001Z Buildings 401
Account No. 402 2034000001Z Buildings 402
Account No. 4250 2034000001Z Buildings 4250

For

The City Of Tulsa
Engineering Services Department
2317 South Jackson
Tulsa, OK

Cyntergy
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TULSA ZOO RAINFOREST ROOF REPLACEMENT  
6421 East 36th Street North  
Tulsa, Oklahoma  

Project No. SP 20-3  

Account No. 401 2034000001Z Buildings 401  
Account No. 402 2034000001Z Buildings 402  
Account No. 4250 2034000001Z Buildings 4250  

March 3, 2020

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<td>Section 01 70 00 Execution and Closeout Requirements</td>
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<td>Section 07 63 10 Gutters and Downspouts</td>
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<td>Section 07 92 00 Sealants</td>
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<td>Section 08 63 00 Structural Translucent Insulated Roofing System</td>
<td>7</td>
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APPENDIX

Rainforest Exhibit – Tulsa Zoo – original construction documents ......................................................... 1 set
SECTION 00 85 10

DRAWING INDEX/PAY ITEM LIST

<table>
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<tr>
<th>DRAWING INDEX</th>
<th>Description</th>
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<tbody>
<tr>
<td>Date</td>
<td>8/12/1994</td>
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<tr>
<td>Sheet #</td>
<td>Full Set</td>
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<tr>
<td>Description</td>
<td>Original Construction Documents prepared by Fritz Baily, Inc. Project No. 6003-5454301-003011914403 – issued for information of existing conditions (all existing conditions must be field verified by Contractor)</td>
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<th>Description/Unit</th>
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<td>Spec #</td>
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<tr>
<td>1</td>
<td>Division 1</td>
</tr>
<tr>
<td>Description</td>
<td>General Requirements: General Conditions and miscellaneous direct and indirect Project costs required by the Contract Documents but not listed as a specific Unit Price Pay Item in the Proposal. Includes, but is not limited to: General Conditions covering miscellaneous non-staffing costs directly related to the Project, such as job trailer, mobilization, permit fees (other than Building Permit provided by City of Tulsa), temporary utilities, permanent utility connection fees, barriers, scaffolding, equipment rental, cleaning and dumpsters, etc. Each Unit Price will be deemed to include an amount considered by the Contractor to be adequate to cover Contractor’s overhead and profit for each separately identified item/1 Lot</td>
</tr>
<tr>
<td>2</td>
<td>08 63 00</td>
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<tr>
<td>Description</td>
<td>Removal of existing and replacement with new structural translucent insulated roof system/1 Lot</td>
</tr>
<tr>
<td>3</td>
<td>01 21 00</td>
</tr>
<tr>
<td>Description</td>
<td>Owner Allowance - Allowance included for unforeseen conditions requiring additional Work not defined in the Contract Documents. Used only at the discretion of the Owner, in strict accordance with the referenced Specification Section.</td>
</tr>
<tr>
<td>4</td>
<td>08 63 00</td>
</tr>
<tr>
<td>Description</td>
<td>Add Alternate 1 - Removal of existing and replacement with new structural translucent insulated wall system/1 Lot</td>
</tr>
<tr>
<td>5</td>
<td>08 63 00</td>
</tr>
<tr>
<td>Description</td>
<td>Add Alternate 2 - Provide optional Warranties listed in Section 08 63 00 for Structural Translucent Insulated Roof System</td>
</tr>
<tr>
<td>6</td>
<td>08 63 00</td>
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<tr>
<td>Description</td>
<td>Add Alternate 3 - Provide optional Warranties listed in Section 08 63 00 for Structural Translucent Insulated Wall System</td>
</tr>
</tbody>
</table>

END OF SECTION 00 85 10
SECTION 01 11 00

SUMMARY

PART 1 - SUMMARY OF WORK

1.1 PROJECT INFORMATION

A. Project Identification: High Roof Replacement at Rainforest Exhibit – Tulsa Zoo.
   1. Project Location: 6421 East 36th Street North, Tulsa, Oklahoma.

B. Owner: City of Tulsa.
   1. Owner’s Project Manager: Max Wells, AIA.

C. Related Documents and Requirements:
   1. Original Construction Documents and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
   2. Section 01 21 00 – Allowances - for procedures governing the use of Owner Allowances during construction.
   3. Section 01 23 00 – Alternates, for a complete description of Base Bid Work and each Alternate and procedures for incorporation into the Work.
   4. Section 01 50 00 – Temporary Facilities and Controls, for limitations and procedures governing temporary use of Owner’s facilities.
   5. Section 08 63 00 – Structural Translucent Insulated Roofing System

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of this Project is defined by the Contract Documents and consists of replacement of the high structural translucent roofing system, including trim, flashings, snow guards, gutters and downspouts, for the Rainforest Exhibit – Tulsa Zoo. In addition, the underground storm drainage piping shall be routed and scoped to verify it is clear of obstructions or damage and allow clear flow of storm drainage from the downspouts.

B. See Section 01 23 00 – Alternates for a complete description of Base Bid and Alternates.

1.3 WORK SEQUENCE

A. Construct Work to coordinate construction with the Owner’s continued use of the building and access to the entrances and parking areas.
1.4 CONTRACTORS USE OF PREMISES

A. Limit use of premises for Work and for construction operations, to allow for Owner access to interior of building and parking areas.

B. Coordinate use of premises under direction of Owner for points of roof access, roof hoist set up, temporary ladders and storage of materials.

C. Vehicle Parking and deliveries shall be limited to the designated access areas around the building. Coordinate deliveries and work to minimize duration of the construction. Work and Delivery period can be scheduled 12 hours per day 7 days per week. Final work schedule to be coordinated with the Owner.

D. Major materials deliveries and removal of demolition debris may be scheduled any time within the work period. Demolition chutes, cranes, material hoists and dumpsters may be used.

E. Parking for construction vehicles shall be allowed in designated parking and staging areas only.

F. Labor access to the roof shall be provided by the Contractor by external ladders and lifts only. No interior access is available.

1.5 CONTRACTOR'S RESPONSIBILITIES

A. Prepare a list of materials required, purchase products and deliver to site.

B. Prepare, review and present shop drawings, product data, and samples for Owner and Architect approval.

C. Receive and unload products at site; inspect for completeness, for damage, jointly with Owner and Architect.

D. Handle, store, install and finish products.

E. Repair or replace items damaged by Work of this Contract.

F. Provide bi-lingual foremen and supervisors of labor crews who do not understand and speak English.

G. The Contractor shall be responsible for the safety of laborers.
1.6 COORDINATION

A. Coordinate work of the various Sections of Specifications to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items that need to be installed later.

B. Verify characteristics of interrelated elements; coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such systems.

C. Execute removal and replacement of the roofing system to integrate elements of Work. Minimize the period of time that areas of the roofing system are left uncovered to provide protection for the interior plant and animal life that will remain inside during the construction.

D. Provide protection for interior plant and animal life that will remain inside the facility from demolition and construction activities on the roof above.

1.7 REFERENCES

A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. The date of the standard is that in effect as of the Bid date, or date of Owner-Contractor Agreement when there are no bids, except when a specific date is specified.

C. Obtain copies of standards when required by Contract Documents. Maintain copy at job site during progress of the specific work.

END OF SECTION 01 11 00
SECTION 01 21 00

ALLOWANCES

PART 1 - GENERAL

1.1 WORK COVERED BY ALLOWANCE

A. An allowance of Twenty Thousand Dollars ($20,000.00) has been provided in the contract for various items of work which are unforeseen and not covered by other bid items.

