University of Central Arkansas

Project Manual

UCA STONE DAM CREEK PED. BRIDGE (TAP-20) (S)

UCA-24-023

ARDOT #080670

TAPF-9095 (45)

Bid Date: November 16, 2023 @ 10:00 A.M.

Mandatory Pre-bid Meeting Date: November 2, 2023
Time: 10:00 A.M.

The Architect of Record for the Specifications for the UCA Stone Dam Creek Ped. Bridge (TAP-20) (S), University of Central Arkansas, Conway, Arkansas, is Stocks-Mann Architects, PLC.

Issue Date: October 3, 2023

I hereby certify that these specifications have been prepared by me, or under my supervision. I further certify that to the best of my knowledge these specifications are as required by law and in compliance with the Arkansas Fire Prevention Code for the State of Arkansas.

R. Mark Mann

R. Mark Mann Arkansas Registration No. 1509

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University of Central Arkansas
Conway, Arkansas

UCA STONE DAM CREEK PED. BRIDGE (TAP-20) (S)
ARDOT #080670
TAPF-9095(45)
UCA Project #24-023
SMA #1505R

PROJECT DIRECTORY

OWNER

University of Central Arkansas
201 Donaghey Ave
Conway, Arkansas 72035
Phone: (501) 450-3196
Contact: Kevin Carter

ARCHITECTS

Stocks-Mann Architects, PLC
401 W. Capitol, Suite 402
Little Rock, Arkansas 72201
Phone: (501) 370-9207
Contact: Mark Mann

CIVIL ENGINEERS

Development Consultants Incorporated
2200 N. Rodney Parham Road #220
Little Rock, Arkansas 72212
Phone: (501) 221-7880
Contact: Robert Brown

STRUCTURAL ENGINEERS

Robbins Engineering, PLLC
10018 W. Markham Street
Little Rock, Arkansas 72205
Phone: (501) 664-7575
Contact: Casey Daniel

ELECTRICAL ENGINEER

Insight Engineering, PLLC
201 S. Chester
Little Rock, Arkansas 72201
Phone: (501) 237-3077
Contact: Michael Harkey

INDEX TO THE PROJECT MANUAL INCLUDING SPECIFICATIONS
University of Central Arkansas
Conway, Arkansas

UCA STONE DAM CREEK PED. BRIDGE (TAP-20) (S)
ARDOT #080670
TAPF-9095(45)
UCA Project #24-023
SMA #1505R

Issue Date: October 3, 2023

DIVISION 00 – BIDDING REQUIREMENTS & CONDITIONS OF THE CONTRACT

DIVISION 01 - GENERAL REQUIREMENTS

DIVISION 02 - EXISTING CONDITIONS

DIVISION 03 – CONCRETE

DIVISION 04 – MASONRY

None in this Contract

DIVISION 05 – METALS

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

None in this Contract

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

None in this contract

DIVISION 08 – OPENINGS

None in this Contract

DIVISION 09 – FINISHES

099123 Painting

DIVISION 10 – SPECIALTIES

None in this Contract

DIVISION 11 – EQUIPMENT

None in this Contract

DIVISION 12 – FURNISHINGS

None in this Contract

DIVISION 13 - SPECIAL CONSTRUCTION

134920 Fabricated Pedestrian Bridge
134921 Fabricated Pedestrian Ramp and Landing
134922 Fabricated Pedestrian Gangway
134923 Fabricated Pedestrian Stair

DIVISION 14 - CONVEYING SYSTEMS

None in this Contract

DIVISION 21 – FIRE SUPPRESSION

None in this Contract

DIVISION 22 - PLUMBING

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DIVISION 23 – HEATING, VENTILATING AND AIR CONDITIONING

None this Contract

DIVISION 26 – ELECTRICAL

DIVISION 31 – EARTHWORK

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INVITATION TO BID
Section 001116

University of Central Arkansas 201 Donaghey Avenue, Wingo Hall 113 Conway, AR 72035 Issuing Officer: Pam Giblet Email: pgiblet@uca.edu Phone: 501-450-3156	Bid #UCA-24-023 Description: **UCA Stone Dam Creek Ped. Bridge (TAP-20) (S)** Construction Coordinator: Danielle Barron Phone: 501-852-0131 Cell: 501-499-3566 Email: dbarron@uca.edu

1. You are invited to bid on a General Contract for all labor, methods, material and equipment necessary to provide a Stone Dam Creek Ped. Bridge (TAP-20) (S) on the campus of the University of Central Arkansas hereinafter termed Owner. The bids shall be on a lump sum basis.

2. There will be a **Mandatory Pre-Bid Conference meeting held on November 2, 2023 at 10:00 a.m. central time, at 201 Donaghey Avenue, Wingo Hall Room 315, Conway, AR 72035**. UCA reserves the right to schedule additional meetings.

3. **Owner will receive bids until 10:00 a.m. central time, on November 16, 2023.** Bids may be mailed or delivered to the UCA Procurement Office, 201 Donaghey A, Wingo Hall Suite 113, Conway, AR 72035, hereinafter termed UCA. Bids received after this time will not be accepted. Bids will be publicly opened and read aloud at the time and date mentioned. Interested parties are invited to attend. Faxed bids exceeding $20,000.00 will be rejected.

4. UCA, unless designated to another entity, supervises the bidding and awarding of all construction contracts, approves contract change orders, requests for payment and ensures that on-site observations are accomplished.

5. Obtaining contract documents through any source other than the Design Professional is not advisable due to the risks of receiving incomplete or inaccurate information. Contract documents obtained through the Design Professional or their representative(s) are considered the official version and take precedence should any discrepancies occur. Prime bidders will be furnished three (3) sets of bidding documents.

6. Bid Security in the amount of five percent (5%) of the Bid must accompany each Bid in accordance with the Instructions to Bidders.

7. Bidders are hereby notified that any bidder who desires to enter into Contract for this work must comply with disclosure requirements pursuant to Governor Executive Order 98-04. Submission to UCA of completed Disclosure form will be a condition of the Contract. UCA cannot enter into any contract nor can UCA approve any contract, which does not obligate the contractor to require the submission of Disclosure forms for subcontractors.

8. **UCA reserves the rights to reject any and all bids, and to waive any formalities.** Bidders shall conform to the requirements of the Arkansas licensing laws and regulations for contractors, and shall be licensed before his bid is submitted unless the project is federally funded and therefore excepted by Ark. Code Ann. §17-25-315.

9. Pursuant to Ark. Code Ann. § 22-9-203, UCA encourages all small, minority, and women business enterprises to submit bids for capital improvements. Encouragement is also made to all general contractors that in the event they subcontract portions of their work, consideration is given to the identified groups.

10. BIDDERS ARE ADVISED that Arkansas State Contractor Licensing Law applies to this project. Subcontractors are also required to be licensed according to Arkansas State Law. Licensure is not required to submit a bid; however, evidence of licensure shall be provided to the Owner prior to signing the contract.

11. BIDDERS ARE ADVISED that BUY AMERICA PROVISIONS apply to this contract. The Arkansas Department of Transportation Standard Specifications for Highway Construction, latest edition, Section 106 contains the requirements and restrictions for Buy America, 23 CFR §635.410 contains all federal requirements for Buy America.

12. The Owner hereby notifies all bidders that this contract is subject to applicable labor laws, non-discrimination provisions, wage rate laws, and other federal laws including the Fair Labor Standards Act of 1938. The Work Hours Act of 1962 and Title VI of the Civil Rights Act of 1964 also apply.

13. Pursuant to Arkansas Code Annotated § 25-1-503, a public entity shall not enter into a contract valued at $1,000 or greater with a company unless the contract includes a written certification that the person or company is not currently engaged in, and agrees for the duration of the contract not to engage in, a boycott of Israel. The successful contractor must sign the certification form provided by the university as part of the agreement.

14. Pursuant to Arkansas Code Annotated § 19-11-105 no state agency may enter into or renew a public contract for services exceeding $25,000 with a contractor who employs or contracts with an illegal immigrant. The successful contractor must sign the certification form provided by the the university as part of the agreement.

15. Pursuant to Arkansas Code Annotated § 25-1-1102 a public entity shall not enter into a contract with a company unless the contract includes a written certification that the person or company is not currently engaged in, and agrees for the duration of the contract not to engage in, a boycott of Energy, Fossil Fuel, Firearms or Ammunition Industry. The successful contractor must sign the certification form provided by the university as part of the agreement.

End of
INVITATION TO BID
001116

INSTRUCTIONS TO BIDDERS
Section 002113

1. **BIDDING DOCUMENTS**. Bidders may obtain complete sets of Contract Documents from the office designated below. Complete sets of Contract Documents must be used in preparing bids; neither Owner nor Design Professional assume responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents. Obtaining Contract documents through any source other than the Design Professional listed in the Invitation to Bid is not advisable due to the risks of receiving incomplete or inaccurate information, and the bidder runs the risk of basing bidder's proposal on such information. The documents obtained through the Design Professional or his representative(s) or UCA are considered the official version and take precedence if any discrepancies occur. The fact that documents used for bidding purposes are named "contract documents" does not diminish in any way the right of UCA to reject any and all bids and to waive any formality.

Prime Bidders may obtain up to three (3) sets of bidding documents, available at Southern Reprographics, 901 West 7th Street, Little Rock, Arkansas, 72201, (501) 372-4011. Prime Bidders must deposit a check in the amount of $125.00 per set, payable to Stocks Mann Architects, PLC. Deposits will be refunded to all prime bidders who submit a bid and return bidding documents in good condition within ten (10) days after opening bids. A Bidder receiving a contract may retain the bidding documents and the Bidder's deposit will be refunded. Prime Bidders requiring additional sets and Sub-bidders may purchase bidding documents through Southern Reprographics. Shipping and delivery charges will be in addition to the deposit and are non-refundable. Plans and specs are also available in PDF form to Prime Bidders through Southern Reprographics, services charges apply, PDF's will be sent via email to the request made.

Southern Reprographics
901 West 7th Street
Little Rock, AR 72201
(501) 372-4011

The fact that documents used for bidding purposes are named "contract documents "does not diminish in any way the right of UCA to reject any and all bids and to waive any formality.

2. **EXAMINATION OF DRAWINGS, SPECIFICATIONS AND SITE OF WORK**. Bidder shall examine the Contract Documents and visit the project site of work. Bidder shall become familiar with all existing conditions and limitations under which the Work is to be performed, and shall base bid on items necessary to perform the Work as set forth in the Contract Documents. No allowance will be made to Bidder because of lack of such examination or knowledge. The submission of a Bid shall be construed as conclusive evidence that the Bidder has made such examination.

3. **INTERPRETATION OF CONTRACT DOCUMENTS DURING BIDDING**.

3.1 All references to the Owner shall be interpreted to mean the Agency for whom the work is being contracted.

3.2 If any person contemplating submitting a Bid is in doubt as to the true meaning of any part of the Contract Documents or finds discrepancies in or omissions from any part of the Contract Documents, they may submit to the Design Professional a written request for an interpretation or correction thereof not later than five (5) calendar days before Bid opening.

3.3 Address all communications regarding the Contract Documents to Stocks Mann, Architects, 401 West Capitol, Suite 402, Little Rock, Arkansas 72201; 501-370-9207; mmann@stocksmann.com

3.4 Interpretation or correction of the Contract Documents will be made only by Addendum and will be mailed, faxed or delivered to each Bidder of record by the Design Professional.

3.5 Addenda issued during the bidding period will be incorporated into the Contract Documents.

4. **SUBSTITUTIONS**.

4.1 Materials, products, and equipment described in the Contract Documents establish a standard of required function and a minimum desired quality or performance level, or other minimum dimensions and capacities, to be met by any proposed substitution. Acceptability of substitutions will not be considered during bidding period.

4.2 In some cases, prior approval of material or equipment, or both shall be obtained from Owner in order to obtain the desired color, size, visual appearance, and other features specified.

5. **TYPE OF BID**.

5.1 The Work under this Contract will be awarded under a stipulated sum contract to the lowest responsible base bid amount. No segregated bids or assignments will be considered.

5.2 The estimate of quantities is approximate only and shall be the basis for receiving unit price bids for each item, but shall not be considered by the Bidder as the actual quantities that may be required for the completion of the proposed work. Bidder shall state a unit price for every item of work named in the Proposal. Bidder shall include, in the unit prices, furnishing of labor, materials, tools, equipment, and apparatus of every description to construct, erect, and finish the Work. The unit price bid for the items shall be shown numerically and in the appropriate spaces provided on the Bid Form. Such figures shall be clear and distinctly legible so that no question can arise as to their intent or meaning. Unit price bids and totals shown in the Bid Form shall not include costs of engineering, advertising, printing and appraising.

6. **PREPARATION OF BID**. Bid shall be made on an unaltered Bid Form identical to the form included with the Contract Documents. Fill in all blank spaces and submit one original. Bids shall be signed with name typed below the signature. Where Bidder is a corporation, bids shall be signed with the legal name of the corporation followed by the name of the state of incorporation, contractor's license number issued by the Contractors Licensing Board, and the signature of an authorized officer of the corporation.

6.1 Bids submitted by a "Joint Venture/Joint Adventure" shall be signed by representatives of *each component part* of the Joint Venture. The licenses of *each component part* of the Joint Venture shall also be listed in the bid submittal. Therefore, joint venture bidders shall indicate at least

two (2) signatures and two (2) licenses numbers on the Bid Form. Exception: Joint Ventures who have been properly licensed with the Arkansas Contractors Licensing Board as a "Joint Venture" need only to indicate the joint venture license number on the Bid Form. Joint Venture Bidders shall indicate at least two (2) signatures on the bid form even if they are licensed as a joint venture

7. **BID GUARANTEE AND BONDS**.

7.1 Each bid proposal shall include a bid security in the amount of five percent of the total bid offered, if the bid is in excess of $50,000.00. The bidder will be required to submit a bidder's deposit, which includes enclosing a cashier's check payable to the order of UCA drawn upon a bank or trust company doing business in Arkansas or by a corporate bid bond in an amount equal to five (5) percent of the bid. The bidder shall include in the bid the bid bond amount so that the bid represents the total cost to the Owner of all work included in the contract.

7.2 The bid bond shall indemnify the Owner against failure of the Contractor to execute and deliver the contract and necessary bond (Performance and Payment Bond) for faithful performance of the contract. The bid bond shall provide that the contractor or surety must pay the damage, loss, cost and expense subject to the amount of the bid security directly arising out of the Contractor's default in failing to execute and deliver the contract and bonds.

7.3 Owner will have the right to retain the bid security of bidders to whom an award is being considered until the Contract has been executed and bonds if required, have been furnished, or until specified time has elapsed so that bids may be withdrawn, or all bids have been rejected.

7.4 Failure to execute the Contract and file an acceptable full payment and performance bond and proof of liability insurance within **10** working days after the intent to award has been issued to the bidder shall be just cause for the cancellation of the award and forfeiture of the bid bond, which shall become the property of the agency, not as a penalty but in liquidated damages sustained. Award may then be made to the next lowest responsible bidder, or the work may be rebid and constructed under contract or otherwise as the State determines. The low bidder who fails to execute the Contract and submit an acceptable payment and performance bond and proof of liability insurance will not be permitted to bid on any subsequent advertisement of that project.

8. **PERFORMANCE AND PAYMENT BOND**. Performance and Payment Bonds are not required for bids $50,000.00 or under, except for roofing projects. For work exceeding $50,000.00, the bidder shall furnish a Performance and Payment Bond in the amount equal to 100 percent of contract price, on a form identical to the Arkansas Statutory Performance and Payment Bond Form included with the Contract Documents as security for faithful performance of the Contract and payment of all obligations arising thereunder within ten days after receipt of the Intent to Award. The bond shall be written by a surety company qualified and authorized to do business in the State of Arkansas. The bond shall be executed by a resident or non-resident agent licensed by the State Insurance Commissioner, to represent the surety company. The bond shall be written in favor of the Owner. Bidder shall file the bond with the Circuit Clerk in the county where the Work is to be performed. Failure to deliver said bonds, as specified, shall be considered as having abandoned the Contract and the bid security will be retained as liquidated

damages. The bidder shall include in the bid the Performance and Payment bond amount so that the bid represents the total cost to the Owner of all work included in the contract.

9. **SUBCONTRACTORS**. Name of principal subcontractors shall be listed where indicated on the Bid Form in accordance with Ark. Code Ann. § 22-9-204 and the contract documents. All prime contractors, as a condition to perform construction work for and in the State of Arkansas, shall use no other subcontractors when the subcontractor's portion of the project is $50,000.00 or more, except those qualified and licensed by the Contractors Licensing Board in Mechanical (HVAC), Plumbing, Electrical and Roofing.

A bidder should request clarification from the Design Professional if the bidder determines a type of work (mechanical –indicative of HVACR; electrical – indicative of wiring and illuminating fixtures; plumbing; roofing and sheet metal work - indicative of roofing application) is a component of the project, but space has not been provided on the bid form for the listing of such or if the bid form lists a type of work that is not a component of the project. Clarification should be made in accordance with Instruction 3.2.

9.1 For those bids where the listed subcontract work is $50,000.00 or more, the prime contractor must make a decision as to which subcontractor he intends to use. The prime contractor shall place the names of each subcontractor and indicate whether the amount of the listed work is $50,000.00 or more in the space provided on the Bid Form. The prime contractor may use his own forces to do the listed work, however, if the listed work is $50,000.00 or more, the prime contractor must be qualified and licensed by the Arkansas Contractors Licensing Board to perform the listed work. Once the prime contractor determines his own forces will be used, he shall place his name, and indicate in the space provided on the Bid Form whether the amount of the listed work is $50,000.00 or more. Failure to complete the form correctly shall cause the bid to be declared non-responsive, and the bid will not receive consideration.

9.2.1 In the event the amount of the listed subcontract work is below $50,000.00, the Prime Contractor shall place the names of the person or firm performing the work and indicate in the space provided on the Bid Form whether the listed work is under $50,000.00. Failure to complete the form correctly shall cause the bid to be declared non-responsive, and the bid will not receive consideration.

9.2.2 It shall be mandatory that any subcontractors listed in (A) – (D) on the Bid Form by the Prime Contractor is awarded a contract under Ark. Code Ann. § 22-9-204. Prime Contractors who submit a bid listing unlicensed subcontractor or use unlicensed subcontractor on a state project or any subcontractor not licensed by the Contractors Licensing Board who perform work having a value of $50,000.00 or more on a state project are subject to a civil penalty, after notice and hearing, of not less than $250.00 nor more than $500.00 and may be suspended from bidding on state projects. In the event that one (1) or more of the subcontractors named by the prime contractor in his successful bid thereafter refuse to perform his contract or offered contract, the prime contractor may substitute another subcontractor, after having obtained prior approval from the design professional and UCA.

9.3. Electrical License Requirement

a. No person shall perform electrical work on the contract without possessing an Arkansas State Master or Journeyman License from the Arkansas State Electrical Examiners Board. All electrical work and apprentice electricians shall be supervised by a Master or Journeyman Electrician on a one to one ratio.

b. All electricians shall have a copy of their license with them and shall be required to show it to an appropriate inspector upon request.

9.4 Pursuant to Ark. Code Ann. § 22-9- 404, the Bidder may require listed subcontractors (mechanical, plumbing, electrical and roofing/sheet metal) whose bid to the Contractor exceeds $50,000.00 to provide a Performance and Payment Bond to the Bidder.

10. **SUBMITTAL**. Submit bid on the Bid Form in an opaque, sealed envelope. Identify the envelope with: project name and number, name of Bidder, and Arkansas Contractors License number; only one bid shall be submitted per State Contractors license number. Submit bids in accordance with the Invitation to Bid. All blanks on the form shall be filled out in ink or be typewritten. Erroneous entries, alterations, and erasures shall be lined out, initialed by the Bidder, and the corrected entry inserted on the Bid Form.