B. The allowance shall be used for cost of materials, labor, installation, and overhead and profit for additional work that is not identified in the Construction Documents / Plans, and not included in the base bid lump sum.

C. The allowance shall be used only at the discretion of the City of Tulsa. Any allowance balance remaining at the completion of the project will be credited back to the City of Tulsa on the final Application for Payment submitted by the contractor.

D. The Contractor shall provide, to the City of Tulsa Representative, a written request for the use of the allowance, with a schedule of values, and all associated backup information, including any time extensions required to perform the work.

E. Contractor shall proceed with work included in the allowance only after receiving a written order, from the City of Tulsa Representative, authorizing such work. Proceeding with work in the allowance without a written order from the City of Tulsa Representative will be at the Contractor’s cost.

END OF SECTION 01 21 00
SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes descriptions of Base Bid Work, Alternates, plus administrative and procedural requirements for alternates.

1.2 RELATED DOCUMENTS AND REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. Related Documents:
   1. City of Tulsa Bidding Requirements and other front-end contractual requisites.
   2. Section 01 11 00 – Summary: Work covered by Contract Documents. Work sequence and access to the site. Coordination with occupants and Work restrictions.
   3. Section 07 62 00 – Sheet Metal Flashing & Trim.
   4. Section 07 63 10 – Gutters & Downspouts.
   5. Section 07 92 00 – Sealants.
   6. Section 08 63 00 – Structural Translucent Insulated Roofing System

1.3 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
   1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS

A. Reference Section 08 63 00 Structural Translucent Roofing System

PART 3 - EXECUTION
3.1 WORK COVERED BY CONTRACT DOCUMENTS

A. The Rainforest Exhibit – Tulsa Zoo has approximately 15,400 sq. ft. of existing high roof area and 722 sq.ft of translucent insulated wall area.

3.2 BASE BID WORK

A. Base Bid – Roof Replacement High Roof:
   1. Complete tear-off of existing roof system full replacement with new structural transparent insulated roofing system.
   2. Miscellaneous: The Work includes new flashings, counterflashings, copings, fascias, new roof accessories, sealants, gutters and downspouts and other appurtenances as necessary to result in a complete and watertight installation.
   3. Include the routing and scoping of underground storm drain piping to verify clear and unobstructed water flow from the downspouts.

3.3 SCHEDULE OF ALTERNATES

A. Alternate No.1 – Add removal and replacement of the structural translucent insulated wall system on the southwest corner of the facility similar to the roofing system as specified in Section 08 63 00 including miscellaneous Work as described in Base Bid Work, above.
B. Alternate No. 2 – Provide optional Warranties listed in Section 08 63 00 for the structural translucent insulated roof system.
C. Alternate No. 3 – Provide optional Warranties listed in Section 08 63 00 for the structural translucent insulated wall system.

END OF SECTION 01 23 00
SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Documents and Requirements:
1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
2. Section 01 21 00 "Allowances" for products selected under an allowance.
3. Section 01 23 00 "Alternates" for products selected under an alternate.
4. Section 01 60 00 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
1. Substitutions during Bidding: Changes proposed by Bidders that are being offered for consideration during the Bidding process.
2. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
3. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.
4. The Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with Owner's change procedures.
5. Warranty: The Contractor warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective.

1.3 SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Substitution Request Form: Use facsimile of form provided at the end of this Section.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable.
   a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
   b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.
g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES or other qualified code organization.
j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action during Bidding: Architect may request additional information or documentation for evaluation of the substitution request. Architect's approval of a substitute during bidding does not relieve Contractor of the responsibility to submit required shop drawings and to comply with all other requirements of the Contract Documents.

a. Form of Acceptance during Bidding: Addendum.

4. Architect's Action during Construction: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor through City Field Engineering of acceptance or rejection of proposed substitution within 5 days of receipt of request.

b. Form of Acceptance during Construction, when cost of proposed substitution exceeds available funds in Owner's Allowance: Change Order.
c. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.
1.5 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS DURING BIDDING

A. Substitutions during Bidding: No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for a thorough evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect’s decision of approval or disapproval of a proposed substitution shall be final.

1. If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

2. Substitution Request Form: Each request for substitution shall be submitted on the Substitution Request Form provided at the end of this Section.

3. No Substitution requests allowed to be submitted with the Bid Proposal.

2.2 SUBSTITUTIONS DURING CONSTRUCTION

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 5 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor’s request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

   a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   b. Requested substitution provides sustainable design characteristics that specified product provided.
   c. Substitution request is fully documented and properly submitted.
   d. Requested substitution will not adversely affect Contractor's construction schedule.
   e. Requested substitution has received necessary approvals of authorities having jurisdiction.
   f. Requested substitution is compatible with other portions of the Work.
   g. Requested substitution has been coordinated with other portions of the Work.
   h. Requested substitution provides specified warranty.
   i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2. Substitution Request Form: Each request for substitution shall be submitted on the Substitution Request Form provided at the end of this Section.
B. Substitutions for Convenience: Architect will consider requests for substitution if received within 5 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
   a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
   b. Requested substitution does not require extensive revisions to the Contract Documents.
   c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   d. Requested substitution provides sustainable design characteristics that specified product provided.
   e. Substitution request is fully documented and properly submitted.
   f. Requested substitution will not adversely affect Contractor's construction schedule.
   g. Requested substitution has received necessary approvals of authorities having jurisdiction.
   h. Requested substitution is compatible with other portions of the Work.
   i. Requested substitution has been coordinated with other portions of the Work.
   j. Requested substitution provides specified warranty.
   k. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2. Substitution Request Form: Each request for substitution shall be submitted on the Substitution Request Form provided at the end of this Section.

C. Owner's Approval: Under no circumstances will a substitution be allowed without the Owner's written approval.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00
SUBSTITUTION REQUEST FORM

Project: ____________________________ Substitution Request Number: __________________
Date: ____________________________
To: ________________________________ From: ________________________________
COT Project Number: __________________
Contract for: _________________________

Specification Section: ____________ Description: ________________________________
Specification Title: __________________ Page: _________________________________
Article/Paragraph: __________________

Proposed Substitution: ____________________________
Manufacturer: ____________________________ Address: ____________________________
Trade Name: ____________________________
Installer/Subcontractor: __________________ Address: ____________________________

History: [ ] New Product [ ] 1-4 years old [ ] 5-10 years old [ ] More than 10 years old

Differences between proposed substitution and specified products:
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

[ ] Point-by-Point comparative data attached – REQUIRED BY A/E
___________________________________________________________________________

Reason for not providing specified item:
___________________________________________________________________________
___________________________________________________________________________

Similar Installation:
Project: ____________________________ Address: ____________________________
Address: ____________________________ Owner: ________________________________

Data Installed: ____________________________
Proposed substitution affects other parts of the Work: [ ] No [ ] Yes; explain:
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

Savings to Owner (City of Tulsa) for accepting substitution: ____________________________$
Proposed substitution changes Contract Time: [ ] No [ ] Yes [Add] [Deduct] _________ days.
___________________________________________________________________________

Supporting data attached: [ ] Drawings [ ] Product Data [ ] Samples [ ] Samples [ ] Tests
[ ] Reports [ ] Other

Attached data includes product description, specifications, drawings, photographs, and performance and
test data adequate for evaluation of the request; applicable portions of the data are clearly identified.
Attached data also includes a description of changes to the Contract Documents that the proposed
substitution will require for its proper installation.