11. **MODIFICATION AND WITHDRAWAL**. Bidder may withdraw bid at any time before bid opening and may resubmit up to the date and time designated for receipt of bids. No bid may be withdrawn or modified after time has been called for the bid opening. Oral modifications to bids will not be considered. Bidder may submit written modifications to bid in writing or by facsimile at any time prior to the expiration of the bidding time and date and shall so **state the word modification(s)** as to not reveal the amount of the original bid. Facsimile modifications shall require written confirmation of the Bidder's signature within 24 hours after bid opening. Should the modification reveal the total bid amount the entire bid will be rejected.

12. **DISQUALIFICATION OF BIDDERS**. The State shall have the right to disqualify bids (before or after opening), which includes but is not limited to, evidence of collusion with intent to defraud or other illegal practices upon the part of the Bidder, to reject a bid not accompanied by the required bid security or by other data required by the Contract Documents, or to reject a Bid which is in any way incomplete or irregular.

13. **APPLICABLE LAWS**.

13. 1 Labor. Contractors employed upon the work will be required to conform to the labor laws of the State of Arkansas and the various acts amendatory and supplementary thereto, and to all the laws, regulations, and legal requirements applicable thereto.

13. 2 Discrimination. Bidder shall not discriminate against any employee, applicant for employment, or subcontractor as provided by law. Bidder shall be responsible for ensuring that all subcontractors comply with federal and state laws and regulations related to discrimination. Upon a final determination by a court or administrative body having proper jurisdiction that the Bidder has violated state or federal laws or regulations, the Owner may impose a range for appropriate remedies up to and including termination of the Contract.

13. 3 Taxes. Bidder shall include in the bid all state sales tax, social security taxes, state unemployment insurance, and all other items of like nature. It is the intent that the bid shall represent the total cost to the Owner of all work included in the contract. There are no provisions for a contractor to avoid taxes by using the tax exempt number of a state agency, board, commission or institutions. Said taxes shall be included in the bid price.

13. 4 State licensing laws for Contractors.

13.5 Disclosure. Potential Bidders are hereby notified that any bidder who desires to enter into a contract not exempted from the disclosure requirements, that disclosure is a condition of the Contract and that UCA cannot enter into any such contract, nor approve any such contract, for which disclosures are not made and the verbiage of paragraphs a, b, and c below will be included in the body of any contract awarded.

Potential Bidders are hereby notified that:

a. Disclosure is required to be a condition of any present or future subcontract for which the total consideration is greater than twenty-five thousand ($25,000)
b. The Contractor shall require any present or future subcontractor, for which the subcontract amount is greater than $25,000.00, to complete and sign the Contract and Disclosure and Certification. The contractor shall ensure that any agreement, current or future between the contractor and a subcontractor for which the total consideration is greater than $25,000.00 shall contain the following:

Failure to make any disclosure required by Governor Executive Order 98-04, or any violation of any rule, regulation or adopted pursuant to that Order, shall be material breach of the term of this subcontract. The party who fails to make the required disclosure or who violates the rule, regulation, or policy shall be subject to all legal remedies available to the contractor.

c. The Contractor shall transmit a copy of the subcontractor's disclosure form to the agency and a statement containing the dollar amount of the subcontract within ten (10) days upon receipt of subcontractor's disclosure.

13.6 Minority Participation: Pursuant to Ark. Code Ann. § 22-9-203, the State encourages all small, minority, and women business enterprises to submit bids for capital improvements. Encouragement is also made to all general contractors that in the event they subcontract portions of their work, consideration is given to the identified groups.

13.7 The bidding, award and administration of the contract shall be made pursuant to Ark. Code Ann. §14-4-1401 et seq., Ark. Code Ann. § 22-9-101 et seq., Ark. Code Ann. § 22-2-101 et seq.

14. **LIQUIDATED DAMAGES**. The amount of liquidated damages to be assessed shall be in accordance with the amount indicated in the Contract. Bidder understands and agrees that under the terms of the Contract to be awarded, if the Contractor fails to complete the work within the time limit specified in the Contract, the Contractor shall pay the Owner as Liquidated Damages, and not in the nature of a penalty the sum specified in the Bid Form for each day

completion is delayed. It is further understood and agreed by bidder that the said sum fixed as Liquidated Damages is a reasonable sum considering the damages that Owner will sustain in the event of any delay in completion of the Work, and said sum is herein agreed upon and fixed as Liquidated Damages because of difficulty in ascertaining the exact amount of damages that may be sustained by such delay.

15. **PREBID CONFERENCE**. There will be a **Mandatory Pre-Bid Conference meeting held on November 2, 2023**, **at UCA, 201 Donaghey Ave. Wingo Hall Room 315, Conway, AR 72035.** All prospective bidders are encouraged to attend. UCA reserves the right to reschedule the Pre-Bid Conference or to schedule additional conferences.

16. **OPENING**. Bids will be opened as identified in the Invitation to Bid.

17. **EVALUATION AND CONSIDERATION OF BIDS**. It is the intent of UCA to award a Contract to the lowest responsive qualified Bidder provided the bid has been submitted in accordance with the requirements of the Contract Documents and does not exceed the funds certified for the project by more than 25%. UCA shall have the right to waive any formalities in a bid received and to accept the bid which, in UCA's judgment, is in its best interests and upon approval of UCA. UCA shall have the right to accept any or all bids for a period not to exceed 30 days.

17.1 Tie Bids. If two or more sealed bids are equal in amount, meet Bidding Document requirements, and are the lowest received by the time of the bid opening, then the apparent low bidder will be determined by lot (placing the name of the tie bidders into a container and drawing one name). The drawing will be conducted by UCA personnel and another person so designated by UCA in the presence of a witness and the tie bidders or representatives. The witness shall be an employee of the State of Arkansas. Documentation of the drawing shall be included on the bid tabulation and be signed by those present. Nothing in the above and foregoing will diminish UCA's reserved right to reject any and all bids and to waive any formalities.

18. **EXECUTION OF CONTRACT**.

18.1 The apparent low Bidder shall be prepared, if so required by the Owner, to present evidence of experience, qualifications, and financial ability to carry out the terms of the Contract.

18. 2 The successful Bidder will be required to execute an Agreement with the Owner on a form identical to the Agreement Form included with the Contract Documents and the Performance and Payment Bond and Certification of Insurance within ten days after receipt of the Intent to Award. Failure of the Bidder to do so may result in the Bidder being rejected and could result in disqualification and forfeiture of bid bond.

18. 3 The successful Bidder will be required to furnish Owner with proof of insurance, as prescribed by the General and Supplementary Conditions.

End of
INSTRUCTIONS TO BIDDERS
002113

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DOCUMENT 003119 - EXISTING CONDITION INFORMATION

1.1 EXISTING CONDITION INFORMATION

A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of the Bidders' own investigations. They are made available for Bidders' convenience and information but are not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.

B. Boundary and Topographic Survey information that includes information on existing conditions, prepared by Development Consultants Incorporated., dated September 21, 2021, is available for viewing as part of the Drawings.

C. Related Requirements:

1. Document 002113 "Instructions to Bidders" for the Bidder's responsibilities for examination of Project site and existing conditions.
2. Document 003132 "Geotechnical Data" for reports and soil-boring data from geotechnical investigations are made available to bidders.

END OF DOCUMENT 003119

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DOCUMENT 003120 - PERMIT INFORMATION

1.1 EXISTING INFORMATION

A. This Document with its referenced attachments is part of this Project. They provide Owner's permitting application / approval for Bidders' convenience. They are made available for Bidders' convenience and information. These Documents and its attachments are part of the Contract Documents.

B. Related Requirements:
   1. Document 003140 "Arkansas Floodplain Development Permit – UCA Pedestrian Bridge" for permit issued by the City of Conway available to bidders.

   2. Document 003150, USACE - 404 permit issued by the U.S. Army Corps of Engineers available to bidders

   3. Document 003160, ADEQ - STAA permit issued by Division of Environmental Quality available to bidders.

   4. Document 0031170, Small Site SWPPP permit issued by AEDQ.

END OF DOCUMENT 003120

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003132

Geotechnical Engineering Report

Planned Pedestrian Bridge
University of Central Arkansas
Conway, Arkansas

GTS Project No. 19-5-5-033
September 5, 2019

Prepared For:

Stocks-Mann Architects, PLC
Little Rock, Arkansas

GTS, Inc.
Geotechnical & Testing Services
www.gtsconsulting.net

Geotechnical Engineering | Construction Materials Testing | Environmental Due Diligence

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Benton, Arkansas 72019
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GTS, Inc.
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www.gtsconsulting.net

January 24, 2022

Stocks-Mann Architects, PLC
401 West Capitol, Suite 402
Little Rock, Arkansas 72201

Attention: Mr. Mark Mann, AIA

RE: Addendum Letter No. 1 to Geotechnical Engineering Report
Footing Foundation Undercut Recommendations
Planned Pedestrian Bridge
University of Central Arkansas
Conway, Arkansas
GTS Project No. 19-5-5-033

Mr. Mann:

As discussed and requested during our conference call on January 3, 2022 between GTS, Inc. (GTS), Stocks-Mann Architects, PLC, and Robbins Engineering, LLC, this addendum letter provides recommendations for ground improvement measures to support footing foundations for the pedestrian bridge. This addendum letter supplements the recommendations provided in GTS Geotechnical Engineering Report No. 19-5-5-033, dated September 5, 2019 (Geotechnical Engineering Report).

We were provided preliminary 60% construction plans for the project, titled “UCA Stone Dam Creek Pedestrian Bridge (TAP-20) (S)”, prepared by Stocks-Mann Architects, PLC, ARDOT #080670, TAPF-9095(45), dated July 22, 2021. As shown in the construction plans, the bridge structure will be supported on drilled pier foundations bearing in weathered shale. Elevated walkways are planned to connect to the new bridge on both sides of the creek. We understand that a total of six bridge tower structures for the walkway are planned to be supported on footing foundations designed using an assumed allowable bearing capacity of 1,500 pounds per square foot (psf). A short retaining wall, planned on the east side of the creek, might also be supported on a footing foundation system.

The Geotechnical Engineering Report provided recommendations for only designing and constructing drilled pier foundations based on our understanding of the planned bridge structure. Recommendations for constructing footing foundations for the pedestrian bridge ramps are provided in the following section. As an alternative, driven or drilled micropiles, driven ductile-iron piles, helical piles, or other specialty foundation systems could be used to support the footings. We would be pleased to discuss these systems in greater detail with you, if requested.

Footing Foundation Design Recommendations

A footing foundation system may be used to support the planned ramp and retaining wall structures after preparing the subgrade as recommended in the Geotechnical Engineering Report, including removal and replacement of the existing fill and any low-strength soils. The recommendations are also based on based on the assumption that the foundations will be protected from the effects of flooding and scour.

Based on the subsurface conditions encountered at the boring locations, ground improvement will likely be required to meet the required allowable bearing capacity of 1,500 psf. In addition, because of the potential presence of existing fill and low-strength soils at the foundation bearing elevations, special procedures are required for testing and observing the footing foundation bearing soils. Footing foundations for the planned building structure may be designed using the information provided in Table 1 below.

Table 1: Footing Foundation Recommendations

Maximum Net Allowable Bearing Pressure (psf)	Bearing Soil Description	Depth to Bearing Soils
1,500 for column and continuous footings	Tested and Approved, Native, Stiff, Shaley Lean Clay and New Select Fill [1]	Anticipated within 18 inches of finished subgrade

1) The recommended bearing soils should be relatively undisturbed, stable and have moderate shear strength. Foundations may also be supported on compacted select fill, aggregate base, or flowable fill placed above tested and approved soils.

An allowable passive pressure of 750 psf may be used for footings cast directly against near-vertical sides in tested and approved, select fill and native, stiff, shaley lean clay soils or select fill compacted against the vertical footing face. Passive resistance for exterior footings should be neglected in the upper 2 feet of the soil profile. We recommend an ultimate coefficient of sliding friction of 0.3 for the interaction between the base of the footing and tested and approved bearing soils.

We estimate total long-term and differential settlement of footing foundations, designed and constructed as recommended in this Addendum including mitigation of low-strength bearing materials, should be less than 1 inch and ¾ inch in 50 feet, respectively.

Footing Foundation Construction Recommendations

General Dimensions

A minimum foundation depth of 18 inches below lowest adjoining final grades should be used to protect against frost heave and seasonal moisture variations.

Allowable Backfill Materials

Compacted select soil fill, compacted aggregate base course, and flowable fill (i.e., “lean concrete”) may be used to backfill foundation overexcavations, where required. Specifications regarding these materials are shown in the Geotechnical Report Requirements and Specifications section of the Geotechnical Engineering Report.

Construction Guidelines

Foundation excavations should be cleaned of loose soils, rock, debris, and water. The bottom of all footing foundation excavations should be tested and evaluated by GTS to evaluate the bearing materials prior to placement of new fill, reinforcing bar, and concrete.

Low-strength, existing fill materials were encountered from the ground surface and extended to depths of about 3 ½ feet and 6 feet below existing grades at Borings B-1 and B-2, respectively. We anticipate that low-strength, existing fill materials also will likely be encountered away from these borings. If unsuitable bearing materials are encountered at the base of the planned footing excavation, the excavation should be overexcavated to reach suitable bearing materials. Because of the potential of low-strength soils to be present below the planned foundation bearing depth, we recommend testing the bearing materials to a depth equal to at least one footing width (1B) below isolated column footings and to a depth equal to at least two footing widths (2B) below continuous footings. Testing could be performed using a combination of hand auger probes, a static cone penetrometer and a dynamic cone penetrometer.

If unsuitable bearing materials are encountered at or below the base of the planned footing excavation, the excavation should be overexcavated to reach suitable bearing materials. The footing could be extended deeper to bear directly on the approved bearing materials or the overexcavation could be backfilled with flowable fill or compacted select fill material or aggregate base course. If select fill or aggregate base course is used, the overexcavation should extend at least 8 inches beyond the footing perimeter for every 12 inches of depth below the bottom of the footing, as shown in Figure 1 on the following page. Select fill and aggregate base course should be placed and compacted as recommended in the Geotechnical Report Requirements and Specifications section of the Geotechnical Engineering Report.

Based on their location and the proximity of the adjacent creek, water could likely be encountered or develop in the foundation overexcavations. We anticipate that sump pits, drainage trenches, and suction pumps will likely be required to construct the footings "in the dry". Where water is encountered in the foundation excavations, we recommend using flowable fill or structural concrete as foundation backfill, tremied from the bottom of the overexcavation to reach the design bottom of footing foundation elevation.

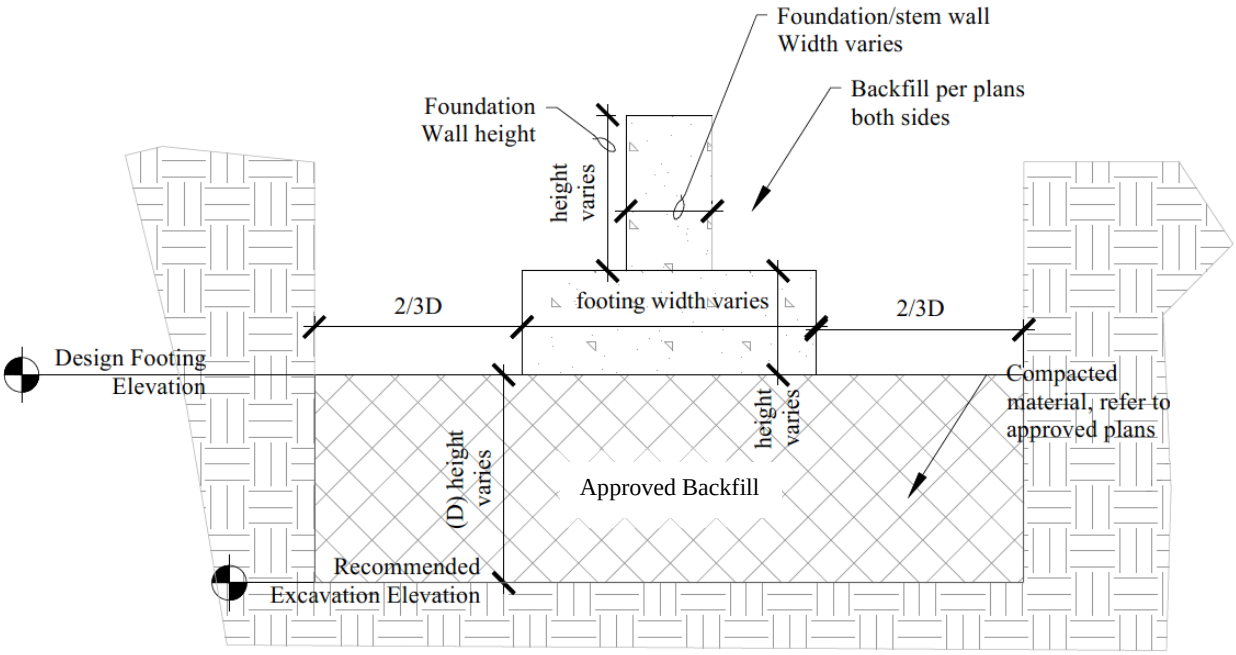

Figure 1: Foundation Backfill Detail for Soil and Aggregate Base Material

Where new select soil or aggregate base course backfill material is constructed in footing excavations, the fill material should be compacted with a jumping jack or similar type of compaction equipment. After compaction, the fill exposed in the bottom of foundation excavations should be retested for in-place density each lift every 25 feet of continuous foundation length, at every individual column foundation location, and again immediately before the placement of reinforcing bar and concrete. Flowable fill, if used to backfill foundation overexcavations, should be tested for compressive strength each day of placement.

All other recommendations provided in GTS Geotechnical Engineering Report No. 19-5-5-033, dated September 5, 2019, remain applicable.

We appreciate the opportunity to be of continued service to you. Please contact us if you have any questions regarding the contents of this addendum letter or the geotechnical engineering report.

Sincerely,

GTS, Inc.
Geotechnical & Testing Services

Certificate of Authorization No. 1251, expires 12/31/2023

Shaun P. Baker, P.E.
Arkansas No. 11817

STATE OF ARKANSAS
1/24/2022
LICENSED PROFESSIONAL ENGINEER
No. 11817
SHAUN P. BAKER

Andrew Beekman, P.E.
Senior Project Engineer

SPB:ANB

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GTS, Inc.
Geotechnical & Testing Services

www.gtsconsulting.net

September 5, 2019

Stocks-Mann Architects, PLC
401 West Capitol, Suite 402
Little Rock, Arkansas 72201

Attention: Mr. Mark Mann, AIA

RE: Geotechnical Engineering Report
Planned Pedestrian Bridge
University of Central Arkansas
Conway, Arkansas
GTS Project No. 19-5-5-033

Mr. Mann:

This report provides the results of the subsurface exploration and geotechnical engineering analysis performed for a planned pedestrian bridge over Stone Creek on the University of Central Arkansas campus in Conway, Arkansas.

We appreciate the opportunity to provide engineering services to you on this project. Please contact us if you have any questions regarding the contents of this report.