Substitution Procedures
Tulsa Zoo Rainforest Roof Replacement

01 25 00 - 5
March 2020
The Undersigned certifies:
- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

______________________________________________________________
Submitted by:

Firm:  

Address:  

Telephone:  __________________ email:  __________________

Signed by: __________________ Date:  ______________

A/E’s REVIEW AND ACTION

☐ Substitution Approved: Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.

☐ Substitutions Approved as Noted: Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.

☐ Substitution Rejected: Use specified materials.

☐ Substitution Request received too late: Use specified materials.

Signed by: __________________ Date:  ______________

Supporting Data Attached:  
☐ Drawings  ☐ Product Data  ☐ Samples  ☐ Samples  
☐ Tests  ☐ Reports  ☐ Other _____________________________
SECTION 01 33 00

SUBMITTALS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Procedures; construction progress schedules; schedule of values; shop drawings; product data; samples; manufacturers’ certificates.

1.2 RELATED REQUIREMENTS

A. Section 01 11 00 – Summary.

B. Section 01 25 00 – Substitution Procedures.

C. Section 01 60 00 – Product Requirements; contractor’s list of products, manufacturer’s instructions.

D. Section 01 70 00 – Execution and Closeout Requirements.

1.3 PROCEDURES

A. Deliver submittals to Owner’s Representative at the address listed on cover of Project Manual.

B. Transmit each item under transmittal letter. Identify Project, Contractor, subcontractor, major supplier; identify pertinent drawing sheet and detail number, and specification section number, as appropriate. Identify deviations from Contract Documents. Provide space for Contractor and Architect review stamps.

C. Submit initial progress schedules and schedule of values in duplicate within 5 days after award of Contract. After review by the Architect, revise and resubmit as required. Submit revised schedules with each Application for Payment reflecting changes since previous submittal.

D. Comply with progress schedule for submittals related to Work progress. Coordinate submittal of related items.

E. After the Architect’s review of submittal, revise and resubmit as required, identifying changes made since previous submittal.

F. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report inability to comply with provisions.

1.4 SCHEDULE OF VALUES

A. Submit typed cost schedule.

B. Format: Table of Contents of this Project Manual. Identify each line item with number and title of the major specification sections.
C. Include in each line item a directly proportional amount of Contractor's overhead and profit.

D. Revise schedule to list change orders for each application for payment.

1.5 SHOP DRAWINGS

A. Submit in the form of one electronic file. After review, reproduce and distribute in accordance with requirements in article on Procedures, above.

1.6 PRODUCT DATA

A. Mark each submittal to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to the Work. Include manufacturer's installation instructions when required by the respective specification section.

1.7 SAMPLES

A. Submit physical samples for full range of manufacturer's standard colors, textures, and patterns for Owner's selection. Submit samples for selection of finishes within 5 days after date of Contract.

B. Submit samples to illustrate functional characteristics of the product, with integral parts and attachment devices. Coordinate submittal of different categories for interfacing work.

C. Include identification of each sample, giving full information.

D. Submit two copies of samples specified in respective specification sections; one will be retained by the Architect, the other returned with Architect's acceptance or comments. Reviewed samples which may be used in the Work are indicated in the specification sections.

E. Submit sample warranty.

END OF SECTION 01 33 00
SECTION 01 35 00
SPECIAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Products and installation for patching and extending Work.

B. Transition and adjustments.

C. Repair of damaged surfaces, finishes, and cleaning.

D. In addition to demolition specifically shown, cut, move or remove items as necessary to provide access or to allow alterations and new work to proceed. Include such items as:
   1. Repair or removal of hazardous or unsanitary conditions except asbestos, asbestos products, polychlorinated biphenyl (PCB) or other toxic substances.
   2. Removal of abandoned items and items serving no useful purpose, such as abandoned piping, conduit and wiring and abandoned curbs and pipe penetrations.
   3. Cleaning of surfaces and removal of surface finishes as needed to install new work and finishes.

E. Abatement is not a part of this contract. If asbestos or other toxic substances are encountered, Contractor shall stop work and notify the Architect for instructions.

F. For the purposes of Bidding it should be assumed that existing roof material is non-regulated. Unless instructed otherwise, the Contractor shall use the following removal and disposal procedure:
   1. Bag hazardous debris in 3 mil thick polyethylene bags before removal from roof and transporting to Dumpster or Dump Truck.
   2. Deposit debris in regular landfill. (It is our understanding that this material is not regulated and not required to be disposed of in a special landfill.)

1.2 RELATED SECTIONS

A. Section 01 50 00 – Temporary Facilities and Controls: Temporary enclosures; Protection of installed work; Cleaning during construction.

PART 2 - PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Materials: As specified in product Sections; match existing Products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspection and testing Products where necessary, referring to existing Work as a standard.

PART 3 - EXECUTION

Special Procedures
Tulsa Zoo Rainforest Roof Replacement

01 35 00 - 1
March 2020
3.1 EXAMINATION

A. Verify that demolition is complete, and areas are ready for installation of new Work.
B. Beginning of Work means acceptance of existing conditions.

3.2 PREPARATION

A. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
C. Remove debris and abandoned items from area and from concealed spaces.
D. Prepare surface and remove unsuitable surface finishes as required to provide for proper installation of new work and finishes.
E. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity.

3.3 INSTALLATION

A. Coordinate work of alterations and renovations to expedite completion sequentially to accommodate Owner occupancy.
B. Modifications: complete in all respects.
C. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to good condition.
D. Refinish visible existing surfaces to remain, to specified condition for each material, with a neat transition to adjacent finishes.
E. Install Products as specified in individual Sections.

3.4 TRANSITIONS

A. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
B. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.

3.5 ADJUSTMENTS

A. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Architect review.
B. Fit work at penetrations of surfaces as specified in Section 01 45 00.
01 35 00

3.6 REPAIR OF DAMAGED SURFACES

A. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

B. Repair substrates prior to patching finish.

3.7 FINISHES

A. Finish surfaces as specified in individual Product Sections.

B. Finish patches to produce a uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.8 CLEANING

A. In addition to cleaning specified in Section 01 70 00 clean Owner occupied areas where work of this Contract has disturbed the interior.

END OF SECTION 01 35 00
SECTION 01 45 00
CUTTING AND PATCHING

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. This section expands the provisions contained in the General Conditions of the Contract.

B. Contractor shall be responsible for cutting, fitting, and patching, required to complete the work or to:
   1. Make its several parts fit together properly.
   2. Uncover portions of the Work to provide for installation of ill-timed work.
   3. Remove and replace defective work.
   4. Remove and replace work not conforming to requirements of Contract Documents.
   5. Remove samples of installed work as specified for testing.
   6. Provide routine penetrations of non-structural surfaces.

1.2 RELATED REQUIREMENTS

A. Section 01 60 00 – Product Requirements.

B. Section 07 62 00 – Sheet Metal Flashing and Trim.

D. Section 07 63 10 – Gutters and Downspouts.

E. Section 07 92 00 – Sealants.

1.3 SUBMITTALS

A. Submit a written request to Owner's Representative well in advance of executing and cutting or alteration which affects:
   1. Work of the Owner or any separate contractor.
   2. Structural value or integrity of any element of the project.
   3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or system.
   4. Efficiency, operational life, maintenance or safety of operational elements.
   5. Visual qualities of sight-exposed elements.