Sincerely,

GTS, Inc.
Geotechnical & Testing Services

Certificate of Authorization No. 1251, expires 12/31/2019

Shaun P. Baker, P.E.
Arkansas No. 11817

STATE OF ARKANSAS 9/5/2019 LICENSED PROFESSIONAL ENGINEER No.11817 SHAUN P. BAKER

Xuhui Chang, P.E., Ph.D.
Senior Project Engineer

SPB:XC

Copies to: Addressee (email)

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PROJECT DESCRIPTION and INFORMATION

Project Site

The project site is located at the University of Central Arkansas campus in Conway, Arkansas. More specifically, the project involves constructing a new pedestrian bridge over Stone Creek approximately 270 feet southwest of the existing bridge on Beatrice Powell Street. The general location of the project site is outlined in yellow in Figure 1 below. The satellite image in the below figure is provided courtesy of Google.

Figure 1: General Location of the Project Site

Planned Bridge Structure

The bridge structure could consist of a pre-engineered/manufactured bridge or structural-steel or cast-in-place concrete bridge constructed at the site. Bridge loads were not known at the time of preparing this report.

Planned Site Grading

A site grading plan was not available at the time of preparing the report. We assume that the finished grade will remain near existing grade and estimated cut and fill depths of 1 foot or less will be required to achieve finished grade elevation. If our understanding of site grading plans is incorrect or if grading plans are available, please provide us the preliminary plans or grading information so we can re-evaluate the recommendations in this report and modify them, if necessary.

SUMMARY of SUBSURFACE FINDINGS

Surface

The surface was covered by grass and approximately 4 inches of topsoil, where the borings were drilled.

Subsurface Soils and Rock

Existing Fill

Existing fill materials were encountered to depths of about 3 ½ feet and 6 feet below the ground surface at Borings B-1 and B-2, respectively. The fill material consisted of lean clay containing varying amounts of sandstone and shale pieces and trace amounts of wood pieces.

The existing fill material had low to moderate shear strength during drilling and sampling. Standard Penetration Resistance values (N-values) of 3 to 10 blows per foot (bpf) were recorded for the existing fill.

Stratum I – Native Shaley Lean Clay Soils

Stiff, shaley lean clay was encountered below the existing fill to a depth of about 8 ½ feet below the ground surface at Boring B-2. Native soils were not observed beneath the fill at Boring B-1.

The Stratum I soils had moderate shear strength during drilling and sampling. An N-value of 12 bpf was recorded for the Stratum I soils.

Stratum II – Highly Weathered Clayey Shale and Shale

Soft, highly weathered, clayey shale and shale were encountered beneath the existing fill at Boring B-1 and Stratum I soils at Boring B-2. The shale extended to termination depths of about 10 feet and 15 feet below existing grade at Borings B-1 and B-2, respectively.

The Stratum II highly weathered shale had moderate to high shear strength during drilling and sampling. N-values of 27 to 39 bpf to 50 blows for 2 to 5 inches of penetration were measured in the highly weathered shale.

Auger Refusal/Hard Drilling Conditions

Auger refusal material was not encountered while drilling at the boring locations. However, hard drilling conditions were encountered in the highly weathered shale beginning at depths of about 5 feet at Boring B-1 and 8 ½ feet at Boring B-2.

Water Measurements

The sample borings were observed for free groundwater during drilling. at completion of drilling and after standing open overnight. At Boring B-2, water was observed at a depth of about 5 feet while drilling and 3 feet after completion and overnight. No free water was observed at these times in Boring B-1.

The depths to water discussed in this report and shown on the attached boring logs are date-specific measurements of groundwater levels at the time of drilling. Water levels could fluctuate due to the close proximity of the site to the creek. Based on the subsurface conditions encountered at the borings, perched water appears to have developed in the existing fill overlying the shaley clay and shale bedrock at Boring B-2. Additionally, perched water could develop near the fill-shale interface in Boring B-1. The installation and periodic measurement of monitoring wells would be required to establish seasonal piezometric surfaces below this project site.

GEOTECHNICAL ENGINEERING RECOMMENDATIONS

Discussion of Geotechnical Engineering Recommendations

Based on the in-place shear strength of the existing fill, the types of soil and the depth to rock encountered at the boring locations, we recommend supporting the bridge structure on cast-in-place, straight-shaft drilled pier foundations bearing in the highly weathered shale bedrock. Recommendations for drilled pier foundations are presented in this report.

Grouted micropiles, push piles or helical piles with a pile cap could also be considered to support the bridge structure on a shallow footing foundation system. These pile systems are proprietary systems and are usually designed and constructed by a specialty geotechnical contractor. If interested, we could provide contact information for these foundation alternatives.

Drilled Pier Foundation Design Recommendations

The planned bridge could be supported on a cast-in-place, straight-shaft drilled pier foundation system. The drilled piers should be embedded at least 3 feet or one pier diameter, whichever is greater, into the recommended highly weathered shale bearing material. Drilled piers bearing a minimum of 3 feet into the recommended bearing materials could be designed using the geotechnical design soil/rock parameters shown in Table 1 below.

Table 1: Drilled Pier Foundation Design Parameters

Depth (feet)	Soil Description	Total Unit Weight (pcf)	Friction Angle (degrees)	Cohesion (psf)	Allowable Skin Friction (psf)	Allowable Passive Pressure (psf)	Net Allowable End Bearing Pressure (psf)
0 to 3 ½ [A]	Existing Fill	110	neglect				
3 ½ to 8 ½ at B-2	Existing Fill and Stiff Lean Clay	115	0	500	135	500	NR [B]
Below 3 ½ at B-1 Below 8 ½ at B-2	Highly Weathered Shale	130	0	5,000	1,500	5,000	NR [B] above 8 ½ feet 15,000 below 8 ½ feet

[A] The upper 3 ½ feet within finished grade should be neglected due to disturbance and seasonal moisture variations.
[B] NR = Not recommended

The design soil/rock parameters shown in Table 1 were calculated using a factor of safety of approximately 3 for end bearing and 2 for side friction.

Drilled piers should be designed having a minimum length of 8 feet or as necessary to achieve a minimum length to diameter ratio (L:D) of 3:1, whichever is greater, with at least 3 feet of penetration into the shale. A minimum spacing of three diameters (measured center-to-center) or greater is recommended between adjacent drilled pier shafts. For piers spaced closer together, the design strength parameters should be reduced. We would be pleased to discuss reduction factors with you upon request if closer pier spacing is required.

Total long-term and differential settlement of drilled pier foundations, designed and constructed as recommended in this report, are estimated to be less than ½ inch.

Drilled Pier Foundation Construction Recommendations

We recommend that GTS, Inc. observe the bottom of all foundation excavations before the placement of reinforcing bar and concrete. All disturbed material or water should be effectively removed from pier excavations prior to concrete placement.

Groundwater was observed at a depth of about 3 feet below the ground surface after boring completion and the next day at Boring B-2. If water develops in the drilled pier foundation excavations, we anticipate that water can be removed by using suction pumps for pier depths less than 20 feet. If water cannot be successfully removed from the drilled shaft, temporary casing should be installed and the concrete should be placed using a tremie pipe and standard underwater placement techniques.

Because water could likely be encountered while excavating the pier foundations and potential caving in the upper existing fill, temporary casing should be made available. If temporary casing is used, a sufficient head of plastic concrete having a minimum slump on the order of 6 inches should be maintained inside the casing as it is being withdrawn to prevent an influx of soil and debris into the excavation and concrete arching inside the casing. To facilitate pier construction, concrete should be on-site and ready for placement immediately after each pier excavation is completed.

Concrete should be placed directly down the center of the foundation reinforcing. This can be accomplished with moderate success by inverting the back chute of the concrete redi-mix truck and directing the concrete discharge into the center of the foundation reinforcing. The preferred method, however, is to use a tremie pipe to place the concrete to the bottom of the foundation.

An auger outfitted with rock teeth is anticipated to be capable of penetrating the highly weathered clayey shale and shale (Stratum II rock). Based on the results of the borings, a core barrel is not anticipated to be required to penetrate the existing fill, native soils or highly weathered shale.

IBC Site Classification

The subsurface conditions at this project site are consistent with a Site Class C per the International Building Code (IBC), 2012 Edition.

MASS GRADING RECOMMENDATIONS

The following recommendations are provided for preparing a pavement/sidewalk subgrade associated with the planned bridge structure.

After stripping surface vegetation, topsoil, removing any surface or subsurface structures, completing cuts necessary for grading, and before placing new fill, the exposed subgrade materials should be evaluated by GTS, Inc.

Low-strength existing fill was encountered at a depth of about 2 feet below the existing grade and extending to a depth of about 6 feet at Boring B-2. Based on the subsurface conditions encountered at the borings and to improve subgrade support of new pavements/sidewalks for the bridge, we recommend undercutting the low-strength existing fill at Boring B-2 to a minimum depth of 3 feet below plan finished subgrade elevation to allow for constructing a minimum 2-foot thick bridging fill lift and 1 foot of select fill. We recommend undercutting the existing fill at Boring B-1 to a minimum depth of 1 foot below plan finished subgrade elevation to allow constructing a minimum 1-foot thick layer of select fill beneath the pavement/sidewalk.

After performing the recommended undercuts, the exposed subgrade should be observed and evaluated by GTS, Inc. for the presence of deleterious materials and/or unsuitable subgrade materials. The exposed soils should be evaluated for stability through proofrolling with a loaded, tandem-axle dump truck weighing at least 25 tons. If proofrolling cannot be accomplished due to limited equipment access, the exposed subgrade soils should be tested and evaluated using static cone penetrometer or dynamic cone penetrometer methods and hand probes. Provided the soils are stable, the exposed soils are suitable for the placement and compaction of new approved select fill material.

Where unstable soils are identified by proofrolling or other methods, they should be scarified, moisture conditioned, and compacted, or removed and replaced full-depth with new select fill. We expect that the weak, unstable soils observed at Boring B-2 could be improved by undercutting the soils to a minimum depth of 3 feet below plan finished subgrade and then constructing a minimum 2-foot thick bridging lift of clayey shale fill. The upper 8 inches of the bridging lift and subsequent lifts of select fill to reach finished subgrade should be moisture conditioned and compacted as recommended in the Geotechnical Report Requirements and Specifications section of this report.

Other ground improvement methods could be provided during construction based on the actual site conditions at that time. The appropriate method of improvement, if required, would depend on factors such as schedule, weather, the size of area to be improved, and the nature of the instability. Performing site grading operations during warm, dry periods would help reduce the amount of subgrade stabilization required.

After proofrolling and removing and replacing any unstable or unsuitable soils, the subgrade soils should be scarified a minimum depth of 8 inches, moisture conditioned and compacted as recommended in the Geotechnical Report Requirements and Specifications section of this report.

If the prepared subgrade should become saturated, desiccated or otherwise damaged prior to construction of the pavement section aggregate base course material, the affected subgrade material should be scarified, moisture-conditioned and compacted prior to placing the base course. Final conditioning of the finished subgrade should be performed immediately prior to placement of the pavement section aggregate base course material.

Fill Placement

Lifts of fill material required to reach plan finished subgrade elevation should be composed of tested and approved fill material and placed per the specifications shown in this report. Fill should be placed in near-horizontal lifts beginning in areas requiring the deepest amount of fill. The fill should be benched into the native soils each lift. Fill should not be placed on frozen, saturated or unstable soils.

The requirements to meet for select fill material, aggregate base course material and flowable fill material are provided in the Geotechnical Report Requirements and Specifications section of this report.

Re-Use of On-Site Soils as Fill

The on-site, existing fill and native lean clay soils are anticipated to be suitable for reuse as select fill material provided they are free of debris and deleterious material.

Depending on site grading necessary to develop the site, we expect that the existing fill materials will likely be intermixed in cuts and excavations. Therefore, larger, bulk samples of the on-site fill and soils proposed for use as fill by the contractor should be sampled by GTS, Inc. during mass grading and laboratory tested to confirm the apparent classification of these soils, prior to reuse.

Imported fill should also be tested and approved prior to use as fill on this site. Imported fill containing rock will need to be screened or crushed into pieces no greater than 3 inches in any dimension prior to reuse.

GEOTECHNICAL REPORT REQUIREMENTS and SPECIFICATIONS

Unless otherwise stated in this report, the recommendations contained in this report are based on the compaction specifications and material types noted in Table 2, Table 3 and the paragraphs on the following page.

Table 2: Recommended Soil Compaction

Type of Material	Moisture-Density Specification	Minimum Dry Density (percentage of Proctor)	Range from Optimum Moisture Content (%)
Soil Fill Material – Backfill of Bridge Structures and Pavement/Sidewalk Subgrade	ASTM D-698 (Standard Proctor)	98	-2 to +2
Shale Fill Material – Backfill of Bridge Structures and Pavement/Sidewalk Subgrade	ASTM D-1557 (Modified Proctor)	95	0 to +4
AHTD Class 7 Aggregate Base Course	ASTM D-1557 (Modified Proctor)	95	Adequate to Achieve Compaction
Flowable Fill Material	ARDOT Section 206	Not applicable	Flowable Fill Material

Table 3: Soil Fill Material Requirements

Type of Soil Fill	Location/Use	Maximum LL	Maximum PI	USCS Classifications
Select and General	All Areas	45	20	CL, SC, SM, SP, SW, GC, GM, GP, GW

Fill material should have a maximum nominal aggregate size of 3 inches or less after placement and compaction. If there are questions regarding the effectiveness of compaction equipment breaking down the material, a test pad should be constructed and compacted with the planned construction equipment, and a gradation performed on the compacted material.

Fill needed for site grading should be placed in loose lifts not exceeding 9 inches in thickness (compacted lift thickness of approximately 6 to 7 inches). We recommend the fill be tested for density every lift during mass grading, with a minimum of one test every 2,500 square feet.

The recommended moisture content and compaction of the fill should be maintained until fills are completed and the overlying structure has been constructed.

Design and construction plans should provide for rapid, positive drainage away from the bridge abutments and associated areas both during construction and at completion of the project.

SUBSURFACE EXPLORATION and PROCEDURES

The subsurface exploration consisted of evaluating and sampling two sample boring locations, designated B-1 and B-2, to termination depths of about 10 and 15 feet below existing grade, respectively.

The boring locations were established in the field by GTS, Inc. through using a recreation-grade, hand-held GPS unit and after meeting with UCA plant facility personnel and public utility representatives. The accuracy of the boring locations shown on the Boring Location Diagram attached to this report should be considered a general representation of the actual locations of the borings in the field.

The borings were drilled with a rubber-track-ATV-mounted Geoprobe 7822DT drilling rig. Disturbed samples and estimates of the in-situ shear strengths of the soil and weathered rock were obtained using an automatic-hammer-driven split-barrel sampler in general accordance with the Standard Penetration Test (SPT) at the boring locations.

An automatic SPT-hammer was used to advance the split-barrel sampler in the boreholes. A significantly greater efficiency is achieved with the automatic hammer compared to the conventional safety hammer operated with a cathead and rope. This higher efficiency has an appreciable effect on the SPT-N value. The effect of the automatic hammer's efficiency has been considered in the interpretation and analysis of the subsurface information for this report.

The soil and rock samples obtained in the field were sealed to reduce moisture loss and taken to the GTS, Inc. soil laboratory for further examination, testing, and classification. The results of laboratory tests on select samples are shown on the boring logs and are attached to this report.

Field logs were prepared during the drilling and sampling of the borings. These logs report sampling methods, sampling intervals, soil and groundwater conditions, and notes regarding soil, rock and drilling conditions observed between sample depths. The final boring logs, included in this report, have been prepared based on the field logs and have been modified, where appropriate, based on the results of the laboratory observation.

LABORATORY TESTING and PROCEDURES

The soil samples were examined in the laboratory by an experienced geotechnical engineer and classified based on the soil's texture and plasticity, in accordance with the Unified Soil Classification System. The estimated Unified Soil Classification System group symbols are shown on the boring logs.

The laboratory testing was performed by GTS, Inc. in general accordance with the American Society for Testing and Materials (ASTM) test designations shown in the table below:

Table 4: Laboratory Test Method Designations

Laboratory Test	Test Designation	Method (if applicable)
Moisture Content of Soil and Rock	ASTM D 2216-10	Method A
Visual Classification of Soil Types	ASTM D 2488	
USCS Classification	ASTM D 2487	

GEOTECHNICAL REPORT LIMITATIONS

The recommendations contained in this report are based on our interpretation of subsurface conditions encountered at the discrete boring locations. Variations between the subsurface conditions anticipated in this report and actual project site conditions may occur away from the boring locations.

If significant differences between the findings of the borings and site conditions are observed, GTS, Inc. should be contacted to assess the variation and, if necessary, reevaluate the recommendations contained in this report.

ENVIRONMENTAL EXCLUSION

A Geotechnical Engineering report assesses the engineering properties of soil and rock. No environmental assessment of a project site is performed during a geotechnical exploration. If the owner is concerned about the potential for environmental hazards at the project site, additional studies should be performed by GTS, Inc.

APPENDIX A

Boring Location Diagram

Boring Logs

Boring Location Diagram

LOG OF BORING NO.B-1

Planned Pedestrian Bridge
Beatrice Powell St, UCA Campus, Conway, Arkansas

GTS, Inc.
Geotechnical & Testing Services
Fayetteville, AR

Project No.: 19-5-5-033 Location: Refer to Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■ / LAB. COHESION, TSF ▲ (0.4, 0.8, 1.2, 1.6) / WATER CONTENT, % ● (PL, LL; 20, 40, 60, 80)	BLOWS PER FT
0					Surface Description =Grass Topsoil - 4 inches				
			1	16	FILL: Lean Clay, with shale and sandstone pieces brown	FILL			9
2.5			2	15					10
			3	19	HIGHLY WEATHERED SHALE soft, dark gray and brown	ROCK			27
5			4	17					34/6", 50/5"
7.5			5	14					45/6", 50/2"
10					BOTTOM OF BORING AT ABOUT 10 FEET				
12.5									
15									
17.5									

COMPLETION DEPTH: 10 ft.
DATE: 8/12/2019
RIG: Geoprobe 7822DT, Rubber-Track-Mounted ATV, Automatic Hammer

DEPTH TO WATER: DURING DRILLING: Dry
AT COMPLETION: Dry
AT 24 HOURS: Dry

LOG OF BORING NO.B-2

Planned Pedestrian Bridge
Beatrice Powell St, UCA Campus, Conway, Arkansas

GTS, Inc.
Geotechnical & Testing Services
Fayetteville, AR

Project No.: 19-5-5-033 Location: Refer to Boring Location Diagram

DEPTH, FT	SYMBOL	SAMPLES	SAMPLE No.	RECOVERY (in.)	DESCRIPTION OF MATERIAL	USCS	%<#200	HAND PENETROMETER, TSF ■ / LAB. COHESION, TSF ▲ (0.4, 0.8, 1.2, 1.6) / WATER CONTENT, % ● (PL, LL; 20, 40, 60, 80)	BLOWS PER FT
0					Surface Description =Grass Topsoil - 4 inches				
			1		FILL: Lean Clay, with shale pieces brown	FILL			10
2.5			2	10					5
			3	18	FILL: Lean Clay, with shale and sandstone pieces, trace wood pieces brown	FILL			3
5			4	16					12
					SHALEY LEAN CLAY stiff, dark gray and brown	CL			
7.5									
			5	18	HIGHLY WEATHERED CLAYEY SHALE soft, dark gray and brown	ROCK			39
10									
12.5									
			6	9	HIGHLY WEATHERED SHALE soft, dark gray and brown	ROCK			41/6", 50/4"
15					BOTTOM OF BORING AT ABOUT 15 FEET				
17.5									

COMPLETION DEPTH: 15 ft.
DATE: 8/12/2019
RIG: Geoprobe 7822DT, Rubber-Track-Mounted ATV, Automatic Hammer

DEPTH TO WATER: DURING DRILLING: 5
AT COMPLETION: 3
AT 24 HOURS: 3

OFFICE USE ONLY	
Date Issued:	3/2/2022
File Number :	22-001

ARKANSAS FLOODPLAIN DEVELOPMENT PERMIT

UCA Pedestrian Bridge

SECTION IV : (To be completed by the Floodplain Administrator)

PERMIT DETERMINATION

I have determined that the proposed development

- [x] IS
- [ ] IS NOT *(non-conformances to be described in a separate document)*

in conformance with local Flood Damage Prevention Ordinance Number O-09-15 , dated 2/12/2019 .

The Floodplain Development Permit

- [x] IS
- [ ] IS NOT *(reasons for denial to be described in a separate document)*

issued, subject to any conditions attached to and made part of this permit.

SIGNATURE — Phillip J. Vick, PE, Floodplain Administrator

3/2/2022
DATE

The applicant is reminded that this document is a development permit only. An inspection must be performed and a Compliance Certificate must be issued before the development can be occupied or used.

UCA Pedestrian Bridge

File Number: 22-001

SECTION II: (To be completed by Floodplain Administrator)

FLOOD INFORMATION

1. The proposed development is located on FIRM map panel: 277H (number and suffix)
2. The date on the FIRM 12/19/2006
3. The proposed development is located in AE (A, A1-30, AE, AO, AH, B, C, D, or X)
4. Is the proposed development located in either of the following zones? A, A1-30, AE, AO, AH, B, or shaded X

   ☒ YES ☐ NO ***If NO, no permit floodplain development is required.***

5. If the proposed development is located in Zone B or shaded Zone X, a floodplain development permit is only required if the Development is a "critical facility" as defined in the Flood Damage Prevention Ordinance.

   Otherwise, no floodplain development permit is required in Zone B or shaded Zone X.

6. If the proposed development is located within either Zone A1-30 or Zone AE, is it also located within a "regulatoryFloodway"? ☒ YES ☐ NO
7. If YES, a **No Rise Certificate** is necessary before proceeding.
8. If NO, continue.

If the proposed development is located within Zones A, A1-30, AE, AO, AH, B or shaded X (critical facilities only), apply the criteria of the Flood Damage Prevention Ordinance to minimize flood damages to the proposed Development and to adjacent properties as well.

For structures, the provisions of the ordinance specify that the lowest floor, including utilities, be elevated _____ above the base flood elevation. Therefore, it is necessary that the following information be provided:

1. Base flood elevation at the site: 299.0' feet above mean sea level (MSL)
2. Vertical datum used in the Flood Insurance Study, on flood maps and in surveys is NAVD88
3. Source of the base flood elevation (BFE)
   - ☒ FIRM (flood map)
   - ☐ Flood Insurance Study Profile # _____
   - ☐ Other sources of the BFE (specify): _____
4. Proposed lowest floor elevation (including utilities): _____ feet above MSL
   (This elevation must be greater than the BFE. For non-residential structures, floodproofing may be used for protection. See ordinance for details.)

The following documents may be required. ***Check applicable.***

- ☒ Maps and plans of the development
- ☐ An **Elevation Certificate**[3] – required for all structures
- ☐ A **Floodproofing Certificate**[3] – required if floodproofing a non-residential structure
- ☒ A **No-Rise Certificate**[3] – if the proposed development is in a "regulatory floodway"
- ☐ An elevation study showing BFEs on developments exceeding 50 lots or 5 acres in Zone A
- ☐ A copy of **Wetlands Permit** from the U.S. Army Corps of Engineers if required; and other local, state, federal permits. Other permits: _____

[3]**Certificates require completion by a Professional Land Surveyor or Registered Professional Engineer, as indicated.**

FLOODPLAIN DEVELOPMENT PERMIT APPLICATION FORM FOR CITY OF CONWAY

UCA Pedestrian Bridge

OFFICE USE ONLY	
Date Received:	2/23/2022
File Number:	22-001

SECTION I: Applicant and Project Information

GENERAL INFORMATION

1. No work of any kind may begin in a floodplain area designated as A, A1-30, AE, AO, AH, or B until a floodplain development permit is issued.
2. The permit may be revoked if any false statements are made in this application.
3. If revoked, all work must cease until a permit is re-issued.
4. The development may not be used or occupied until a **Certificate of Compliance** is issued.
5. The permit will expire if no work is commenced within 6 months of the date of issue.
6. The permit will not be issued until any other necessary local, state or federal permits have been obtained.
7. By signing and submitting this application, the Applicant gives consent to the local Floodplain Administrator or his/her representative to make reasonable inspections prior to the issuance of a **Certificate of Compliance**.
8. By signing and submitting this application, the Applicant certifies that all statements contained in SECTION I of the application, and in any additional attachments submitted by the Applicant, are true and accurate.

OWNER INFORMATION

Property owner(s): University of Central Arkansas, Larry Lawrence

Mailing address: 201 Donaghey Avenue, Conway AR 72035

Telephone number: 501-450-5382

Fax number:

e-mail address: larryl@uca.edu

Signature(s) of property owner(s) listed above[1]

Larry Lawrence

[1]Attached forms if there are additional property owners. This permit application will not be accepted without the signature of all property owners. The signature is an acknowledgement and consent to this floodplain development permit application.

APPLICANT INFORMATION

Applicant: Larry Lawrence

Notes:

Telephone number: 501-450-5382

Fax number: 501 450 5399

Signature of applicant listed above

Larry Lawrence

Section I continued on back

UCA Pedestrian Bridge

File Number: **22-001**

PROJECT INFORMATION

Project	UCA Pedestrian Bridge	Lot	Block
Address	Stone Dam Creek south of Beatrice Powell Street in Conway, AR	Subdivision	
		Legal Description	*(Attach to this document)*

A. Structural development *(Please check all that apply.)*

Type of Structure

- ☐ Residential (1 to 4 families)
- ☐ Residential (More than 4 families)
- ☐ Non-Residential
  - ☒ Elevated
  - ☐ Floodproofed
- ☐ Combined Use (Residential and Non-Residential
- ☐ Manufactured (mobile) Home
  - ☐ Located within a Manufactured Home Park
  - ☐ Located outside a Manufactured Home Park

Type of Structural Activity

- ☒ New Structure
- ☐ Addition to Existing Structure[2]
- ☐ Alteration of Existing Structure[2]
- ☐ Relocation of Existing Structure[2]
- ☐ Demolition of Existing Structure
- ☐ Replacement of Existing Structure

[2]Estimate Cost of Project _____

B. Other Development Activities

- ☒ Excavation (not related to a Structural Development listed in Part A.)
- ☒ Clearing
- ☐ Placement of fill material
- ☒ Grading
- ☐ Mining
- ☐ Drilling
- ☐ Dredging
- ☐ Watercourse alteration
- ☐ Drainage improvement (including culvert work)
- ☐ Individual water or sewer system
- ☒ Roadway or bridge construction
- ☒ Other development not listed above (specify) Pedestrian Bridge Crossing

[2]If the value of an addition or alteration to a Structure equals or exceeds 50% of the value of the structure before the addition or alteration, the entire structure must be treated as a substantially improved structure. A relocated structure must be treated as new construction.

SIGNATURE

I certify that to the best of my knowledge the information contained in this application is true and accurate.

Larry Lawrence	Larry Lawrence	2.23.22
(PRINTED name)	(SIGNED name)	(Date)

UCA Pedestrian Bridge

NATIONAL FLOOD INSURANCE PROGRAM

ENGINEERING "NO-RISE" CERTIFICATE

FOR ARKANSAS COMMUNITIES

SITE INFORMATION

Community	City of Conway	County	Faulkner
Applicant	University of Central Arkansas, Larry Lawrence	Date	2-22-2022
Address	201 South Donaghey, Conway, AR 72035	Engineer	PMI John Metrailer, P.E.
Telephone	501-450-5382	Address	3512 South Shackleford Road, Little Rock, AR 72205
		Telephone	501-221-7122
Project Address	Stone Dam Creek south of Beatrice Powell on UCA Campus	Lot / Block	/
		Subdivision	
		Legal Description	710-08542-000E

PROJECT INFORMATION

Description of Development: Pedestrian Bridge and Walkway

Principal Use of Premises: Transportation for Students, Faculty and Visitors

FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

NFIP map(s) and panel(s) affected: Number 050078 Panel 0279

Effective date of map: December 19, 2006

Base Flood Elevation on FIRM: 299

Name of flooding source: Stone Dam Creek

CERTIFICATION

This is to certify that I am a duly qualified Professional Engineer licensed to practice in the State of Arkansas. I further certify that the attached engineering data supports the fact the proposed development would not result in any increase in flood levels within the community during the occurrence of a base flood event.

John Metrailer
CERTIFIER'S NAME

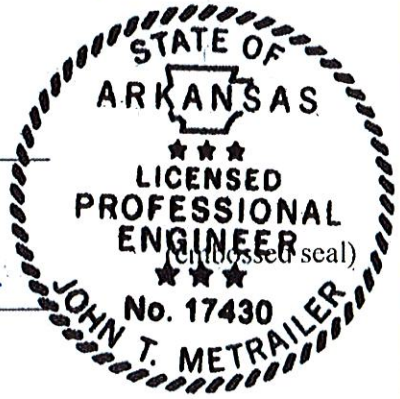
17430
LICENSE NUMBER

PMI
COMPANY NAME

John Metrailer
SIGNATURE

2-22-2022
DATE

Senior Engineer
TITLE



(embossed seal)

DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS
POST OFFICE BOX 867
LITTLE ROCK, ARKANSAS 72203-0867
www.swl.usace.army.mil

March 25, 2022

Regulatory Division

NATIONWIDE PERMIT NO. **SWL-2022-00032**

Mr. Larry Lawrence
University of Central Arkansas, Physical Plant
201 Donaghey Avenue
Conway, Arkansas 72035

Dear Mr. Lawrence:

Please refer to your application dated January 7, 2022, and supplemental information submitted on your behalf by PMI, concerning Department of the Army permit requirements pursuant to Section 404 of the Clean Water Act (33 U.S. Code 1344). You requested authorization for the placement of dredged and fill material in waters of the United States associated with installation of a pedestrian span bridge and stream grading. The pedestrian bridge will be located on the University of Central Arkansas campus to decrease pedestrian traffic on local roadways and will have no construction impacts to Stone Dam Creek. The stream will be widened and graded for approximately 250 linear feet to encourage flow and to prevent a no-rise effect within the floodway water surface for FEMA requirements. Approximately 75 cubic yards of rock will be removed below the ordinary high water mark of Stone Dam Creek. The project, located in Stone Dam Creek, is in section 14, T. 5 N., R. 14 W., Conway, Faulkner County, Arkansas.

The proposed activity is authorized by Department of the Army Nationwide Permit (NWP) No. **39** (copy enclosed), provided that the conditions therein are met. You should become familiar with the conditions and maintain a copy of the permit at the worksite for ready reference. If changes are proposed in the design or location of the facilities, you should submit revised plans to this office for approval before construction of the change begins.

Section 401 water quality certification has been issued with conditions for the referenced NWP by the Arkansas Department of Energy and Environment, Division of Environmental Quality (copy enclosed). In addition to the specific criteria and conditions of the NWP, you must comply with the conditions specified in the certification as special conditions to this permit.

Please refer to NWP General Condition No. 12, which stipulates that appropriate erosion and siltation controls be used during construction and all exposed soil be permanently stabilized. Erosion control measures must be implemented during and after construction of the proposed project to comply with this permit condition.

In order to fully comply with the conditions of the NWP, you must submit the enclosed compliance certification within 30 days of completion of the project. This is required pursuant to NWP General Condition No. 30 of the permit.

This permit action is based upon a Corps of Engineers determination that the subject work is within the jurisdiction of the Department of the Army regulatory program, but does not address nor include any consideration for geographic jurisdiction on aquatic resources and shall not be interpreted as such. You may contact the Little Rock District Regulatory Division if you wish to discuss your options for appealing this determination.

The NWP determination will be valid until March 14, 2026. If NWP No. **39** is modified, suspended, or revoked during this period, your project may not be authorized unless you have begun or are under contract to begin the project. If work has started or the work is under contract, you would then have twelve (12) months to complete the work.

This permit does not authorize placement of fill material for bank extension riverward or for alignment with the adjoining property and does not grant any property rights or exclusive privileges.

The authorization of this work by a NWP does not relieve you of complying with other applicable local, state, and Federal laws, nor does it grant any property rights or exclusive privileges.

If you have any questions about this permit or any of its provisions, please contact me at (501) 340-1370 and refer to Permit No. **SWL-2022-00032**.

Please submit your comments or suggestions on our Customer Service Survey: https://regulatory.ops.usace.army.mil/customer-service-survey/

Sincerely,

Cynthia Blansett

Cynthia Blansett
Environmental Protection Specialist

Enclosures

cc:
PMI, John Metrailer
AR Dept. of Energy and Env., Div. of Envir. Quality, Water Quality Planning Branch
Proj Mgr, Russellville PO
Ch, Regulatory Enf

James Beers, Regulatory Enf Branch

PERMITTEE COMPLIANCE CERTIFICATION

PERMIT NO.: SWL-2022-00032 **NWP/S NO.:** 39

PERMITTEE NAME: University of Central Arkansas

DATE OF ISSUANCE: March 25, 2022

PROJECT MANAGER: Cynthia Blansett

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US Army Corps of Engineers, Little Rock
ATTENTION: CESWL-RD
PO Box 867
Little Rock, Arkansas 72203-0867

Please note that your permitted activity is subject to a compliance inspection by a US Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

DATE WORK COMPLETED: _____

_____ _____

SIGNATURE OF PERMITTEE **DATE**

Nationwide Permit No. 39

Commercial and Institutional Developments. Discharges of dredged or fill material into non-tidal waters of the United States for the construction or expansion of commercial and institutional building foundations and building pads and attendant features that are necessary for the use and maintenance of the structures. Attendant features may include, but are not limited to, roads, parking lots, garages, yards, utility lines, storm water management facilities, wastewater treatment facilities, and recreation facilities such as playgrounds and playing fields. Examples of commercial developments include retail stores, industrial facilities, restaurants, business parks, and shopping centers. Examples of institutional developments include schools, fire stations, government office buildings, judicial buildings, public works buildings, libraries, hospitals, and places of worship. The construction of new golf courses and new ski areas is not authorized by this NWP.

The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges of dredged or fill material into non-tidal wetlands adjacent to tidal waters.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authorities: Sections 10 and 404)

Note: For any activity that involves the construction of a wind energy generating structure, solar tower, or overhead transmission line, a copy of the PCN and NWP verification will be provided by the Corps to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

2021 Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding

areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48 or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Structures and Fills. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or

degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)).

Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. Permittees that discover any previously unknown historic, cultural, or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate, or the adverse environmental effects of the proposed activity are no more than minimal and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate, or the adverse environmental effects of the proposed activity are no more than minimal and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A

conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been

satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1⁄3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits

from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30-day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN, and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of

any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a

statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so, contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life, or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the

district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior

approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

Nationwide Permit Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term "discharge" means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s) but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required, and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term "single and complete project" is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of "independent utility"). Single and complete non-linear projects may not be "piecemealed" to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.
Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a "water of the United States." If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

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ARKANSAS
ENERGY & ENVIRONMENT

University of Central Arkansas
c/o Kevin Carter
3512 S Shackleford Rd
Little Rock, AR 72205

RE: Short Term Activity Authorization Request No. **20220129** – University of Central Arkansas – UCA Pedestrian Bridge Construction, Faulkner County, AR

Dear Kevin Carter:

The Division of Environmental Quality (DEQ) has completed review of the request for a short term activity authorization to install a pedestrian bridge over Stone Dam Creek for the construction of UCA Pedestrian Bridge Construction project. The in stream work will be completed with a small track hoe and back hoe to install bridge piers, remove debris from channel, and reshape and widen stream to produce no-rise in the floodplain. All removed materials will be disposed at an approved offsite location that accepts the clean fill or landfill. Best management practices will be used to limit sediment discharges into the stream.

Best Management Practices (BMPs) that are appropriate for this type of activity shall be used during the course of this project. The project is located at 35.076098, -92.457290, in Faulkner County, AR.

The applicant is responsible for compliance with all applicable terms and conditions of this authorization. Receipt of this authorization does not relieve any applicant of the responsibility to comply with any other applicable federal, state or local statute, ordinance, policy, or regulation.

DEQ hereby grants a short term activity authorization to exceed the turbidity standard during the performance of the activity described above, and in your request submitted on March 30, 2022, pursuant to the following conditions:

1. University of Central Arkansas shall contact the DEQ Compliance Branch by email at beck@adeq.state.ar.us and harmont@adeq.state.ar.us, at least 24 hours prior to the initiation of each stream crossing or in-stream activity which may cause or contribute to a water quality turbidity violation. **Please reference DEQ STAA No. 20220129**
2. The applicant will limit the construction activity to low flow conditions as much as possible.
3. The applicant will take all reasonable measures to limit equipment and machine usage in the wetted areas of the streams.

4. The applicant will utilize best management practices (BMPs) to minimize the impacts of sedimentation and turbidity in each stream. The applicant's activities shall not cause violations of any unrelated water quality standards.
5. The applicant shall document the date and duration of each instream activity and the specific BMPs utilized to minimize impacts to the water quality of the water body. This information shall be kept for a period of six (6) months after completion of the project and this information shall be made available to DEQ upon request.
6. The applicant shall cease all instream construction activities immediately upon any precipitation event occurring. Any BMPs that are damaged following a rain event will be reinforced or repaired within three (3) days following the rain event to limit any downstream impacts. The applicant shall document the condition of the BMPs and repairs made to the BMPs once the rain event ceases. The applicant shall maintain records of the date and duration of the precipitation events and document all corrective actions taken to repair all BMPs. The applicant shall maintain these records for a period of six (6) months following completion of the project and this information shall be made available to DEQ upon request.
7. A short term activity authorization has been issued pursuant to the Arkansas Pollution Control and Ecology Commission's Rule 2, Section 2.305(E). This authorization is for a period of six (6) months, beginning upon the initiation of in stream activities. If the project is not completed within six (6) months of beginning instream activity, the applicant shall contact DEQ to request a new STAA.
8. The applicant will take all reasonable measures to prevent the spillage or leakage of any chemicals, oil, grease, gasoline, diesel, or other fuels. In the event such spillage or leakage occurs, the applicant will notify DEQ immediately.
9. The applicant shall cease construction activity immediately if the DEQ Director rescinds or revokes this short term activity authorization in writing.
10. If a construction site will disturb equal to or greater than one (1) acre and less than five (5) acres, the applicant shall comply with the requirements in Rule 6.203 for Stormwater discharge associated with a small construction site, as defined in APC&EC Rule 6. If the construction site will disturb five (5) acres or more, the applicant shall comply with the terms of the Stormwater Construction General Permit Number ARR150000 prior to the start of construction. BMPs must be implemented regardless of the size. More information can be obtained by contacting the NPDES Stormwater Section of DEQ at (501) 682-0620.

In issuing this authorization, DEQ does not assume any liability for the following:

1. Damages to the proposed project, or uses thereof, as a result of other permitted or unpermitted activities or from natural causes.
2. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by this authorization.
3. Design or construction deficiencies associated with this proposed project.

If you have any questions, please contact Gil Thomas at (501) 682-0648.

Sincerely,

Bryan Leamons

Bryan Leamons, P.E.
Senior Operations Manager, Office of Water Quality
Division of Environmental Quality
5301 Northshore Drive, North Little Rock, AR 72118

cc: Kevin Carter, Applicant, kacarter@uca.edu
John Metrailer, Consultant, jmetrailer@pmico.com
Kerri McCabe, Inspector Supervisor, mccabe@adeq.state.ar.us

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Stormwater Pollution Prevention Plan (SWPPP) for Construction Activity for Small Construction Sites

National Pollutant Discharge Elimination System (NPDES)
General Permit # ARR150000

Prepared for:
University of Central Arkansas – Stone Dam Creek Pedestrian Bridge

Date: _____

Prepared by:
Development Consultants Inc.