B. Request shall include:
   1. Identification of Project.
   2. Description of affected work.
   3. Necessity for cutting, alteration, or excavation.
   4. Effect on work of Owner or any separate contractor, or on structural or weatherproof integrity of Project.
   5. Description of proposed work:
      a. Scope of cutting, patching, or alteration.
      b. Trades who will execute the work.
      c. Products proposed to be used.
      d. Extent of refinishing to be done.
   6. Alternatives to cutting to be done.
   7. Cost proposal, when applicable.
8. Written permission of any separate contractor whose work will be affected.

C. Should conditions of Work or the schedule indicate a change of products from original installation, Contractor shall submit request for substitution as specified in Section 01 25 00 Substitutions Procedures.

D. Submit written notice to Owner's Representative designating the date and the time the work will be uncovered.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Comply with specifications and standards for each specific product involved.

PART 3 - EXECUTION

3.1 INSPECTION

A. Inspect conditions of Project, including elements subject to damage or to movement during cutting and patching.

B. After uncovering work, inspect conditions affecting installation of products, or performance of work.

C. Report unsatisfactory or questionable conditions to Architect in writing; do not proceed with work until Architect has provided further instructions.

3.2 PREPARATION

A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work.

B. Provide devices and methods to protect other portions of Project from damage, including protection of plant and animal life still present inside the facility.

C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work.

3.3 PERFORMANCE

A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.

B. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.

C. Restore work which has been cut or removed; install new products to provide completed Work in accordance with requirements of Contract Documents.

D. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.

END OF SECTION 01 45 00
SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED
A. Electricity and lighting; telephone service; water; sanitary facilities; construction aids; temporary roofing; enclosures; barriers; cleaning during construction; project identification; field offices and sheds.

1.2 RELATED REQUIREMENTS
A. Section 01 11 00 – Summary; Work sequence, Contractor's use of premises.
B. Section 01 70 00 – Execution and Closeout Requirements: Cleaning - final cleaning.

1.3 ELECTRICITY AND LIGHTING
A. Provide electrical service, including branch wiring and distribution boxes located to allow service and lighting by means of construction-type power cords connected to spare circuits on the Owner's power panel or to convenience receptacles near the roof. The Owner will pay cost of energy used through existing services.
B. Provide lighting for construction operations.
C. Provide connections to grounding system as required by codes.
D. Contractor's Option: Provide electrical power by means of portable generators.

1.4 TELEPHONE SERVICE
A. Telephone service to field office shall be provided by Contractor by means of mobile phone.

1.5 WATER
A. Provide connection to domestic water at hose bib; extend branch piping with outlets located so that water is available by use of hoses for construction and fire fighting. The Owner will pay cost of water used through existing services.

1.6 SANITARY FACILITIES
A. The Contractor shall provide separate toilet facilities for laborers. The Owner will not provide toilet facilities. Maintain facilities for laborers. Construction labor shall not use toilets in the Owner's building.
1.7  FIRE FIGHTING EQUIPMENT
   A. Provide minimum (1) 20lb pressurized water and (1) 10lb ABC Dry Chemical fire extinguisher on the roof and (1) 10lb ABC Dry Chemical fire extinguisher on the roof at all times of work activity.

1.8  FLAME PRODUCING DEVICES
   A. No flame producing devices shall be allowed on the roof.

1.9  CONSTRUCTION AIDS
   A. Provide and operate drainage and pumping equipment as necessary to drain roof and ponding created on the site by work of this contract.

1.10 ENCLOSURES
    A. Provide temporary weather-tight enclosures of openings in exterior surfaces to provide acceptable working conditions and to prevent entry of un-authorized persons.

1.11 BARRIERS
    A. Provide as required to prevent public entry to construction areas, to provide for Owner’s use of site and building, and to protect existing facilities including plant and animal life contained within the facility and landscaping and adjacent properties from damage from construction operations.

    1. The installation of protection barriers for plant and animal life contained within the facility will have limited access for their installation from the interior of the facility. Maximize the installation of such barriers from the exterior.

1.12 CLEANING DURING CONSTRUCTION
    A. Control accumulation of waste material and rubbish; daily dispose of off-site.

    B. Clean up debris at the end of each day’s work.

1.13 PROJECT IDENTIFICATION
    A. Allow no advertising signs to be displayed except on Vehicles – no job sign is allowed.

1.14 REMOVAL
    A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.

    B. Clean and repair damage caused by installation or use of temporary facilities.

END OF SECTION 01 50 00
SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Material and equipment incorporated into the Work:
   1. Conform to applicable specifications and standards.
   2. Comply with size, make, type and quality specified, or as specifically approved in writing by the Owner's Representative.
   3. Manufactured and Fabricated Products:
      a. Design, fabricate and assemble in accordance with the best engineering and shop practices.
      b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
      c. Two or more items of the same kind shall be identical and by the same manufacturer.
      d. Products shall be suitable for service conditions.
      e. Equipment capacities, sizes, and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
   4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.2 RELATED REQUIREMENTS

A. Section 01 25 00 – Substitution Procedures.
B. Section 01 33 00 – Submittals; Shop Drawings, Product Data and Samples.
C. Section 01 70 00 – Execution and Closeout Requirements.

1.3 REUSE OF EXISTING MATERIAL

A. Except as specifically indicated or specified, materials and equipment removed from the existing structure shall not be used in the completed Work.

1.4 MANUFACTURER'S INSTRUCTIONS

A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including an electronic copy to Architect.

B. Handle, install, connect, clean, condition, and adjust products in strict accordance with such instructions and in conformity with specified requirements.
   1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Owner's Representative for further instructions.
   2. Do not proceed with work without clear instructions.
C. Perform work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.5 TRANSPORTATION AND HANDLING

A. Arrange deliveries of products in accordance with construction schedules, coordinate to avoid conflict with work and conditions at the site.
   1. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
   2. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.

B. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.6 STORAGE AND PROTECTION

A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
   1. Store products subject to damage by the elements in weather tight enclosures or trailers.
   2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.

B. Exterior Storage:
   1. Store fabricated products above ground or on the roof, on blocking or skids to prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.

C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions and free from damage or deterioration.

D. Protection After Installation: Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

1.7 PRODUCT OPTIONS

A. Products List:
   1. For products specified only by reference standard, select any product meeting that standard.
   2. For products specified by naming several products or manufacturers, or listed in an Addendum as approved prior to bidding, select one of the products or manufacturers named, which complies with the specifications.
   3. For products specified by naming one or more products or manufacturers with "Allowed Substitutions", Contractor shall submit a request as for substitutions not less than 5 days prior to the bid date for any product or manufacturer not specifically named.
   4. For products specified by naming only one product and manufacturer, and substitutions are not allowed, there is no option.

END OF SECTION 01 60 00
SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Closeout procedures.
B. Final cleaning.
C. Project Record Documents.
D. Operation and maintenance data.
E. Warranties and bonds.

1.2 RELATED REQUIREMENTS

A. Section 01 11 00 – Summary of Work.
B. Section 01 45 00 - Cutting and patching.
C. Section 01 50 00 - Temporary Facilities and Controls.
D. Section 08 63 00 - Structural Translucent Roofing System.

1.3 CLOSEOUT PROCEDURES

A. Comply with procedures stated in General Conditions of the Contract for issuance of Certificate of Substantial Completion.
B. When Contractor considers Work has reached final completion, submit written certification that the Contract Documents have been reviewed, Work has been inspected, and that the Work is complete in accordance with the Contract Documents and ready for Owner Representative's inspection.
C. Owner will occupy the Project, under provisions stated in Certificate of Substantial Completion.
D. At the end of all Work of this contract and in addition to submittals required by the conditions of the Contract, provide submittals required by governing authorities, and submit a final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due. Submit Contractor's, Sub-Contractor's and Material Supplier's release of Liens.