Project Name and Location: University of Central Arkansas – Stone Dam Creek Pedestrian Bridge

Operator Name and Address:

A. Site Description
   a. Project description, intended use after NOI is filed: New pedestrian bridge, sidewalk extension & creek regrading.

   b. Sequence of major activities which disturb soils: Provide location of all site stormwater best management practices on Erosion Control Plan. Selective Site Demolition. Installation of perimeter erosion and sediment controls. Channel bed grading, Bank stabilization, Fine grading. Application of initial stabilization measures. Installation of Proposed Bridge. Final grading. Final cleanup and removal of temporary erosion and sedimentation controls (after final stabilization).
   c. Total Area: 0.54 Acres Disturbed Area: 0.54 Acres

B. Responsible Parties

Individual/Company	Phone Number	Service Provided for SWPPP (i.e., Inspector, SWPPP revisions, Stabilization Activities, BMP Maintenance, etc.)
Kevin Carter	5018520131	Owner
_____		Stabilization Activities, BMP Maintenance

C. Receiving Waters
   a. The following waterbody (or waterbodies) receives stormwater from this construction site: Stone Dam Creek thence Lake Conway t Palarm Creek to Arkansas River.
   b. Is the project located within the jurisdiction of an MS4? ☒Yes ☐No
      i. If yes, Name of MS4: University of Central Arkansas- ARR040060.
   c. Ultimate Receiving Water:

☐ Red River	☐ White River
☐ Ouachita River	☐ St. Francis River
☒ Arkansas River	☐ Mississippi River

D. Site Map Requirements (Attach Site Map):
    a. Pre-construction topographic view;
    b. Direction of stormwater flow (i.e., use arrows to show which direction stormwater will flow) and approximate slopes anticipated after grading activities;
    c. Delineate on the site map areas of soil disturbance and areas that will not be disturbed under the coverage of this permit;
    d. Location of major structural and nonstructural controls identified in the plan;
    e. Location of main construction entrance and exit;
    f. Location where stabilization practices are expected to occur;
    g. Locations of off-site materials, waste, borrow area, or equipment storage area;
    h. Location of areas used for concrete wash-out;
    i. Location of all surface water bodies (including wetlands);
    j. Locations where stormwater is discharged to a surface water and/or municipal separate storm sewer system if applicable,
    k. Locations where stormwater is discharged off-site (should be continuously updated);
    l. Areas where final stabilization has been accomplished and no further construction phase permit requirements apply.

E. Stormwater Controls
    a. Initial Site Stabilization, Erosion and Sediment Controls, and Best Management Practices:
        i. Initial Site Stabilization: Perimeter stabilization and structural controls shall be installed prior to any site clearing, with the exception of any clearing necessary for installation of controls. The site BMP's shall be installed per the Erosion Control Plan. Any sediment which escapes the site shall be removed as soon as possible to prevent off-site impact. All erosion and sedimentation controls shall be inspected and maintained in accordance with section I of this document. Other temporary erosion control measures to be included by the contractor where necessary, but not limited the following the use of: soil binders, straw mulch, geo-textile fabrics and mats, wood mulch, earth dikes, drainage swales, velocity dissipation devices and slope drains. All temporary erosion control best management practices shall be monitored and adjusted by the erosion control contractor as construction progresses. All site BMP's shall be installed and maintained per the contract documents and manufacturer's recommendations.

ii. Erosion and Sediment Controls: Silt fences shall be installed and maintained in accordance with the erosion control plan. Check dams shall be installed in areas of concentrated storm water flow. Other structural sediment controls include but are not limited to the following: Sediment basins, sediment traps, fiber rolls, gravels bag berms, sandbag barriers, chemical treatment of the sediment, construction exit tire wash and street sweeping & vacuuming.

iii. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the operator will replace or modify the control for site situations: ☒Yes ☐No

If No, explain: _____

_____

iv. Off-site accumulations of sediment will be removed at a frequency sufficient to minimize off-site impacts: ☒ Yes ☐No

If No, explain: _____

_____

v. Sediment will be removed from sediment traps or sedimentation ponds when design capacity has been reduced by 50%: ☒ Yes ☐No

If No, explain: _____

_____

vi. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges: ☒ Yes ☐No

If No, explain: _____

_____

vii. Off-site material storage areas used solely by the permitted project are being covered by this SWPPP: ☐ Yes ☒ No

If Yes, explain additional BMPs implemented at off-site material storage area: _____

_____

b. Stabilization Practices

i. Description and Schedule: Loose straw mulch shall be placed for stabilization at a rate of 1.5 tons/acre in site areas of inactivity lasting over 14 days. Stone base shall be placed at a rate of 135 tons/acre in parking areas of inactivity lasting over 14 days. Temporary seeding may be placed in addition to loose straw mulch to provide long-term stabilization or when placement of permanent seeding is prohibitive due to climate and further construction activities. Permanent seeding or sod shall be placed after final grading as shown on the landscape plan and/or

erosion control plan. Sod stabilization shall be placed after final grading as shown on the landscape plan and/or erosion control plan. Other possible stabilization practices provided by the contractor: Hydro-mulch, hydroseeding. A stabilized construction roadway may be required. Contractor shall record all stabilization practices on the Erosion Control Plan, and on the inspection report form. The contractor shall provide copies to ADEQ upon request.

ii. Are buffer areas required? ☐ Yes ☒ No

If Yes, are buffer areas being used? ☐ Yes ☒ No

If No, explain why not: This site doesn't currently have any natural buffer areas and is also not adjacent to a wetland or body of water.

If Yes, describe natural buffer areas: _____

_____

iii. A record of the dates when grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included with the plan. ☒ Yes ☐ No

If No, explain: _____

_____

iv. Deadlines for stabilization: Stabilization procedures will be initiated 14 days after construction activity temporarily ceases on a portion of the site.

c. Structural Practices

i. Describe any structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site: Silt fences shall be installed and maintained in accordance with the erosion control plan. Check dams shall be installed in areas of concentrated storm water flow. Subsurface pipe drains shall be placed in service after storm drain inlet protection is installed to prevent sedimentation of pipes. Storm drain inlet protection shall be in the form of either silt fence or dome structures covered in geosynthetic fabric. Sodding will be done prior to the installation of channel protection mat. Other structural sediment controls include but are not limited to the following: Sediment basins, sediment traps, fiber rolls, gravels bag

berms, sandbag barriers, chemical treatment of the sediment, construction exit tire wash and street sweeping.

ii. Sediment Basins:

Are 10 or more acres draining to a common point? ☐ Yes ☒ No

Is a sediment basin included in the project? ☐ Yes ☒ No

If Yes, what is the designed capacity for the storage?

☐ 3600 cubic feet per acre = : _____

or

☐ 10 year, 24 hour storm = : _____

☐ Other criteria were used to design basin: _____

_____

If No, explain why no sedimentation basin was included and describe required natural buffer areas and other controls implemented instead: The proposed site does not have a drainage basin greater than 10 acres draining to one point.

iii. Describe Velocity Dissipation Devices: Silt fences will be placed to limit the velocity of surface runoff.

F. Other Controls

a. Solid materials, including building materials, shall be prevented from being discharged to Waters of the State: ☒ Yes ☐ No

b. Off-site vehicle tracking of sediments and the generation of dust shall be minimized through the use of:

☒ A stabilized construction entrance and exit

☐ Vehicle tire washing

☐ Other controls, describe: _____

_____

c. Temporary Sanitary Facilities: All sanitary waste shall be collected from portable units a minimum of two times per week by a licensed sanitary waste management contractor, as required by local regulation.

d. Concrete Waste Area Provided:

☒ Yes

☐ No. Concrete is used on the site, but no concrete washout is provided.

Explain why: _____

_____

☐ N/A, no concrete will be used with this project

e. Fuel Storage Areas, Hazardous Waste Storage, and Truck Wash Areas: No contaminants from fuel storage areas, hazardous waste storage, or truck wash areas shall be discharged to waters on the site. All hazardous waste materials shall be disposed of in a manner specified by local or state regulations. Site personnel shall be instructed in these practices. The construction manager shall be responsible for ensuring that these practices are followed.

G. Non-Stormwater Discharges

a. The following allowable non-stormwater discharges comingled with stormwater are present or anticipated at the site:

☒ Fire-fighting activities;
☒ Fire hydrant flushings;
☒ Water used to wash vehicles (where detergents or other chemicals are not used) or control dust in accordance with Part II.A.4.H.2;
☒ Potable water sources including uncontaminated waterline flushings;
☒ Landscape Irrigation;
☒ Routine external building wash down which does not use detergents or other chemicals;
☒ Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents or other chemicals are not used;
☒ Uncontaminated air conditioning, compressor condensate (See Part I.B.12.C of the permit);,
☐ Uncontaminated springs, excavation dewatering and groundwater (See Part I.B.12.C of the permit);
☒ Foundation or footing drains where flows are not contaminated with process materials such as solvents (See Part I.B.12.C of the permit);

b. Describe any controls associated with non-stormwater discharges present at the site: See other controls (i.e. silt fence, inlet protection, etc...) listed earlier in this document.

H. Applicable State or Local Programs: The SWPPP will be updated as necessary to reflect any revisions to applicable federal, state, or local requirements that affect the stormwater controls implemented at the site. ☒ Yes ☐ No

I. Inspections

a. Inspection frequency:

☐ Every 7 calendar days

or

☒ At least once every 14 calendar days and within 24 hours of the end of a storm even 0.5 inches or greater (a rain gauge must be maintained on-site)

b. Inspections:

Completed inspection forms will be kept with the SWPPP.

☒ ADEQ's inspection form will be used (See Appendix B)

or

☐ A form other than ADEQ's inspection form will be used and is attached (See inspection form requirements Part II.A.4.L.2)

c. Inspection records will be retained as part of the SWPPP for at least 3 years from the date of termination.

d. It is understood that the following sections describe waivers of site inspection requirements. All applicable documentation requirements will be followed in accordance with the referenced sections.

   i. Winter Conditions (Part II.A.4.L.3)

   ii. Adverse Weather Conditions (Part II.A.4.L.4)

J. Maintenance:

The following procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good, effective operating condition will be followed:

Any necessary repairs will be completed, when practicable, before the next storm event, but not to exceed a period of 3 business days of discovery, or as otherwise directed by state or local officials.

K. Employee Training:

The following is a description of the training plan for personnel (including contractors and subcontractors) on this project: The contractor and all those installing, maintaining and inspecting the BMP's shall be familiar with the EPA's ' Developing your Stormwater Pollution Prevention Plan - A Guide for Construction Sites'.

**Note, Formal training classes given by Universities or other third-party organizations are not required, but recommended for qualified trainers; the permittee is responsible for the content of the training being adequate for personnel to implement the requirements of the permit.

Certification

"I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Responsible or Cognizant Official:

By: University of Central Arkansas

Signed: _____ Date: _____
Name: Kevin Carter

Title: _____

ARR150000 Inspection Form

Appendix A

Inspector Name: _____ Date of Inspection: _____

Inspector Title: _____

Date of Rainfall: _____ Duration of Rainfall: _____

Days Since Last Rain Event: _____ days Rainfall Since Last Rain Event: _____ inches

Description of any Discharges During Inspection: _____

Location of Discharges of Sediment/Other Pollutant (specify pollutant & location): _____

_____

Locations in Need of Additional BMPs: _____

Information on Location of Construction Activities

Location	Activity Begin Date	Activity Occuring Now (y/n)?	Activity Ceased Date	Stabilization Initiated Date	Stabilization Complete Date

Information on BMPs in Need of Maintenance

Location	In Working Order?	Maintenance Scheduled Date	Maintenance Completed Date	Maintenance to be Performed By

Changes required to the SWPPP: _____ Reasons for changes: _____

_____ _____

_____ _____

SWPPP changes completed (date): _____

"I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Responsible or Cognizant Official: _____ Date: _____

Title: _____

BMP Consideration Checklist

The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP should be checked as "Not Used" with a brief statement describing why it is not being used.

Note: Appendix B and C do not have to be submitted with the SWPPP. These attachments are for use during the development of the SWPPP.

EROSION CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
EC-1 Scheduling	☐	☐	☐	
EC-2 Preservation of Existing Vegetation	☐	☐	☐	
EC-3 Hydraulic Mulch	☐	☐	☐	
EC-4 Hydroseeding	☐	☐	☐	
EC-5 Soil Binders	☐	☐	☐	
EC-6 Straw Mulch	☐	☐	☐	
EC-7 Geotextiles & Mats	☐	☐	☐	
EC-8 Wood Mulching	☐	☐	☐	
EC-9 Earth Dikes & Drainage Swales	☐	☐	☐	
EC-10 Velocity Dissipation Devices	☐	☐	☐	
EC-11 Slope Drains	☐	☐	☐	
EC-12 Stream bank Stabilization	☐	☐	☐	
SEDIMENT CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
SE-1 Silt Fence	☐	☐	☐	
SE-2 Sediment Basin	☐	☐	☐	
SE-3 Sediment Trap	☐	☐	☐	
SE-4 Check Dam	☐	☐	☐	
SE-5 Fiber Rolls	☐	☐	☐	
SE-6 Gravel Bag Berm	☐	☐	☐	
SE-7 Street Sweeping and Vacuuming	☐	☐	☐	
SE-8 Sand Bag Barrier	☐	☐	☐	
SE-9 Straw Bale Barrier	☐	☐	☐	
SE-10 Storm Drain Inlet Protection	☐	☐	☐	
SE-11 Chemical Treatment	☐	☐	☐	
WIND EROSION CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
WE-1 Wind Erosion Control	☐	☐	☐	

BMP Consideration Checklist

TRACKING CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
TR-1 Stabilized Construction Entrance/Exit	☐	☐	☐	
TR-2 Stabilized Construction Roadway	☐	☐	☐	
TR-3 Entrance/Outlet Tire Wash	☐	☐	☐	
NON-STORM WATER MANAGEMENT BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
NS-1 Water Conservation Practices	☐	☐	☐	
NS-2 Dewatering Operations	☐	☐	☐	
NS-3 Paving and Grinding Operations	☐	☐	☐	
NS-4 Temporary Stream Crossing	☐	☐	☐	
NS-5 Clear Water Diversion	☐	☐	☐	
NS-6 Illicit Connection/ Discharge	☐	☐	☐	
NS-7 Potable Water/Irrigation	☐	☐	☐	
NS-8 Vehicle and Equipment Cleaning	☐	☐	☐	
NS-9 Vehicle and Equipment Fueling	☐	☐	☐	
NS-10 Vehicle and Equipment Maintenance	☐	☐	☐	
NS-11 Pile Driving Operations	☐	☐	☐	
NS-12 Concrete Curing	☐	☐	☐	
NS-13 Concrete Finishing	☐	☐	☐	
NS-14 Material and Equipment Use Over Water	☐	☐	☐	
NS-15 Demolition Adjacent to Water	☐	☐	☐	
NS-16 Temporary Batch Plants	☐	☐	☐	
WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
WM-1 Material Delivery and Storage	☐	☐	☐	
WM-2 Material Use	☐	☐	☐	
WM-3 Stockpile Management	☐	☐	☐	
WM-4 Spill Prevention and Control	☐	☐	☐	
WM-5 Solid Waste Management	☐	☐	☐	
WM-6 Hazardous Waste Management	☐	☐	☐	
WM-7 Contaminated Soil Management	☐	☐	☐	
WM-8 Concrete Waste Management	☐	☐	☐	
WM-9 Sanitary/Septic Waste Management	☐	☐	☐	
WM-10 Liquid Waste Management	☐	☐	☐	

SWPPP Completion Checklist

Appendix C

Yes = Complete
No = Incomplete/Deficient
N/A = Not applicable to project

Yes	No	N/A	A. A site description, including:	Permit Section
			1. Project description, intended use after NOT	Part II.A.4.A.1
			2. Sequence of major activities	Part II.A.4.A.2
			3. Total & disturbed acreage	Part II.A.4.A.3
			B. Responsible Parties: All parties dealing with the SWPPP and the areas they are responsible for on-site.	Part II.A.4.B
			C. Receiving Water.	Part II.A.4.C
			-MS4 Name	Part II.A.4.C
			-Ultimate Receiving Water	Part II.A.4.C
			D.Site Map --- See End of Evaluation Form	Part II.A.4.F
			E. Description of Controls:	
			1. Erosion and sediment controls, including:	
			a. Initial site stabilization	Part II.A.4.G.1.a
			b. Erosion and sediment controls	Part II.A.4.G.1.b
			c. Replacement of inadequate controls	Part II.A.4.G.1.c
			d. Removal of off-site accumulations	Part II.A.4.G.1.d
			e. Maintenance of sediment traps/basins @ 50% capacity	Part II.A.4.G.1.e
			f. Litter, construction debris and chemicals properly handled	Part II.A.4.G.1.f
			g. Off-site storage areas and controls	Part II.A.4.G.1.g
			2. Stabilization practices:	
			a. Description and schedule for stabilization	Part II.A.4.G.2.a
			b. Description of buffer areas	Part II.A.4.G.2.b
			c. Records of stabilization	Part II.A.4.G.2.c
			d. Deadlines for stabilization	Part II.A.4.G.2.d
			3. Structural Practices:	
			-Describe structural practices to divert flows, store flows, or otherwise limit runoff	Part II.A.4.G.3
			a. Sediment basins	Part II.A.4.G.3.a.1
			-Are more than 10 acres draining to a common point? If so, are sediment basins included?	Part II.A.4.G.3.a.1
			-Sediment basin dimensions and capacity description and calculations	Part II.A.4.G.3.a.1
			-If a basin wasn't practicable, are other controls sufficient?	Part II.A.4.G.3.a.1
			b. Velocity dissipation devices concentrated flow from 2 or more acres	Part II.A.4.G.3.b
			F. Other controls including:	
			1. Solid waste control measures	Part II.A.4.H.1
			2. Vehicle off-site tracking controls	Part II.A.4.H.2
			3. Compliance with sanitary waste disposal	Part II.A.4.H.4
			4. Does the site have a concrete washout area controls?	Part II.A.4.H.5
			5. Does the site have fuel storage areas, hazardous waste storage and/or truck wash areas controls?	Part II.A.4.H.6
			G. Identification of allowable non-storm water discharges	Part II.A.4.I
			-Appropriate controls for dewatering, if present	Part I.B.12.C
			H. State or local requirements incorporated into the plan.	Part II.A.4.K

SWPPP Completion Checklist

Appendix C

Yes = Complete
No = Incomplete/Deficient
N/A = Not applicable to project

Yes	No	N/A	I. Inspections	Permit Section
			1. Inspection frequency listed?	Part II.A.4.L.1
			2. Inspection form	Part II.A.4.L.2
			Ours.	
			If not ours, does it contain the following items:	
			a. Inspector name and title	Part II.A.4.L.2.a
			b. Date of inspection.	Part II.A.4.L.2.b
			c. Amount of rainfall and days since last rain event (14 day only)	Part II.A.4.L.2.c
			d. Approx beginning and duration of storm event	Part II.A.4.L.2.d
			e. Description of any discharges during inspection	Part II.A.4.L.2.e
			f. Locations of discharges of sediment/other pollutants	Part II.A.4.L.2.f
			g. BMPs in need of maintenance	Part II.A.4.L.2.g
			h. BMPs in working order, if maintenance needed (scheduled and completed)	Part II.A.4.L.2.h
			i. Locations that are in need of additional controls	Part II.A.4.L.2.i
			j. Location and dates when major construction activities begin, occur or cease	Part II.A.4.L.2.j
			k. Signature of responsible/cognizant official	Part II.A.4.L.2.k
			3. Inspection Records	Part II.A.4.L.3
			4. Winter Conditions	Part II.A.4.L.4
			5. Adverse Weather Conditions	Part II.A.4.L.5
			J. Maintenance Procedures	Part II.A.4.M
			K. Employee Training	Part II.A.4.N
			Signed Plan Certification	Part II.A.7. and Part II.B.10
			D. Site Map showing:	
			1. Pre-construction topographic view	Part II.A.4.F.1
			2. Drainage flow	Part II.A.4.F.2
			3. Approximate slopes after grading activities	Part II.A.4.F.2
			4. Areas of soil disturbance and areas not disturbed	Part II.A.4.F.3
			5. Location of major structural and non-structural controls.	Part II.A.4.F.4
			6. Location of main construction entrance and exit.	Part II.A.4.F.5
			7. Areas where stabilization practices are expected to occur.	Part II.A.4.F.6
			8. Locations of off-site materials, waste, borrow area or storage area.	Part II.A.4.F.7
			9. Locations of areas used for concrete wash-out.	Part II.A.4.F.8
			10. Locations of surface waters on site.	Part II.A.4.F.9
			11. Locations where water is discharged to a surface water or MS4.	Part II.A.4.F.10
			12. Storm water discharge locations.	Part II.A.4.F.11
			13. Areas where final stabilization has been accomplished.	Part II.A.4.F.12

SITE WITH AUTOMATIC COVERAGE (LESS THAN 5 ACRES) CONSTRUCTION SITE NOTICE

FOR THE
Division of Environmental Quality (DEQ)
Stormwater Program

NPDES GENERAL PERMIT NO. ARR150000

The following information is posted in compliance with **Part I.B.8.a** of the DEQ General Permit Number **ARR150000** for discharges of stormwater runoff from sites with automatic coverage. Additional information regarding the DEQ stormwater program may be found on the internet at:
www.adeq.state.ar.us/water/branch_npdes/stormwater

Permit Number	ARR150000
Contact Name: Phone Number:	Kevin Carter, University of Central Arkansas 5018520131
Project Description (Name, Location, etc.): Start Date: End Date: Total Acres:	New Pedestrian Bridge and Sidewalk extension 0.54 Acres
Location of Stormwater Pollution Prevention Plan:	Job Trailer

Does this construction activity take place, and does the stormwater discharge occur within the drainage area addressed by a TMDL?