1.4 FINAL CLEANING

A. Execute prior to final inspection.
B. Clean surfaces exposed to view if soiled by construction; remove temporary labels, stains and
foreign substances and polish transparent and glossy surfaces. Clean equipment and fixtures to a sanitary condition.

C. Clean site; sweep and vacuum paved areas and rake clean other areas.

D. Remove waste and surplus materials, rubbish, and construction facilities from the Project and from the site.

1.5 PROJECT RECORD DOCUMENTS

A. Store documents separate from those used for construction.

B. Keep documents current; do not permanently conceal work until required information has been recorded.

C. At Contract closeout, submit documents with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.

D. Make repairs or replacement to existing surfaces damaged by Work of this contract.

1.6 WARRANTIES AND BONDS

A. Provide duplicate, notarized copies. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers.

B. Submit material prior to final application for payment. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

END OF SECTION 01 70 00
SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Removal and replacement of existing metal copings, drip edges, roof flashings and counter flashings.

1.2 RELATED WORK

A. Section 01 23 00 – Alternates: See Alternates #1, 2 & 3.

B. Section 07 63 10 – Gutters and Downspouts. Installation of new gutters and downspouts.

C. Section 07 92 00 – Sealants.

D. Section 08 63 00 – Structural Translucent Insulated Roofing System

1.3 REFERENCES


B. ASTM A361/A361M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process for Roofing and Siding.


H. FS L-P-512 - Plastic Sheet (Sheeting), Polyethylene.

I. FS TT-C-494 - Coating Compound, Bituminous, Solvent Type, Acid Resistant.

J. CDA (Copper Development Association) - Copper in Architecture - Handbook.


1.4 DESIGN REQUIREMENTS


B. Maintain one copy of document on site.
1.5 SUBMITTALS FOR REVIEW

A. Section 01 33 00 - Submittals: Procedures for submittals.
B. Shop Drawings: Indicate material profile, joining pattern, jointing details, fastening methods, flashings, terminations, and installation details.
C. Product Data: Provide data on prefabricated components.
D. Samples: Submit two samples, 6x12 inch size illustrating metal color and finish after selection of roof panel color from roof panel manufacturer's color selection chart.

1.6 QUALITY ASSURANCE

A. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years' experience.

1.7 PRE-INSTALLATION MEETING

A. Installer to attend Pre-installation meeting.
B. Convene one week before starting work of this section.

1.8 DELIVERY, STORAGE, AND PROTECTION

A. Section 01 60 00 – Product Requirements: Transport, handle, store, and protect.
B. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
C. Prevent contact with materials which may cause discoloration or staining.

1.9 PROJECT CONDITIONS

A. Coordinate with the work of Section 08 63 00 Structural Translucent Insulated Roofing System.

1.10 PROTECTION OF EXISTING CONDITIONS

A. Exercise care when working on or about roof surfaces to avoid damaging or puncturing existing and new roof membranes or flexible flashings.
B. Place plywood panels on roof surfaces adjacent to work of this Section and on access routes. Keep in place until completion of work.

1.11 GUARANTEE / WARRANTY

A. Provide Owner with a written guarantee stating that metal flashings will properly shed water, will not rust and will protect roofing from physical damage for a minimum period of two (2) years from date
of Substantial Completion as certified by the Architect, and that damage resulting from failure to provide above stated performances will be repaired to satisfaction of Owner at no additional cost.

PART 2 - PRODUCTS

2.1 SHEET METALS

A. Prefinished Aluminum: Minimum 0.040-inch thickness; prefinished with Kynar 500 colors to be selected from standard colors.

B. Stainless Steel: Minimum 24 gage thickness.

C. Lead: ASTM B749; 4 pounds per square foot.

2.2 ACCESSORY MATERIALS AND COMPONENTS

A. Fasteners: Concealed hook strip type; sized to suit application. Stainless steel screws.

B. Bituminous Paint: Acid and alkali resistant type, aluminum color.

C. Sealant: Silicone type as specified in Section 07 92 00.

2.3 FABRICATION

A. Form shop fabricated sections square, true, and accurate to size, free from distortion and other defects detrimental to appearance or performance.

B. Form sections in 10-foot lengths. Make allowances for expansion at joints.

C. Seams are to be butt hairline. Fabricate corners mitered, soldered, welded or heli-arc welded as appropriate and sealed as one piece.

D. Wipe and wash soldered joints clean to remove traces of flux immediately after soldering.

E. Hem exposed edges of flashings on underside 1/2-inch.

F. Fabricate flashing to shape detailed on the drawings or match existing.

G. Backpaint flashings with non-conductive paint where expected to be in contact with cementitious materials or dissimilar metals.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing conditions before starting work.
B. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, and reglets in place.

C. Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Install surface mounted reglets true to lines and levels. Seal top of reglets with sealant.

C. Paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mils.

3.3 INSTALLATION OF NEW METAL

A. Secure flashings in place using specified type fasteners. Use exposed fasteners on roof side only where not exposed to view from ground in locations approved by Architect. Exposed fasteners shall be of same finish as flashings. Seal all fasteners with sealant.

B. Apply sealing compound at junction of metal flashings and roof membrane flashing.

C. Lap seams at end joints. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles. Install 6-inch wide slip joint back flashing under butt joints and seal.

D. Install pipe penetration boxes and fill with non-shrink grout filler and pourable sealer.

E. Counter flash mechanical, electrical and other items projecting through membrane roofing as required by drawings and roof membrane manufacturer.

F. Fabricate corners for fascias, copings and cap flashings with mitered and fully soldered or welded seams.

G. Securely fasten new anchor plates to nailer at each joint and at mid-point of section not more than 6 feet on center.

H. Install flashing lap joint covers with minimum 1/4-inch gap between each section.

I. Touch up damaged finish with material recommended by manufacturer.

J. Remove scraps and debris from job site.

3.4 FIELD QUALITY CONTROL

A. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION 07 62 00
SECTION 07 63 10
GUTTERS AND DOWNSPOUTS

PART 1 - GENERAL

1.1 SECTION INCLUDES
   A. Installation of new gutters and down spouts.

1.2 RELATED SECTIONS
   A. Section 07 62 00 - Sheet Metal Flashing and Trim.
   B. Section 07 92 00 - Sealants.
   C. Section 08 63 00 Structural Translucent Insulated Roofing System

1.3 REFERENCES
   C. CDA (Copper Development Association) - Copper in Architecture - Handbook.
   D. FS TT-C-494 - Coating Compound, Bituminous, Solvent Type, Acid Resistant.

1.4 DESIGN REQUIREMENTS
   A. Provide gutter & down spout component sizes as indicated on drawings.

1.5 SUBMITTALS FOR REVIEW
   A. Section 01 33 00 - Submittals: Procedures for submittals.
   B. Shop Drawings: Indicate locations, configurations, jointing methods, fastening methods, locations, and installation details.
   C. Product Data: Provide data on prefabricated components.
   D. Samples: Submit two samples, 12-inch, illustrating component design, finish, configuration and color as selected from manufacturer's color chart.
1.6 DELIVERY, STORAGE, AND PROTECTION

A. Section 01 60 00 – Product Requirements: Transport, handle, store, and protect.
B. Stack material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope to drain.
C. Prevent contact with materials during storage which may cause discoloration, staining, or damage.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Prefinished Aluminum: Minimum 0.040-inch thickness; Kynar 500 finish; color as selected from manufacturer's standard colors.
B. Primer: Zinc molybdate type.
C. Protective Backing Paint: Zinc molybdate alkyd.
D. Solder: ASTM B32; 50/50 type.

2.2 COMPONENTS

A. Gutters: SMACNA Plate 2 Style "A".
B. Down Spouts: SMACNA Plate 34 Fig "B".
C. Down Spout Hanger Straps: SMACNA Plate 34 Fig "B".
D. Connectors: Furnish required connector pieces.
E. Anchors and Supports: Profiled to suit gutters and downspouts.
   1. Anchoring Devices: In accordance with SMACNA Plate 34 Fig B.

2.3 FABRICATION

A. Form gutters of profiles and sizes to match existing. Submit as an option a semi-circular gutter profile for consideration. This profile may be used in lieu of the existing profile to facilitate the flow of water and provide a more self-cleaning assembly.
B. Fabricate with required connection pieces.
C. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.
D. Hem exposed edges of metal.
E. Seal shop formed metal joints. After sealing wipe and wash joints clean. Weather seal joints.
F. Fabricate gutter and downspout accessories; solder and seal watertight.
PART 3 - EXECUTION

3.1 EXAMINATION
A. Verify that surfaces are ready to receive work.

3.2 PREPARATION
A. Paint concealed metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to a minimum dry film thickness of 15 mil.

3.3 INSTALLATION
A. Install gutters and down spouts and accessories in accordance with manufacturer's instructions.
B. Sheet Metal: Join lengths with formed seams watertight. Flash and seal gutters to downspouts and accessories.
C. Slope gutters 1/8 inch per foot minimum.
D. Seal metal joints for full metal surface contact. After sealing wash metal clean with solvent solution and rinse with water.
E. Connect downspouts to downspout boots and shoes above grade or existing storm sewer system. Grout or seal connection watertight.
F. Set splash pans under downspouts.

END OF SECTION 07 63 10
SECTION 07 92 00
SEALANTS

PART 1 - GENERAL

1.1 WORK INCLUDED

   A. Cleaning and preparation of joint surfaces.
   B. Removal of sealants in exterior walls, fascias, parapets and parapet wall flashings and at metal flashings and counter flashings.
   C. New Sealant and backing materials.

1.2 RELATED WORK

   A. Section 07 62 00 - Sheet Metal and Flashings.
   B. Section 07 63 10 – Gutters and Downspouts.
   C. Section 08 63 00 - Structural Translucent Insulated Roofing System

1.3 QUALITY ASSURANCE

   A. Work shall be performed by qualified contractors with at least five-years’ experience and who are regularly engaged in the work prescribed in this Section.
   B. Before work commences, the architect, contractor and sub-contractor as applicable shall meet at the job to review the job conditions and plans.

1.4 REFERENCES

   A. FS-TT-S-00230 Type I or II Class A or B.
   B. FS-TT-S-00227 Type I or II Class A or B, Sealing Compound, Multi-component.
   C. ASTM C-920 Type M/S, Class 25 Grade P/NS.

1.5 SUBMITTALS

   A. Submit product data and samples in accordance with the Section 01 60 00 Product Requirements.
   B. Submit manufacturer’s surface preparation and installation instructions.

1.6 DELIVERY, STORAGE AND HANDLING
A. Deliver materials in original, tightly sealed containers or unopened packages with manufacturer's name, labels, product identification and lot numbers.

B. Store materials out of weather in original containers or unopened packages above 40 degrees F. as recommended by manufacturer.

1.7 SEQUENCING AND SCHEDULING

A. Coordinate work under provisions of Section 01 11 00.

B. Coordinate the work of this Section with all Sections referencing this Section.

1.8 WARRANTY

A. Provide two-year warranty.

B. Warranty: Replace sealants which fail because of loss of cohesion or adhesion or do not cure.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Acceptable Manufactures:
   1. Mameco International.
   2. Pecora Corporation.
   3. Sonneborne.
   4. Tremco, Inc.

2.2 EXTERIOR VERTICAL JOINT SEALANT MATERIALS

A. Silicone Sealant: Sealant shall be an ultra low modulus, high performance, one-part, moisture curing silicone joint sealant;
   1. Do not use a clear sealant or sealants which release a solvent or acid during curing.
   2. Sealant shall be resistant to environmental conditions such as wind loading, wind driven rain, snow, sleet, acid rain, ozone, ultraviolet light and extreme temperature variations.
   3. Features shall include joint movement capabilities of +100% & -50% ASTM C-719, capable of taking expansion, compression, transverse and longitudinal movement, service temperature range -65°F to 300°F (-54°C to 149°C), Flow, sag or slump: ASTM C-639; NII, Hardness (Shore A): ASTM C-661; 15, Tensile strength at maximum elongation: ASTM D-412; 200 psi, Tensile strength at 100% elongation: ASTM D-412; 35 psi, Tear strength, (die "C"); ASTM D-624; 40 pli, Peel strength (Aluminum, Glass, Concrete): ASTM C-794; 30 pli.
      a. Tremco Spectrum One.
      b. Dow 790.
      c. Pecora 890NST
      d. Duralink
      e. Titebond Metal Roof Sealant.
B. Polyurethane Base Vertical Grade Multi-component: Multi-component; type for application in vertical joints; withstand movement up to 25% + of joint width and satisfactorily applied throughout a temperature range of 40 to 80 degrees F; color to be selected to match adjacent material; equal to: TT-S-00227E Type II, Class A or ASTM C-920 Type M, Class 25, Grade NS.
1. Dymeric manufactured by Tremco.
2. NP-2 as manufactured by Sonneborne.

C. Polyurethane Base Vertical Grade Single Component: Single component; polyurethane base for application in vertical joints; withstand movement up to 25% + of joint width and satisfactorily applied throughout a temperature range of 40 to 80 degrees F; color to be selected to match adjacent material; equal to: TT-S-00230 Type II, Class A or ASTM C-920 Type S, Class 25, Grade NS.
1. Tremco Dymonic manufactured by Tremco.
2. NP-1 as manufactured by Sonneborne.

D. Polyurethane Base Horizontal Grade Multi-component: chemical curing; self-leveling type for application in horizontal joints; capable of being immersed in water, with stand movement up to 25% + of joint width and satisfactorily applied throughout a temperature range of 40 to 80 degrees F; color to be selected to match adjacent material; equal to: TT-S-00227E Type I, Class A or ASTM C-920 Type S, Class 25, Grade P/SL.
1. THC-900 manufactured by Tremco.
2. Dymeric Self Levelling manufactured by Tremco.
3. NP-2 SL as manufactured by Sonneborne.
4. White One-Part Pourable Sealer as manufactured by Carlisle.

2.3 ACCESSORIES

A. Joint Filler: ASTM D1056; round open cell polyethylene foam rod; oversized 30 to 50%.

B. An approved bond breaker tape shall be provided for those joints that cannot utilize a backer rod.

C. Primers: Approved non-staining type recommended by the manufacturer.

D. Cleaning Agent: Non-corrosive and non-staining type recommended by manufacturer.

PART 3 - EXECUTION

3.1 INSPECTION

A. Inspect existing sealants in counter flashings and wall panels not scheduled to be removed and replaced and identify sealants that have failed and mark for replacement.