_X_ YES _____ NO

For Construction Sites Authorized under **Part I.B.6.a** (Automatic Coverage) the following certification must be completed:

I _____ (Typed or Printed Name of Person Completing this Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization under Part I.B.2. of the DEQ General Permit Number ARR150000. A stormwater pollution prevention plan has been developed and implemented according to the requirements contained in Part II.A.2.B & D of the permit. I am aware there are significant penalties for providing false information or for conducted unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

_____ _____
Signature and Title Date

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BID FORM
Section 004113

Bid Time: 10:00 a.m.
Bid Date: November 16, 2023
Bid Opening Location:
University of Central Arkansas
Wingo Hall Room 315

BID FROM:

_____

_____

BID TO: University of Central Arkansas

PROJECT: UCA-24-023 UCA Stone Dam Creek Ped. Bridge (TAP-20) (S)

Gentlemen:

1. Having carefully examined the Contract Documents for this project, as well as the premises and all conditions affecting the proposed construction, the undersigned proposes to provide all labor, materials, services, and equipment necessary for, or incidental to, the construction of the project in accordance with the Contract Documents within the time set forth, for the lump sum base bid of:

$_____

Dollar Amount Is To Be Shown Numerically

2. Allowances: Allowances described in Section 012100 and Section 012200 are included in the lump sum base Bid Price. See Section 004321 Allowance Form and Section 004322 Unit Price Form

3. Ark. Code Ann. §22-9-212 requires the contractor to indicate on this bid form the cost of Trenching Safety Systems. ***FAILURE TO SHOW THIS COST IF APPLICABLE WILL INVALIDATE THE BID.*** (NOTE THIS COST SHALL BE INCLUDED IN THE ABOVE BASE BID)

   $_____

   Dollar Amount Is To Be Shown Numerically.

4. Completion Date: BIDDER AGREES THAT THE WORK WILL BE SUBSTANTIALLY COMPLETE AND READY FOR FINAL PAYMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS BY **90 CALENDAR DAYS** FROM NOTICE TO PROCEED (RECEIPT OF PURCHASE ORDER WILL SERVE AS THE NOTICE TO PROCEED.).

5. The undersigned, in compliance with the Contract Documents for the construction of the above named project, does hereby declare:

   a. That the undersigned understands that UCA reserves the right to reject any and all bids and to waive any formality.

   b. That if awarded the Contract, the undersigned will enter into an Agreement, on a form identical to the form included in the Contract Documents and execute required performance and

payment bonds within ten (10) days after receipt of the Intent to Award, will commence work after the purchase order has been issued and the notice to proceed has been given by the Construction Coordinator, and will complete the Contract fully by Completion Date indicated. Should the undersigned fail to fully complete the work within the above stated time, he shall pay the Owner as fixed, agreed and liquidated damages and not as a penalty, the sum of five hundred dollars ($500) for each **calendar** day of delay until the work is completed or accepted.

c. The undersigned further agrees that the bid security payable to Owner and accompanying this proposal shall become the property of the Owner as liquidated damages if the undersigned fails to execute the Contract or to deliver the required bonds to the Owner within three (3) days from receipt of the Intent to Award as these acts constitute a breach of the Contractor's duties.
d. That this bid may not be withdrawn for a period of thirty (30) days after the bid opening.
e. The undersigned understands that the Owner's intent is to construct all facilities proposed within the limits established by the funds appropriated for the project.
f. The names of subcontractors and the nature of the work to be performed by each one have been included on the Bid Form.
g. The undersigned agrees to pay all prevailing hourly wage rates mandated by the Davis-Bacon Wage Rates and any other applicable federal regulations.
h. Bids submitted by a "Joint Venture/Joint Adventure" shall be signed by representatives of *each component part* of the Joint Venture. The licenses of *each component part* of the Joint Venture shall also be listed in the bid submittal. Therefore, joint venture bidders shall indicate at least two (2) signatures and two (2) licenses numbers on the Bid Form. Exception: Joint Ventures who have been properly licensed with the Arkansas Contractors Licensing Board as a "Joint Venture" need only to indicate the joint venture license number on the Bid Form. Joint Venture Bidders shall indicate at least two (2) signatures on the bid form even if they are licensed as a joint venture

6. The following documents are attached to and made a condition of this Bid.
   a. Bid security.
   b. 005207, Anti-Collusion and Debarment Certification
   c. 005208 Certification
   d. Listing of Mechanical, indicative of heating, air conditioning, ventilation, and refrigeration, Plumbing, Electrical, indicative of wiring and illuminating fixtures and Roofing and sheet metal work, indicative of roofing application Subcontractors, if required.

7. The undersigned acknowledges receipt of and inclusion as a part of the Contract Documents the following addenda:

No. _____ Dated

No. _____ Dated

No. _____ Dated

No. _____ Dated

8. LISTING OF MECHANICAL, PLUMBING, ELECTRICAL, ROOFING, SHEETMETAL AND OTHER SUBCONTRACTORS.

ALL MECHANICAL, PLUMBING, ELECTRICAL, ROOFING AND SHEETMETAL, TRENCHING, ETC. SUBCONTRACTORS SHALL BE LISTED REGARDLESS OF QUALIFICATIONS, LICENSURES OR WORK AMOUNT. BIDDERS SHOULD CONSULT THE PROJECT MANUAL ON HOW TO FILL OUT THIS FORM.

IF APPLICABLE, FAILURE TO LIST THE NAME OF THE SUBCONTRACTOR IN THE SPACE PROVIDED SHALL CAUSE THE BID TO BE DECLARED NON-RESPONSIVE AND THE BID WILL NOT RECEIVE CONSIDERATION. Refer to Section 002113, Instruction to Bidders.

PROJECTS NOT REQUIRING THE STATED WORK CAN BE NOTED AS NONAPPLICABLE (N/A).

IF THE PRIMARY CONTRACTOR IS PERFORMING THE WORK THEY MUST LIST THEIR NAME IN THE BLANKS BELOW.

Indicate the Name(s), of each entity performing the listed work:

MECHANICAL (Indicative of HVACR): **License #:**
_____
Is the amount of work $50,000.00 or over: Yes___ No ___

PLUMBING: **License #:**
_____
Is the amount of work $50,000.00 or over: Yes___ No ___

ELECTRICAL: (Indicative of wiring and illuminating fixtures) **License #:**
_____
Is the amount of work $50,000.00 or over: Yes___ No ___

ROOFING AND SHEETMETAL (Indicative of roofing applications) **License #:**
_____
Is the amount of work $50,000.00 or over: Yes___ No___

TRENCHING (Indicative of trenching applications) **License #:**
_____
Is the amount of work $50,000.00 or over: Yes___ No___

OTHER (Indicative of other applications) **License #:**
_____

Contractor Only:

Is the amount of work $50,000.00 or over: Yes___ No___

Respectfully Submitted:

Name of Bidder (Typed or Printed):_____

Address: _____

BY: (Signature and Title):_____

Contractor's License Number or Contractor's (Joint Venture) License Number(s):

_____

Telephone Number: _____

Fax Number: _____

Federal ID or SSN: _____

Date of Bid: _____

End of
BID FORM
004113

DOCUMENT 004321 - ALLOWANCE FORM

1.1 BID INFORMATION

A. Bidder: _____.

B. Project Name: UCA, Stone Dam Creek Pedestrian Bridge

C. Project Location: University of central Arkansas, Conway, Arkansas

D. Owner: University of Central Arkansas.

E. Architect: Stocks-Mann Architects, PLC.

F. Architect Project Number: 1505R.

1.2 BID FORM SUPPLEMENT

A. This form is required to be attached to the Bid Form.

B. The undersigned Bidder certifies that Base Bid submission to which this Bid Supplement is attached includes those allowances described in the Contract Documents and scheduled in Section 012100 "Allowances."

1.3 SUBMISSION OF BID SUPPLEMENT

A. Respectfully submitted this ____ day of _____, 2021.

B. Submitted By:_____(Insert name of bidding firm or corporation).

C. Authorized Signature: _____(Handwritten signature).

D. Signed By:_____(Type or print name).

E. Title: _____(Owner/Partner/President/Vice President).

END OF DOCUMENT 004321

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DOCUMENT 004322 - UNIT PRICES FORM

1.1 BID INFORMATION

A. Bidder: _____.

A. Project Name: UCA, Stone Dam Creek Pedestrian Bridge.

B. Project Location: University of Central Arkansas, Conway Arkansas.

C. Owner: University of Central Arkansas.

D. Architect: Stocks-Mann Architects, PLC.

E. Architect Project Number: 1505R.

1.2 BID FORM SUPPLEMENT

A. This form is required to be attached to the Bid Form.

B. The undersigned Bidder proposes the amounts below be added to or deducted from the Contract Sum on performance and measurement of the individual items of Work.

C. If the unit price does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."

1.3 UNIT PRICES

A. Unit-Price No.1: Soil Excavation and fill.

1. _____Dollars ($_____) per cubic yard.

B. Unit-Price No. 2: Drilled Piers.

1. _____Dollars ($_____) per cubic yard.

C. Unit Price No. 3: Installation of premanufactured bridge, gangways, ramps, stairs, landings, and related components provided by the manufacturer.

1. _____Dollars ($_____) per Lump sum.

D. Unit-Price No. 4: Rock Excavation.

1. _____Dollars ($_____) per cubic yard.

1.4 SUBMISSION OF BID SUPPLEMENT

A. Respectfully submitted this ____ day of _____, 2021.

B. Submitted By:_____(Insert name of bidding firm or corporation).

C. Authorized Signature: _____(Handwritten signature).

D. Signed By:_____(Type or print name).

E. Title:_____(Owner/Partner/President/Vice President).

END OF DOCUMENT 004322

Title VI CONTRACT PROVISIONS
APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

(1) Compliance with Regulations: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

(2) Nondiscrimination: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

(3) Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

(4) Information and Reports: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

(5) Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Nondiscrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

(a) Withholding of payments to the contractor under the contract until the contractor complies, and/or

(b) Cancelling, terminating or suspending a contract, in whole or in part.

(6) Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

TITLE VI CONTRACT PROVISIONS
APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non- discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.

- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);

- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;

- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);

- Airport and Airway Improvement Act of 1982, (49 USC§ 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);

- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

- Titles II and Ill of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681et seq)

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this

contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will

notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

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

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

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

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

FHWA-1273 SUPPLEMENTAL SPECIFICATION

EQUAL EMPLOYMENT OPPORTUNITY – NOTICE TO CONTRACTORS

Elsewhere in this contract are three Supplemental Specifications on Equal Employment Opportunity designated as PR-1273 Supplements. They are (1) Specific Equal Employment Opportunity Responsibilities (23 U.S.C. 140), (2) Equal Employment Opportunity – Goals and Timetables, and (3) Equal Employment Opportunity – Federal Standards. This notice is to clarify the responsibilities for review of compliance and enforcement for these separate supplemental specification requirements.

The first of the Supplemental Specifications cited above covers the requirements for the equal employment opportunity program under Title 23 for which the sponsor is responsible. The sponsor performs the necessary compliance review and enforcement of this supplemental Specification which is applicable to all contractors holding Federal-aid highway contracts.

The latter two Supplemental Specifications are for the specific equal opportunity requirements for Executive Order 11246 which is the sole responsibility of the Office of Federal Contract Compliance Programs (OFCCP), Department of Labor. Review and enforcement under these Supplemental Specifications is performed by OFCCP.

OFCCP has, under Paragraph 8 of the EEO Federal Standards Supplemental Specification, recognized the Arkansas AGC Heavy Highway Affirmative Action Plan as meeting the provisions of that Supplemental Specification and Supplemental Specification (2) cited above. With this recognition, those contractors signatory to the AGC Plan have been waived from individual review by OFCCP. However, OFCCP retains the right to review any such contractors whenever circumstances warrant. Also, contractors non-signatory to the AGC Plan are subject to OFCCP review under EO 11246.

ARDOT and OFCCP have agreed to work towards eliminating duplicative reviews on individual contractors; however, each agency may make reviews at any time notwithstanding the cited agreement.

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FHWA-1273 SUPPLEMENTAL SPECIFICATION

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES
(23 U.S.C. 140)

1. General.

a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 1137S are set forth in Required Contract Provisions (Form FHWA-1273 and Supplements) and these Special Provisions which are imposed pursuant to Section 140 of Title 23, U.S.C., as established by Section 22 of the Federal-Aid Highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions. The initial measure of the contractor's good faith efforts to comply with these Special Provisions shall be its efforts to meet the goals set forth in the 'Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)' for minority and female participation expressed in percentage terms for the contractor's work force in each trade on this project.

b. The contractor will work with the sponsor and the Federal Government in carrying out equal employment opportunity obligations and in their review of his/her activities under the contract.

c. The contractor and all his/her subcontractors holding subcontracts not including material suppliers, of $10,000 or more, will comply with the following minimum specific requirement activities of equal employment opportunity: (The equal employment opportunity requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection I of the Federal-Aid Highway Program Manual, are applicable to material suppliers as well as contractors and subcontractors.) The contractor will include these requirements in every subcontract of $10,000 or more with such modification of language as is necessary to make them binding on the subcontractor.

2. Equal Employment Opportunity Policy.

The contractor will accept as his operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex, age, disability, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, age, disability, or national origin. Such action shall include: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training.

3. Equal Employment Opportunity Officer.

The contractor will designate and make known to the sponsor contracting officers an equal employment opportunity officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

4. Dissemination of Policy.

a. All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

(1) Periodic meetings of supervisory and personnel office employees will be conducted before

FHWA-1273 SUPPLEMENTAL SPECIFICATION

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES
(23 U.S.C. 140)

the start of work and then not less often than once every six months, at which time the contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

(2) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the contractor's equal employment opportunity obligations within thirty days following their reporting for duty with the contractor.

(3) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official in the contractor's procedures for locating and hiring minority and female employees.

b. In order to make the contractor's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the contractor will take the following actions:

(1) Notices and posters setting forth the contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment, and potential employees.

(2) The contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

5. Recruitment

a. When advertising for employees, the contractor will include in all advertisements for employees the notation: 'An Equal Opportunity Employer.' All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

b. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority and female applicants, including, but not limited to, State employment agencies, schools. colleges, and minority group organizations. To meet this requirement, the contractor will, through his EEO Officer, identify sources of potential minority and female employees, and establish with such identified sources procedures whereby minority and female applicants may be referred to the contractor for employment consideration.

In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with equal employment opportunity contract provisions. (The U.S. Department of Labor has held that where implementation of such agreements has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority and female applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In, addition, information and procedures with regard to referring minority and female applicants will be discussed with employees.

6. Personnel Actions.

Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, age, disability, or national origin. The following procedures shall be followed:

FHWA-1273 SUPPLEMENTAL SPECIFICATION

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES
(23 U.S.C. 140)

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

7. Training and Promotion.

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training, In the event the Optional Training Special Provision is provided under this contract, this subparagraph will be superseded by that Special Provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

8. Unions.

If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the union and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below,

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, age, disability, or national origin.

c. The contractor is to obtain information as to the referral practices and policies of the labor union, except that to the extent such information is within the exclusive ion of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the sponsor and shall set forth what efforts have been made to obtain such information.

FHWA-1273 SUPPLEMENTAL SPECIFICATION

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES
(23 U.S.C. 140)

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, age, disability, or national origin, making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the sponsor.

9. Subcontracting.

a. The contractor's attention is called to the Special Provision on Disadvantaged Business Enterprises in Federal-Aid Highway Construction.

b. The contractor will use his best efforts to ensure subcontractor compliance with their equal employment opportunity obligations.

10. Records and Reports.

a. The contractor will keep such records as are necessary to determine compliance with the contractor's equal employment opportunity obligations. The records kept by the contractor will be designed to indicate:

(1) the number of minority and non-minority group members and women employed in each work classification on the project,

(2) the progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to contractors who rely in whole or in part on unions as a source of their work force),

(3) the progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and

(4) the progress and efforts being made in securing the services of Disadvantaged Business Enterprises or subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the sponsor and the Federal Highway Administration.

c. The contractors will submit an annual report to the State Highway agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. Ibis information is to be reported on Form PR 1391.

11. Corrective Action Plans.

The contractor understands that a designated representative of the sponsor will periodically review compliance by the contractor with all contractual provisions incorporated pursuant to Executive Order 11246, as amended, and Federal Highway Administration Equal Employment Opportunity Special Provisions implementing the Federal-Aid Highway Act of 1968, where applicable.