B. Verify joint dimensions, physical, and environmental conditions are acceptable to receive work of this Section.

C. Correct defects in joint design before commencing work.

D. Verify that materials to be used are compatible.

E. Beginning of installation constitutes acceptance of joint conditions.
3.2 PREPARATION

A. Clean, prepare and size joints in accordance with manufacturer's instructions.

B. Remove loose materials and other foreign matter which might impair adhesion of sealant.

C. Joints shall be clean, dry and free of laitance, mortar, greases, oils or other contaminates.

D. Joints shall be mechanically abraded, solvent cleaned or sandblasted as recommended by the manufacturer.

E. Verify that joint shaping materials are compatible with sealant.

F. Examine joint dimensions and size materials to achieve required width/depth ratios.

G. Use joint filler to achieve required joint depths, to allow sealants to perform properly.

3.3 INSTALLATION

A. Install backup material or bond breaker tape as recommended by the manufacturer to create the proper joint design.

B. Depth to width ratio of 1/3 to 1/2 shall be maintained during installation.

C. Install sealant and primer in accordance with manufacturer's instructions.

D. Apply sealant within recommended temperature ranges. Consult manufacturer when sealant cannot be applied within recommended temperature ranges.

E. Tool joints concave. Soap, water and solvents are not allowed to be used to tool joints.

F. Joints shall be free of air pockets, foreign embedded matter, ridges and sags.

3.4 CLEANING

A. Excess materials shall be removed from adjacent areas as recommended by the manufacturer.

B. Materials used in the application of this work shall be removed from job site as work is completed.

3.5 SCHEDULE

A. Exterior Joints:
   1. Vertical Joint Sealants for Roofing to Concrete and Brick Walls:
      a. Single or Multi-Component non-sag silicone, color to match adjacent sealant material.
   2. Vertical Joint Sealants for Metal to Metal & Metal Counter Flashings Surfaces:
      a. Single component non-sag silicone, color to match adjacent material where exposed.
   3. Horizontal Joint Sealants & Pourable Sealers:
      a. Multi-component horizontal grade polyurethane.

END OF SECTION 07 92 00
SECTION 08 63 00

STRUCTURAL TRANSLUCENT INSULATED ROOFING SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes the structural translucent roofing system as shown and specified. Work includes providing and installing:

1. Structural aluminum box beam substructure on existing steel framing.
2. Factory prefabricated structural insulated translucent sandwich panels
3. Aluminum installation system
4. Flexible flashing

B. Related Sections:

1. 01 11 00 – Summary
2. 07 62 00 Sheet Metal Flashing & Trim
3. 07 63 10 Gutters & Downspouts
4. 07 92 00 Sealants

1.2 SUBMITTALS

A. Submit manufacturer’s product data. Include construction details, material descriptions, profiles and finishes of components.

B. Submit shop drawings. Include plans, elevations and details.

C. Submit manufacturer’s color charts showing the full range of colors available for factory finished aluminum (2 copies).

   1. When requested, submit samples for each exposed finish required, in same thickness and material indicated for the work and in size indicated below. If finishes involve normal color variations, include sample sets consisting of two or more units showing the full range of variations expected.

      a. Sandwich panels: 6"x12" minimum units
      b. Factory finished aluminum: 5" long sections

D. Submit Installer Certificate, signed by installer, certifying compliance with project qualification requirements.

E. Submit product reports from a qualified independent testing agency indicating each type and class of panel system complies with the project performance requirements, based on
comprehensive testing of current products. Previously completed reports will be acceptable if for current manufacturer and indicative of products used on this project.

1. Reports required (if applicable) are:
   b. Flame Spread per ASTM 84 and Smoke Developed meeting (UL 723) – Submit UL Card
   c. Burn Extent (ASTM D 635)
   d. Color Difference (ASTM D 2244) in accordance with ASTM D 1435
   e. Impact Strength (UL 972)
   f. Bond Tensile Strength (ASTM C 297 after aging by ASTM D 1037)
   g. Bond Shear Strength (ASTM D 1002)
   h. Beam Bending Strength (ASTM E 72)
   i. Insulation U-Factor (NFRC 100)
   j. NFRC System U-Factor Certification (NFRC 700)
   k. Solar Heat Gain Coefficient (NFRC or Calculations)
   l. Condensation Resistance Factor (AAMA 1503) (Thermally Broken only)
   m. 1200°F Fire Resistance (SWRI)
   n. Fall Through Resistance (ASTM E 661)
   o. Class A Roof Covering Burning Brand (ASTM E 108)
   p. Insulating U-factor (ASTM C 1199)
   q. Air Infiltration (ASTM E 283)
   r. Water Penetration (ASTM E 331)
   s. Uniform Load Deflection (ASTM E 72 and E 330)

F. Provide Daylight Autonomy Report showing that the proposed translucent (not transparent) daylighting system will provide the product’s maximum lux available in the daylit areas with the corresponding average % possible of the daylight hours for the entire year.

1.3 CLOSEOUT SUBMITTALS
A. Provide project maintenance manuals.

1.4 QUALITY ASSURANCE
A. Manufacturer's Qualifications:
   1. Material and products shall be manufactured by a company continuously and regularly employed in the manufacture of specified materials for a period of at least ten consecutive years and which can show evidence of those materials being satisfactorily used on at least six projects of similar size, scope and location. At least three of the projects shall have been in successful use for ten years or longer.
   2. Panel system must be listed by an ANSI accredited Evaluation Service, which requires quality control inspections and fire, structural and water infiltration testing of sandwich panel systems by an accredited agency.
   3. Quality control inspections shall be conducted at least once each year and shall include manufacturing facilities, sandwich panel components and production sandwich panels for conformance with AC177 “Translucent Fiberglass Reinforced Plastic (FRP) Faced Panel Wall, Roof and Skylight Systems” as issued by the ICC-ES.
B. Single Source: Obtain primary and secondary components and structural framing members, translucent fiberglass roof panels, clips, closures and other accessories from a single manufacturer to operate as a complete system for the intended use.

C. Installer’s Qualifications: Installation shall be by an experienced installer, which has been in the business and has crew members that have been installing specified panel systems for at least two consecutive years and can show evidence of satisfactory completion of projects of similar size, scope and type.

1.5 PERFORMANCE REQUIREMENTS

A. The manufacturer shall be responsible for the configuration and fabrication of the complete skylight system, including the aluminum box beam superstructure.

1. Provide structural calculations showing sizes of framing members and loads applied to the supplanting structure based on the design loads signed and sealed by the qualified professional engineer responsible for their preparation who is licensed in the state where the system is to be installed.

2. Structural Loads; Provide skylight system capable of handling the following loads:

   a. Roof Live Load, on horizontal projected surface, minimum: 20 PSF
   b. Roof Snow Drift Load, on horizontal projected surface, minimum: 20 PSF,
   d. Safety Factors: Allowable stresses shall incorporate the following minimum safety factors, unless otherwise specified or required by code
      1) Load Carrying Members: 1.65
      2) Load Carrying Fasteners: 2.0

B. Deflection Limits:

1. Skylight Panels: Limited to l/120 of clear span.

1.6 DESIGN

A. Description: Skylight System

1. Nominal Size: 116’ x 148’
2. Aluminum Box Beam Size: 3”x4”
3. Roof Pitch: 22.5 and 30.36

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver skylight system, components and materials in manufacturer’s standard protective packaging.

B. Store skylight system panels on the long edge; several inches above the ground, blocked and under cover to prevent warping in accordance with manufacturer’s storage and handling instructions.
1.8 WARRANTY

A. Provide manufacturer's and installer's written warranty agreeing to repair or replace skylight system work, which fails in materials or workmanship within one year from the date of delivery. Failure of materials or workmanship shall include leakage, excessive deflection, deterioration of finish on metal in excess of normal weathering, defects in accessories, insulated translucent sandwich panels and other components of the work.