In the event that the designated representative of the sponsor finds that the contractor has failed to comply with any of the aforementioned contractual provisions, he will notify the contractor of this finding in writing A declaration of default will result in the suspension of all future payments. No declaration of default will be made if the sponsor and the contractor formally agree to enter into a corrective action plan setting out the specified steps and timetables the contractor will be contractually obligated to perform in order to re-establish his compliance. 'Ibis collective action plan, in order to be accepted by the

FHWA-1273 SUPPLEMENTAL SPECIFICATION

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES
(23 U.S.C. 140)

sponsor, shall include the following mandatory enforcement language:

"If, at any time in the future, the Office of Federal Contract Compliance Programs or the Federal Highway Administration or the Arkansas State Highway Commission or their successor(s) believe that (name of contractor) has violated any portion of this agreement, (name of contractor) shall be promptly notified of the fact in writing. This notification shall include a statement of the facts and circumstances relied upon in forming that belief. In addition, the notification shall provide (name of contractor) with 15 days to respond in writing to the notification except where the Office of Federal Contract Compliance Programs, the Federal Highway Administration or the Arkansas State Highway Commission alleges that such delay would result in irreparable injury. It is understood that enforcement proceedings for violation of this agreement may be initiated at any time after the 15-day period has elapsed (or sooner if irreparable injury is alleged) without issuance of a show cause notice."

"It is recognized that where the Office of Federal Contract Compliance Programs and/or the Federal Highway Administration and/or the Arkansas State Highway Commission believes that (name of contractor) has breached this agreement, evidence regarding the entire scope of (name of contractor) alleged noncompliance from which this agreement resulted, in addition to evidence regarding (name of contractor) alleged violation of this agreement, may be introduced at the enforcement proceeding."

"Violation of this agreement may subject (name of contractor) to sanctions pursuant to the Arkansas State Highway Commission contract administration procedures. It is further recognized that liability for violation of this agreement may also subject (name of contractor) to sanctions set forth in Section 209 of Executive Order 11246, as amended, and/or appropriate relief."

The contractor will submit quarterly reports to the sponsor as a result of any deficiencies cited during an equal employment opportunity compliance review. The reports will indicate the affirmative action steps taken to correct the deficiencies. Instructions for submission of the reports will be furnished by the Equal Employment Opportunity Section.

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FHWA-1273 SUPPLEMENTAL SPECIFICATION

EQUAL EMPLOYMENT OPPORTUNITY – GOALS & TIMETABLES

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Bidder's attention is called to the 'Equal Opportunity Clause' and the ‘Standard Federal Equal Employment Specifications’ set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor’s aggregate workforce in each trade on all construction work in covered area, are as follows:

MINORITIES

COUNTY

Arkansas	16.4%	Lee	26.5%
Ashley	16.4%	Lincoln	16.4%
Baxter	3.3%	Little River	19.7%
Benton	3.3%	Logan	6.6%
Boone	3.3%	Lonoke	16.4%
Bradley	16.4%	Madison	3.3%
Calhoun	16.4%	Marion	3.3%
Carroll	3.3%	Miller	19.7%
Chicot	16.4%	Mississippi	26.5%
Clark	16.4%	Monroe	16.4%
Clay	26.5%	Montgomery	16.4%
Cleburne	16.4%	Nevada	20.2%
Cleveland	16.4%	Newton	3.3%
Columbia	20.2%	Ouachita	16.4%
Conway	16.4%	Perry	16.4%
Craighead	26.5%	Phillips	26.5%
Crawford	5.6%	Pike	20.2%
Crittenden	32.3%	Poinsett	26.5%
Cross	26.5%	Polk	6.6%
Dallas	16.4%	Pope.	16.4%
Desha	16.4%	Prairie	16.4%
Drew	16.4%	Pulaski	15.7%
Faulkner	16.4%	Randolph	26.5%
Franklin	6.6%	Saline	15.7%
Fulton	16.4%	Scott	6.6%
Garland	16.4%	Searcy	3.3%
Grant	16.4%	Sebastian	5.6%
Greene	26.5%	Sevier	20.2%
Hempstead	20.2%	Sharp	16.4%
Hot Spring	16.4%	Stone	16.4%
Howard -	20.2%	St. Francis	26.5%
Independence	16.4%	Union	16.4%
Izard	16.4%	Van Buren	16.4%
Jackson	16.4%	Washington	3.3%
Jefferson	31.2%	White	16.4%
Johnson	16.4%	Woodruff	16.4%
Lafayette	20.2%	Yell	16.4%
Lawrence	26.5%		

FEMALES
Statewide – 6.9%

FHWA-1273 SUPPLEMENTAL SPECIFICATION

EQUAL EMPLOYMENT OPPORTUNITY – GOALS & TIMETABLES

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in the Notice, and in the contract resulting from this solicitation, the 'covered area' is as described in the Proposal Form for this project.

FHWA-1273 SUPPLEMENTAL SPECIFICATION

EQUAL EMPLOYMENT OPPORTUNITY – FEDERAL STANDARDS

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs United States Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. "Minority" includes:

i. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
ii. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
iii. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
iv. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations and on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall Good Faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these

FHWA-1273 SUPPLEMENTAL SPECIFICATION

EQUAL EMPLOYMENT OPPORTUNITY – FEDERAL STANDARDS

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees before the start of work and then not less often than once every six months; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

FHWA-1273 SUPPLEMENTAL SPECIFICATION

EQUAL EMPLOYMENT OPPORTUNITY – FEDERAL STANDARDS

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS
(EXECUTIVE ORDER 11246)**

g. Review the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site and then not less often than once every six months. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screening procedures, and test to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from disadvantaged business enterprise construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female

FHWA-1273 SUPPLEMENTAL SPECIFICATION

EQUAL EMPLOYMENT OPPORTUNITY – FEDERAL STANDARDS

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even thou-h the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, national origin, age or disability.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Employment Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee. helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

16. In addition to the reporting requirements set forth elsewhere in this contract, the contractor and the subcontractors holding subcontracts not including material suppliers, of $10,000 or more, shall submit for every month of July during which work is performed employment data as contained under Form PR-1391 (Appendix C to 23 CFR, Part 230), and in accordance with the instructions included thereon.

7/26/96
Rev. 2/11/98
Rev. 2/20/03
Rev. 7/27/06
Rev. 10/24/06
Rev. 9/16/13
Rev. 8/22/17

FHWA-1273 SUPPLEMENTAL SPECIFICATION

POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS

	POSTER OR DOCUMENT REQUIRED	REQUIRED BY	WHERE TO OBTAIN
1.	Equal Employment Opportunity is the Law	U.S. Department of Labor (OFCCP)	ARDOT Resident Engineer
2.	"EEO is the Law" Poster Supplement	U.S. Department of Labor (OFCCP)	ARDOT Resident Engineer
3.	Company EEO Policy (prepared by the Contractor on the Company's letterhead)	U. S. Department of Labor (OFCCP) *Union Contractors Only	Contractor to Prepare: a. EEO policy statement. b. Notice encouraging employees to refer minority and female applicants for employment. c. Notice informing employees of an available training program and the entrance requirements. d. Complaint procedures e. Notice identifying company EEO officer by name, including address and telephone number where EEO officer can be located. f. Work environment statement. g. Certification of nonsegregated facilities *h. Notice to unions disseminating EEO commitments and responsibilities and requesting their cooperation.
4.	Current Wage Rates (PR-1273 Supplement) or SS Revisions of PR-1273 for Off-System Projects	U. S. Department of Labor	Contained in contract. Extra copies may be obtained from Program Management Division – ARDOT

FHWA-1273 SUPPLEMENTAL SPECIFICATION

POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS

	POSTER OR DOCUMENT REQUIRED	REQUIRED BY	WHERE TO OBTAIN
5.	"Employee Rights Under the Davis-Bacon Act" (WH 1321)	U. S. Department of Labor	ARDOT Resident Engineer
6.	"Employee Rights Under the Davis-Bacon Act" (WH 1321 SPA)	U. S. Department of Labor	ARDOT Resident Engineer
7.	Minimum Wage Rate (WH 1088)	U. S. Department of Labor	ARDOT Resident Engineer
8.	"NOTICE" Federal Aid Projects (PR-1022)	U. S. Department of Transportation (FHWA)	ARDOT Resident Engineer
9.	Job Safety and Health Protection OSHA 3165	U. S. Department of Labor (OSHA)	ARDOT Resident Engineer
10.	Job Safety and Health Protection OSHA 3167	U. S. Department of Labor (OSHA)	ARDOT Resident Engineer
11.	Emergency Phone Numbers of Doctors, Hospital and Ambulance near Job Site for referring injured employees.	U. S. Department of Labor (OSHA)	ARDOT Resident Engineer
12.	WCC Form AR-P Workers Compensation Notice and Instructions to Employers and Employees	State of Arkansas	Insurance Carrier
	Self-Insurer	State of Arkansas	Administrator - Self-Insured Group

FHWA-1273 SUPPLEMENTAL SPECIFICATION

POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS

	POSTER OR DOCUMENT REQUIRED	REQUIRED BY	WHERE TO OBTAIN
13.	Log and Summary of Occupational Injuries and Illnesses (OSHA Form 300). The Summary portion must be posted from February 1 to April 30, of the year following the year covered by the form.	U. S. Department of Labor (OSHA) Public Law 91-596	ARDOT Resident Engineer
14.	Family and Medical Leave Act of 1993 (WH-1420) Employers who employ 50 or more employees for at least 20 workweeks in the current or preceding calendar year.	U. S. Department of Labor	ARDOT Resident Engineer
15.	Employee Polygraph Protection Act (WH-1462)	U. S. Department of Labor	ARDOT Resident Engineer
16.	Your Rights Under USERRA (The Uniformed Services Employment and Reemployment Rights Act)	U. S. Department of Labor	ARDOT Resident Engineer
17.	Arkansas Department of Labor Notice to Employer & Employee	Arkansas Department of Labor	ARDOT Resident Engineer
18.	Pay Transparency Nondiscrimination Provision	U.S. Department of Labor (OFCCP)	ARDOT Resident Engineer

UNIVERSITY OF CENTRAL ARKANSAS

SUPPLEMENT TO PROPOSAL

ANTI-COLLUSION AND DEBARMENT CERTIFICATION

FAILURE TO EXECUTE AND SUBMIT THIS CERTIFICATION SHALL RENDER THIS BID NONRESPONSIVE AND NOT ELIGIBLE FOR AWARD CONSIDERATION.

As a condition precedent to the acceptance of the bidding document for this project, the bidder shall file this Affidavit executed by, or on behalf of the person, firm, association, or corporation submitting the bid. The original of this Affidavit shall be filed with the University of Central Arkansas **at the time proposals are submitted**.

A F F I D A V I T

I hereby certify, under penalty of perjury under the laws of the United States and/or the State of Arkansas, that the bidder listed below has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the submitted bid for this project, is not presently barred from bidding in any other jurisdiction as a result of any collusion or any other action in restraint of free competition, and that the foregoing is true and correct.

Further, that except as noted below, the bidder, or any person associated therewith in the capacity of owner, partner, director, officer, principal investigator, project director, manager, auditor, or any position involving the administration of Federal funds:

a. is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;

b. has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;

c. does not have a proposed debarment pending; and

d. has not been indicted, convicted, or had an adverse civil judgment rendered by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

UNIVERSITY OF CENTRAL ARKANSAS

SUPPLEMENT TO PROPOSAL

ANTI-COLLUSION AND DEBARMENT CERTIFICATION

FAILURE TO EXECUTE AND SUBMIT THIS CERTIFICATION SHALL RENDER THIS BID NONRESPONSIVE AND NOT ELIGIBLE FOR AWARD CONSIDERATION.

EXCEPTIONS:

APPLIED TO	INITIATING AGENCY	DATES OF ACTION

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. Providing false information may result in criminal prosecution or administrative sanctions.

Job No. _____ _____
(Name of Bidder)

F.A.P. No. _____ _____
(Signature)

_____ _____
(Date Executed) (Title of Person Signing)

The following Notary Public certification is **OPTIONAL** and may or may not be completed at the contractor's discretion.

State of _____)
County of _____)ss.

_____, being duly sworn, deposes and says that he is

_____ of _____
(Title) (Name of Bidder)

and that the above statements are true and correct.

Subscribed and Sworn to before me this _____ day of _____, 20_____.
My commission expires:_____

_____
(Notary Public)

(NOTARY SEAL)

UNIVERSITY OF CENTRAL ARKANSAS

SUPPLEMENT TO PROPOSAL

C E R T I F I C A T I O N

The prospective contractor certifies, by signing and submitting this proposal, to the best of his or her knowledge and belief, that:

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

2 If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal-Aid contract, the prospective contractor shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities", in accordance with its instructions. (Available from Arkansas Department of Transportation, Program Management Division).

This Certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. This Certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U. S. Code.

During the period of performance of this contract, the contractor and all lower tier subcontractors must file a Form-LLL at the end of each calendar year quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any previously filed disclosure form. Any person who fails to file the required Certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each failure.

The prospective contractor also agrees by submitting his or her proposal that he or she shall require that the language of this Certification be included in all lower tier subcontracts which exceed $100,000 and that all such subcontractors shall certify and disclose accordingly.

UNIVERSITY OF CENTRAL ARKANSAS

SUPPLEMENT TO PROPOSAL

C E R T I F I C A T I O N

THIS CERTIFICATION SHALL BE COMPLETED BY THE BIDDER AS PART OF THIS PROPOSAL

The bidder _____, proposed subcontractor _____, hereby certifies that he has _____, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that he has _____, has not _____, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

(Currently, Standard Form 100 [EEO-1] is the only report required by the Executive Orders or their implementing regulations.

JOB NO. _____ _____ (Company)

F.A.P. NO. _____ By: _____ (Signature)

_____ (Date Executed) _____ (Title of Person Signing)

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7 (b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of $10,000 or under are exempt.)

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U. S. Department of Labor.

1/6/16

ARKANSAS DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

CARGO PREFERENCE ACT REQUIREMENTS

The requirements of the Cargo Preference Act (CPA) and implementing regulations (46 CFR 381.7(a)-(b)) are applicable to this contract. For additional information, see the FHWA's web page: https://www.fhwa.dot.gov/construction/cqit/cargo.cfm

AGREEMENT FORM
Section 005213

THIS AGREEMENT entered into this _____day of _____, 2023 by and between _____, hereinafter referred to as the Contractor, and the University of Central Arkansas, hereinafter referred to as Owner, in accordance with Ark. Code Ann. § 22-2-101 et seq.,

WITNESSETH:

1. That for and in consideration of the payment by the owner in the amount of $_____ to be made as set forth in the Contract Documents, the Contractor hereby agrees to furnish all tools, labor, equipment, and materials, and to build and construct that certain project in **Faulkner County**, designated as:

Project #: **UCA-24-023**

Project Name: **UCA Stone Dam Creek Ped. Bridge (TAP-20) (S)** consisting of construction, more specifically described in the Contract Documents attached hereto and incorporated herein by reference. Contract Documents include the following: the Agreement Form (this instrument); the Invitation to Bid; Instruction to Bidders; Bid Form; all Addenda; Performance and Payment Bond **(MUST BE FILED IN FAULKNER COUNTY)**; General and Supplementary Conditions; Drawings and Specifications. All construction shall be in exact accord with the Contract Documents filed with the UCA Procurement Department, located in Conway, Arkansas. UCA Procurement Department shall have direct contract supervision. Said construction shall be to the satisfaction of the UCA Procurement Department, and in accordance with the laws of the State of Arkansas, and the work shall be subject to inspection and approval at all times by the appropriate state and federal agencies.

2. Owner may at any time during the progress of the work alter, change, subtract from, or add to said Contract Documents without violating this Agreement or the terms thereof. Said changes, alterations, subtractions, or additions shall be set forth in writing in a document referred to as a "Change Order." Said document shall not be effective unless approved by the UCA Procurement Office. Once effective, the Change Order shall be attached hereto and incorporated herein by reference and shall be made a condition or term of the Contract Documents.

3. The Contractor agrees, for the consideration set forth in the Bid Form, to begin work after the receipt a purchase order and verbal notice to proceed from the construction coordinator has been issued. If the Contractor fails to complete the work within the 180 day time limit specified, he shall pay to the Owner, as liquidated damages and not in the nature of a penalty, the sum specified in the Bid Form of for each calendar day delayed, it being understood and agreed between the parties hereto that the said sum fixed as liquidated damages is a reasonable sum, considering the damages that Owner will sustain in the event of any such delay, and said amount is herein agreed upon and fixed as liquidated damages because of difficulty of ascertaining the exact amount of damages that may be sustained by such delay. The said sum shall be deducted from the final amount of estimate due the Contractor.

4. Should Contractor be delayed in the execution or completion of the work by the act, neglect or default of UCA, or by any damage by fire, weather conditions or other casualty or event for which the contractor is not responsible, or by general strikes or lockouts caused by acts of employees, then any extended period shall be determined and fixed by the Owner with approval given by UCA Procurement Department. Said extended period shall be the time for a period equivalent to the time lost by reason of any or all of the causes aforesaid, but no such allowance shall be made unless a claim therefore is presented in writing to the Owner within seven calendar days of the occurrence of the event causing the delay.

5. It is mutually agreed between the parties that in the performance of this contract, Contractor is acting independently and in no sense as Agent of the State. Contractor shall not let, assign, or transfer this contract or any interest therein, without the written consent of the Owner.

6. It is agreed and understood between the parties hereto that the Contractor shall accept and the Owner will pay for the work, at the prices stipulated in the Contract Documents, such payment to be in the form of legal tender, and the payment shall be made at the time and in the manner set forth in the Contract Documents.

7. Any laborer or mechanic employed by the Contractor or any Subcontractors for this project, directly on site for the work covered by the Contract Documents, shall be paid a rate of wages required by the Contract Documents. If the Owner discovers that wages less than the rate of wages specified by the Contract Documents have been or are being paid, then the Owner, after giving written notice to the Contractor, will terminate the Contractor's right to proceed with the project work or such part of the work as to which there has been a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the Contractor and his sureties shall be liable to the Owner for any excess costs occasioned thereby.

8. Contractor shall promptly repair, at his own expense and to the satisfaction of the UCA Procurement Department, damage done by him or his employees or agents at the work site, or to the public property or buildings, or both, and will save UCA harmless from all claims of any person for injury to person or to property occasioned by his act, or the acts of his employees or agents, while in the execution of the work specified.

9. The Owner, or both may terminate this agreement to the extent Owner's funds are no longer available for expenditures under this agreement.

10. Failure to make any disclosure required by Governor's Executive order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the Agency.

a) The contractor shall prior to entering any agreement with any subcontractor, for which the total consideration is greater than $25,000.00, require the subcontractor to complete a Contract and Grant Disclosure and Certification Form. The contractor shall ensure that any agreement, current or future between the contractor and a subcontractor for which the total consideration is greater than $25,000.00 shall contain the following:

Failure to make any disclosure required by Governor Executive Order 98-04, or any violation of any rule, regulation or adopted pursuant to that Order, shall be a material breach of the term of this subcontract. The party who fails to make the required disclosure or who violates the rule, regulation, or policy shall be subject to all legal remedies available to the contractor.

(b) The Contractor shall, within ten days of entering into any agreement with a subcontractor, transmit to UCA Procurement Department; a copy of the Contract and Grant Disclosure and Certification Form (00850) completed and signed by the subcontractor and a statement containing the dollar amount of the subcontractor.

(c) The terms and conditions regarding the failure to disclose and conditions which constitutes material breach of contract and rights of termination and remedies under the Executive Order 98-04 are hereby incorporated within.

11. Nothing in this Contract shall be construed to waive the sovereign immunity of the STATE OF ARKANSAS or any entities thereof.

Executed by the parties who individually represent that each have the authority to enter into this Contract.