B. Provide Optional Warranties
   1. Manufacturer's 5 year/10 year coverage.
   2. Exterior Fiberglass Color Change 10 year/20 year
   3. Fiberglass Fiberbloom - 20 year
   4. Metal Finishes
      a. Anodize – 5 year/10 year
      b. 50% Kynar Paint – 5 year/10 year
      c. 70% Kynar Paint – 10 year/20 year

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. The basis for this specification is for products manufactured by Structures Unlimited, Inc. Other manufacturers may bid this project provided they comply with all the performance requirements of this specification and submit evidence thereof. Listing other manufacturers' names in this specification does not constitute approval of their products or relieve them of compliance with all the performance requirements contained herein.

2.2 PANEL COMPONENTS

A. Face Sheets:
   1. Translucent faces: Manufactured from glass fiber reinforced thermoset resins, formulated specifically for architectural use.
      a. Thermoplastic (e.g. polycarbonate, acrylic) faces are not acceptable.
      b. Face sheets shall not deform, deflect, or drip when subjected to fire or flame.
   2. Interior face sheets:
      a. Flame spread: Underwriters Laboratories (UL) listed, which requires periodic unannounced retesting, with flame spread rating no greater than 25 and smoke developed no greater than 250 when tested in accordance with UL 723.
      b. Burn extent by ASTM D 635 shall be no greater than 1"/minute.
   3. Exterior face sheets:
      a. Color stability: Full thickness of the exterior face sheet shall not change color more than 3 CIE Units DELTA E by ASTM D 2244 after 5 years outdoor South Florida weathering at 5° facing south, determined by the average of at least three white samples with and without a protective film or coating to ensure long-term color stability. Color stability shall be unaffected by abrasion or scratching.
      b. Strength: Exterior face sheet shall be uniform in strength, impenetrable by handheld pencil and repel an impact minimum of .70 ft. lbs. without fracture or tear when impacted by a 3-1/4" diameter, 5 lb. free-falling ball per UL 972.

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4. Appearance:
   b. Interior face sheet: Smooth, .045 thick and Crystal in color.
   c. Face sheets shall not vary more than ± 10% in thickness and be uniform in color.

B. Grid Core:
   1. Aluminum I-beam grid core shall be of 6063-T6 or 6005-T5 alloy and temper with provisions for mechanical interlocking of muntin-mullion and perimeter. Height of I-beam shall be no less than 7/16".
   2. I-beam Thermal break: Minimum 1", thermoset fiberglass composite.

C. Laminate Adhesive:
   1. Heat and pressure resin type adhesive engineered for structural sandwich panel use, with minimum 25-years field use. Adhesive shall pass testing requirements specified by the International Code Council "Acceptance Criteria for Sandwich Panel Adhesives".
   2. Minimum tensile strength of 550 PSI when the panel assembly is tested by ASTM C 297 after two exposures to six cycles each of the aging conditions prescribed by ASTM D 1037.
   3. Minimum shear strength of the panel adhesive by ASTM D 1002 after exposure to four separate conditions:
      a. 50% Relative Humidity at 68° F: 540 PSI
      b. 182° F: 100 PSI
      c. Accelerated Aging by ASTM D 1037 at room temperature: 800 PSI
      d. Accelerated Aging by ASTM D 1037 at 182° F: 250 PSI

D. Snow Guards
   1. Aluminum - (6063-T6 or 6005-T5 alloy) with finish to match panel framing.
   2. Capacity — capable of meeting or exceeding the requirements for the specified snow load and roof slope.

2.3 PANEL CONSTRUCTION

A. Provide sandwich panels of flat fiberglass reinforced translucent face sheets laminated to a grid core of mechanically interlocking I-beams. The adhesive bonding line shall be straight, cover the entire width of the I-beam and have a neat, sharp edge.
   1. Thickness: 2-3/4"
   2. Light transmission: Maximize %
   3. Solar heat gain coefficient: Provide value for maximum light transmission
   4. Panel U-factor by NFRC certified laboratory: .53U
   5. Complete insulated panel system shall have NFRC certified U-factor of: .63U
   6. Grid pattern: Nominal size 12"x24"; pattern shoji

B. Standard panels shall deflect no more than 1.9" at 30 PSF in 10'-0" span without a supporting frame by ASTM E 72.

C. Standard panels shall withstand 1200° F fire for minimum one hour without collapse or exterior flaming.
D. Thermally broken panels: Minimum Condensation Resistance Factor of 80 by AAMA 1503 measured on the bond line.

E. Skylight System:
   1. Skylight system shall pass Class A Roof Burning Brand Test by ASTM E 108.

F. Skylight System shall meet the fall through requirements of OSHA 1910.23 as demonstrated by testing in accordance with ASTM E 661, thereby not requiring supplemental screens or railings.

2.4 BATTENS AND PERIMETER CLOSURE SYSTEM

A. Closure system: Extruded aluminum 6063-T6 and 6063-T5 alloy and temper clamp-tite screw type closure system.

B. Sealing tape: Manufacturer's standard, pre-applied to closure system at the factory under controlled conditions.

C. Fasteners: Various series stainless steel screws for aluminum closures, excluding final fasteners to the building.

D. Finish: Manufacturer's factory applied finish, which meets the performance requirements of AAMA 2604. Color to be selected from manufacturer's standards.

2.5 SUBSTRUCTURE

A. The substructure shall be pre-fabricated of extruded aluminum alloy 6005-T5, 6005A-T61 or 6061-T6 box beams. Ferrous metals shall not be allowed. All parts shall be pre-assembled at the factory and knocked down for shipment. System shall be attached to existing steel framing.

B. Finish: Manufacturer's factory applied finish, which meets the performance requirements of AAMA 2604. Color to be selected from manufacturer's standards.
   1. Provide 2 standard color charts for color selection by Architect.

C. Aluminum structural system design and calculations must be furnished in accordance with the Aluminum Association "Specifications for Aluminum Structures" and the applicable building code. Design calculations must be prepared and stamped by a Licensed Professional Engineer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Installer shall examine substrates, supporting structure and installation conditions. If any rust or corrosion found on the existing substrates that is more than minor surface rust contact Engineer for repair recommendations. For minor surface rust, wire brush any loose rust off the surface and apply a protective coating of zinc rich primer.
B. Installer must field verify all dimensions and sizes shown on the original construction documents.

C. Do not proceed with structural skylight installation until unsatisfactory conditions have been corrected by the general contractor.

3.2 PREPARATION

A. Metal Protection:
   1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.
   2. Where aluminum will contact concrete, masonry or pressure treated wood, protect against corrosion by painting contact surfaces with bituminous paint or method recommended by manufacturer.

B. The general contractor shall provide temporary enclosures required.

3.3 INSTALLATION

A. Install the skylight system in accordance with the manufacturer's installation recommendations and approved shop drawings.
   1. Anchor component parts securely in place by permanent mechanical attachment system.
   2. Accommodate thermal and mechanical movements.

B. After other trades have completed work on adjacent material, carefully inspect translucent panel installation and make adjustments necessary to ensure proper installation.

C. Install snow guards in a manner to maximize their resistance to sliding snow and ice. Guard connections should not fall before the structural component of the guard.

3.4 FIELD QUALITY CONTROL

A. Water Test: Installer to test skylights according to procedures in AAMA 501.2.

B. Repair or replace work that does not pass testing or that is damaged by testing and retest work.

3.5 CLEANING

A. Clean the skylight system immediately after installation.

B. Refer to manufacturer's written recommendations.

END OF SECTION 08 63 00