CONTRACTOR:

By: _____
(Signature)

_____
(Print Name)

Title: _____

Firm: _____

Address: _____

Date: _____

APPROVED: **UNIVERSITY OF CENTRAL ARKANSAS**

By: _____
(Signature)

_____
(Print Name)

Title: _____

Date: _____

End of
AGREEMENT FORM
005213

PERFORMANCE BOND AND PAYMENT BOND
SECTION 006113

We _____, hereinafter referred to as Principal, and _____, hereinafter referred to as Surety, are held and firmly bound unto _____, as obligee, hereinafter referred to as Owner, in the initial Contract amount of $ _____, said amount to be deemed a performance bond payable to Owner under the terms of this Performance and Payment Bond Agreement. The Principal and Surety state that the Surety is a solvent corporate surety company authorized to do business in the State of Arkansas.

Principal has by written agreement dated _____ entered into a capital improvement contract (Contract) with the Owner for: _____

_____

_____

The above referenced Contract is incorporated herein by reference.

Under this Performance and Payment Bond Agreement, the Principal and Surety shall be responsible for the following:

a. The Principal shall faithfully perform the above referenced Contract, which is incorporated herein by reference and shall pay all indebtedness for labor and materials furnished or performed under the Contract.

b. In the event that the Principal fails to perform the Contract, the Principal and the Surety, jointly and severally, shall indemnify and save harmless the Owner from all cost and damage which the Owner may suffer by reason of Principal's failure to perform the Contract. Said indemnification shall include, but not be limited to, full reimbursement and repayment to the Owner for all outlays and expenses which the Owner may incur in making good any such default or failure to perform the Contract by the Principal.

c. Principal shall pay all persons all indebtedness for labor or material furnished or performed under the Contract and in doing so this obligation shall be null and void. In the event that Principal fails to pay for such indebtedness, such persons shall have a direct right of action against the Principal and Surety, jointly and severally, under this obligation, subject to the Owner's priority.

Any changes made in the terms of the Contract including but not limited to the amount of the contract, or in the work to be done under it, or the giving by the Owner of any extension of time for the performance of the contract, or any other forbearance on the part of either the Owner or the Principal to the other shall not in any way release the Principal and the Surety or Sureties or either or any of them, their heirs, personal representatives, successors or assigns from their liability hereunder, notice to and consent of the Surety or Sureties of any such change, extension or forbearance being are hereby voluntarily waived. In no event shall the aggregate liability of the Surety exceed the Contract documents.

This Performance and Payment Bond Agreement is binding upon the above named parties, and their successors, heirs, assigns and personal representatives.

Executed by the parties who individually represent that each voluntarily enters into and has the authority to enter into this agreement.

BY: _____
Contractor Date

BY: _____
Arkansas Resident Agent or Non Resident Agent/ Attorney-in-Fact Date

_____
Print: Agent's Name Date

_____
Address

_____
City County State Zip Code

Business #:_____ Fax#:_____

E-Mail: _____

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SECTION 006116 – SYSTEM FOR AWARD MANAGEMENT (SAM) CERTIFICATION

In accordance with the General Service Administration's (GSA) Office of Government wide Policy, Cities, Counties, Contractors and Professional Service providers MUST be registered with the System for Award Management (SAM) **prior to obtaining a contract**
and/or agreemcnt with a project receiving Federal and/or State funding.

The System for Award Management *(previously known as CCR-Cenlral Contractor Registration)* is a database that is used to collect, validate, store and disseminate data in support of Federal and State agency contracts and assistance awards. SAM registrants must provide basic information relevant to procurement and financial transactions in order to complete their registration. Registrants must update or renew their registration at least once a year to maintain an active status. An active status must be maintained for the life of the contract and/or agreement. In order to register with SAM, you must have a Data Universal Numbering System
(DUNS) number. There is **NO CHARGE** for obtaining a DUNS number or for registering in SAM. A DUNS number can be obtained at www.dnb.com or call 800-424-2495. SAM has a **FREE** online registration process that can be accessed at **www.sam,gov.** Verification of the City's, County's, Contractor's and/or Professional Services Provider's active SAM registration must be obtained prior to execution of all agreements and contracts. If you have questions or need additional information, please go to the SAM website or call the Federal Service Desk at 866-606-8220. You may also contact your Grant Administrator for additional assistance.

NOTE: Verification that you are registered and active in SAM.gov MUST be presented at the Pre-Construction Conferencc or the "Notice to Proceed" will not be issucd.

RELEASE OF CLAIMS
Section 006519.16

Comes the undersigned, who does hereby swear and affirm that:

1. My name is _____, and my
(printed or typed)
address is _____, doing business as_____.

2. Pursuant to Contract Number _____.
(project description)
and Contract Date _____ excepted as listed below in Paragraph 4, I have paid otherwise satisfied all obligations for all materials and equipment furnished, for all work, labor, and services performed, and for all known claims against the Contractor arising in any manner in connection with the performance of the contract referenced above for which the Owner or his property might in any way be held responsible.

3. To the best of my knowledge, information and belief, excepted as listed below in Paragraph 4, the Releases or Waivers of Claim, attached hereto and incorporated herein, include the Contract, all subcontractors, all suppliers of materials and equipment, and all performers of work, labor or services who have or may have claims against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

4. The Exceptions are: (if none, indicate "none." If required by the Owner, the Contractor shall furnish bond satisfactory to the Owner for each exception.)

_____ _____
AFFIANT DATE

VERIFICATION

STATE OF ARKANSAS)
)
COUNTY OF)

SUBSCRIBED AND SWORN TO before me this __ of _____ 20___.

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

CONSENT OF SURETY
Section 006519.19

Comes the undersigned, who does hereby swear and affirm that:

1. My name is _____ and I am an authorized representative of _____ a surety company.

2. With regards to the Project _____ _____ Contractor; and _____Owner; I hereby approve the final payment to the contractor. I agree that the final payment to the contractor shall not relieve the Surety Company of any of its obligations as set forth in the contract with the State of Arkansas and this contractor.

_____ _____
AFFIANT DATE

VERIFICATION

STATE OF ARKANSAS)
)
COUNTY OF _____)

SUBSCRIBED AND SWORN TO before me this _____ of _____ _____, 2023.

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES:

End of
CONSENT OF SURETY FORM
006519.19

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GENERAL CONDITIONS
Section 007213

ARTICLE 1 -- GENERAL PROVISIONS

1.1 DEFINITIONS

1.1.1 Contract Documents: Contract Documents consist of Agreement; Invitation to Bid; Instruction to Bidders; the Bid Form; the Bid and the Performance and Payment bonds; General and Supplementary Conditions; Specifications; Drawings; Addenda issued prior to execution of the Contract; all UCA approved Change Orders; other documents listed or referred to in the Agreement; and modifications issued after execution of the Contract and signed by Contractor and Owner, and approved by UCA.

1.1.2 Contract: The Contract Documents form the Contract for construction. The Contract Documents will not be construed to create a contractual relationship between the Design Professional and Contractor, between the Owner and a subcontractor, between the Owner and Design Professional, or between entities other than the Owner and Contractor; however, a contractual relationship does exist between the Contractor and the agency referred to as Owner for approval purposes.

1.1.3 Work: Construction and services required by the Contract Documents whether completed or partially completed, include tools, labor, equipment, supplies, transportation, handling, and incidentals provided by the Contractor.

1.1.4 Project: The total capital improvement project described in the Contract Documents.

1.1.5 Drawings: Graphic and textual portions of the Contract Documents showing the design, location, and dimensions and size of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

1.1.6 Specifications: Written requirements for materials, equipment, systems, standards, and workmanship for the Work, and performance of related services.

1.1.7 Project Manual: Volume, which may include the bidding requirements, forms, contracting requirements, and the Specifications.

1.1.8 Owner: The person or entity identified as such in the Contract Agreement, referred to throughout the Contract Documents as singular in number. The term Owner means the Owner and the Owner-authorized representative.

1.1.9 Contractor: The person or entity identified as such in the Contract Agreement, referred to throughout the Contract Documents as singular in number. The term Contractor means the Contractor or the Contractor-authorized representative.

1.1.10 Design Professional (Architect/Engineer/Consultant): The person or entity identified as such in the Agreement, lawfully licensed to practice architecture or engineering or another field of expertise and under contract to Owner to provide design service, advice, and consultation, referred to throughout the Contract Documents as if singular in number. The term Design Professional means the Architect/Engineer/ Consultant or the authorized representative.

1.1.11 Subcontractor: Any person, firm, or corporation with a direct contract with the Contractor who acts for or in behalf of the Contractor in executing a portion of the Work. The term subcontractor is referred to as singular in number and means the subcontractor or the subcontractor-authorized representative.

1.1.12 Inspector: A duly authorized representative of UCA and Design Professional, designated for detailed inspection of materials, construction, workmanship, and methods of construction.

1.1.13 Site: The particular location of that part of the project being considered.

1.1.14 State: The Owner.

1.2 **INTENT**

1.2.1 The intent of the Contract Documents is to set forth the standards of construction, the quality of materials and equipment, the guarantees that are to be met, and to include items necessary for proper execution and completion of the Work. The Contract Documents are complementary and what is required by one will be as binding as if required by all. Performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable as necessary to produce indicated results.

1.2.2 Organization of the Specifications into divisions, sections, and articles, and arrangement of Drawings will not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

1.2.3 Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

1.3 **CAPITALIZATION**

1.3.1 Terms capitalized in the Contract Documents include those which are specifically defined, the titles to numbered sections and articles, identified references to paragraphs, and the titles of other published documents.

1.4 **INTERPRETATION**

1.4.1 Whenever in these Contract Documents the words "as ordered", "as directed", "as required", "as permitted", "as allowed", or words or phrases of like import are used, it shall be understood that

the order, direction, requirement, permission, or allowance of the Owner and Design Professional is intended.

1.4.2 Whenever in these Contract Documents the word "product" is used, it shall be understood that the materials, systems, and equipment will be included.

1.4.3 Whenever in these Contract Documents the word "provide" is used, it shall be understood that it means to "furnish and install".

1.4.4 The Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an", but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

ARTICLE 2 -- OWNER

2.1 LAND

2.1.1 The Owner will provide the lands shown on the Drawings upon which the Work shall be performed. The Owner will provide a right-of-way for access to the project site.

2.1.2 The Owner will provide base lines for the location of the principle component parts of the Work with a suitable number of bench marks adjacent to the Work.

2.2 RIGHT OF ENTRY BY OWNER

2.2.1 The Owner and his authorized representative will have the right to enter the property or location on which the Work shall be constructed. The Owner further reserves the right to construct or have his authorized agents construct such work as the Owner will desire, so long as these operations do not interfere with or delay the work being constructed under this Contract.

2.3 OWNER'S RIGHT TO CARRY OUT THE WORK

2.3.1 If the Contractor defaults or neglects to perform the Work in accordance with the Contract Documents, including the requirements with respect to the schedule of completion, and fails after ten days written notice from the Owner to correct the deficiencies, the Owner may deduct the cost thereof from the payment then or thereafter due the Contractor.

ARTICLE 3 -- CONTRACTOR

3.1 GENERAL

3.1.1 The Contractor shall perform the Work in accordance with the Contract Documents.

3.1.2 The Contractor shall furnish labor, materials, equipment, and transportation necessary for the proper execution of the work unless specifically noted otherwise. The Contractor shall do all the work shown on Drawings and described in Specifications and all incidental work considered necessary to complete the project in a substantial and acceptable manner, and to fully complete the work or improvement, ready for use, occupancy and operation by the Owner. Drawings and Specifications shall be interpreted by the Design Professional or the Owner if no Design Professional exists for the project.

3.1.3 The Contractor shall cooperate with the Owner, Design Professional, inspectors, and with other contractors on the Project. Contractor shall allow inspectors acting in an official capacity, to have access to the project site.

3.1.4 The Contractor shall determine that the final and completed work on the project is in accordance with the Contract Documents. The failure of the Design Professional to find or correct errors or omissions in the use of materials or work methods during the progress of the work shall not relieve the Contractor from his responsibility to correct all the defects in the project.

3.1.5 The Contractor shall assist in making final inspections and shall furnish such labor and equipment as may be required for the final tests of equipment, piping, and structures.

3.2 **REVIEW OF FIELD CONDITIONS**

3.2.1 Before ordering material or doing Work, the Contractor shall verify all measurements involved and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of difference between actual dimensions and the measurements indicated on Drawings; differences which may be found, shall be submitted to Design Professional for consideration before proceeding with the Work.

3.2.2 Drawings may show the location or existence of certain exposed and buried utilities as well as existing surface and subsurface structures. The Owner assumes no responsibility for failure to show any or all such utilities and structures on the Drawings or to show such in the exact location. It is mutually agreed such failure will not be considered sufficient basis for claims for extra work or for increasing the pay quantities in any manner unless the obstruction encountered necessitates substantial changes in the lines or grades or requires the building of a special structure.

3.3 **REVIEW OF CONTRACT DOCUMENTS**

3.3.1 The Contractor shall study and compare Drawings, Specifications, and other instructions and shall report to the Design Professional at once any error, inconsistency, or omission discovered.

3.3.2 In the event of conflict among the Contract Documents, interpretations will be based on the following order of precedence, stated highest to lowest:

a. The Agreement

b. This Division Zero (0) shall control in the event of conflict between this Division Zero (0) and other Divisions 1 through 33.

c. Addenda to Drawings and Specifications with those of later date having precedence.

d. Drawings and Specifications

3.3.3 Since the Contract Documents are complementary, the Contractor shall take no advantage of any apparent error or omission in the Drawings and Specifications. The Owner or Design Professional shall furnish interpretations as deemed necessary for the fulfillment of the intent of the Drawings and Specifications.

3.3.4 Discrepancies found between the Drawings and Specifications and actual site conditions or any errors or omissions in the Drawings or Specifications shall be immediately reported to the Design Professional or in the case where a Design Professional is not on the Project, the Owner shall be notified, who shall address such error or omission in writing. Work done by the Contractor after discovery of such discrepancies, errors, or omissions shall be at the Contractor's risk and expense.

3.4 REQUEST FOR SUPPLEMENTARY INFORMATION

3.4.1 The Contractor shall make timely requests of the Owner or Design Professional for additional information required for the planning and production of the Work. Such requests shall be submitted as required, but shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. Contractor understands and agrees that it is Contractor's duty to determine the need for, and to request said additional information in writing from the Design Professional by such date as allows Design Professional to provide the information to the Contractor by a date that will not adversely affect Contractor's ability to complete the Work by the date specified in the Contract.

3.4.2 Additional instructions may be issued by the Design Professional during the progress of the Work to clarify the Drawings and Specifications or as may be necessary to explain or illustrate changes in the Work.

3.5 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

3.5.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

3.5.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

3.5.3 Samples are physical examples that illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

3.5.4 The Contractor shall provide shop drawings and other submittals, settings, schedules, and other drawings as may be necessary for the prosecution of the Work in the shop and in the field as required by the Drawings, Specifications, or Design Professional instructions.

3.6 LABOR AND MATERIALS

3.6.1 Except as otherwise specifically stated in the Contract, the Contractor shall provide, but not be limited to, all materials, labor, tools, equipment, water, light, heating and cooling, power, transportation, superintendence, temporary construction of every nature, taxes legally collectible because of the work, and all other services and facilities of every nature whatsoever necessary to complete the Work in accordance with the Contract Documents in an orderly and efficient manner. The sequence of construction operations shall follow the schedule of construction as approved by the Design Professional. The Work shall not be discontinued by the Contractor without approval of the Design Professional. Should prosecution of the Work be discontinued for any reason, the Contractor shall notify the Design Professional at least twenty-four hours in advance of resuming the Work.

3.6.2 Materials and equipment furnished under this Contract will be subject to inspection by the Owner's authorized representative or by independent laboratories. Defective material, equipment, or workmanship may be rejected at any time before the acceptance of the Work even though the defective material, equipment, or workmanship may have been previously overlooked and estimated for payment. The Contractor shall replace defective equipment and material in accordance with the Contract Documents at no additional cost to the Owner.

3.6.3 The Contractor shall provide materials and supplies not subject to conditional sales agreements, or other agreement reserving unto the seller any right, title, or interest therein. All materials and supplies shall become the property of the Owner upon final acceptance of this Contract by the Owner.

3.6.4 If shop tests are to be conducted, the Contractor shall notify the Owner of such tests so a representative may witness tests, if desired.

3.6.5 The Contractor may make substitutions only with the consent of the Owner, after evaluation by the Design Professional, and in accordance with a Change Order.

3.7 UNAUTHORIZED WORK

3.7.1 Work done without lines and grades having been given or work done beyond the lines or not in conformity with the grades shown on the Drawings or as provided by the Owner, except as provided herein, and work completed without proper inspection and supervision or any extra or unclassified work completed without written authority and prior agreement shall be at the Contractor's risk. Such unauthorized work, at the option of the Design Professional, may not be measured and paid for and may be ordered removed at the Contractor's expense.

3.8 **SUPERINTENDENCE**

3.8.1 The Contractor shall supervise and direct the Work. The Contractor shall be solely responsible for construction means, methods, techniques, sequences, and procedures and for coordinating portions of the Work under the Contract.

3.8.2 The Contractor shall employ a qualified superintendent during the duration of the Project who is acceptable to the Owner and the Design Professional. The superintendent shall be maintained on the Project site and shall be present on the site at all times work is in progress. The superintendent shall be capable of reading and understanding the Drawings and Specifications and shall have full authority to act in behalf of the Contractor. All directions and instructions given to the Superintendent shall be considered as given to the Contractor and shall be as binding as if given to the Contractor.

3.8.3 Workmanship shall be performed by workmen experienced in their trade and skilled and experienced for the class of work to which assigned. Any person, including supervisory personnel, who does not show and exhibit skill and proficiency in said work shall be removed by the Contractor and replaced by a competent and experienced workman.

3.8.4 The Contractor shall, at all times, be responsible for the conduct and discipline of his employees and all Subcontractors and their employees. Disorderly, incompetent or intemperate persons, or persons who commit any crimes or trespass on public or private property in the vicinity of the Work must not be allowed to continue working upon the project which the Contractor has with the State. Any superintendent, foreman or workman employed by the Contractor or a Subcontractor who unreasonably refuses or neglects to comply with the instructions of the Owner, Design Professional, or inspector, shall, at the written request of the Owner or Design Professional, be removed from the work site and shall not be allowed to work further on any portion of the work or another State Project without the approval of the Owner.

3.8.5 The Contractor shall coordinate Work by the various trades to provide uniform and symmetrical layout and spacing of the exposed components which will affect the finished design and appearance. Where spacing and related locations are not specifically shown on Drawings or where in doubt, the Contractor shall consult the Design Professional prior to installation of that part of the Work.

3.9 **PERMITS, FEES, AND NOTICES**

3.9.1 The Contractor shall purchase and secure all applicable permits and licenses and give all notices necessary and incidental to the prosecution of the Work. However, in accordance with Ark. Code Ann. §22-9-213, public works construction projects conducted by UCA or other state agencies are exempt from permit fees or inspection requirements of county or municipal ordinances.

3.9.2 When new construction under the Contract crosses highways, railroads, streets or utilities under the jurisdiction of the state, county, city, or other public agency, public utility, or private entity, the Contractor shall secure written permission from the proper authority before executing such

new construction. A copy of this written permission shall be filed with the Owner before any work is completed. The Contractor shall furnish a release from the proper authority before final acceptance of the Work. Any bonds required for this Work shall be secured and paid for by the Contractor.

3.10 SAMPLES AND TESTS

3.10.1 The Contractor shall provide samples, materials, and equipment necessary or required for testing as outlined in the various sections of the Specifications or as directed by the Owner. The Contractor shall pay all costs for testing. Should materials, methods, or systems fail to meet specified standards, the Contractor shall pay all costs for additional testing as required by the Owner.

3.10.2 All tests shall be made by a laboratory approved by the Owner.

3.11 LOCATION, GRADIENT, AND ALIGNMENT

3.11.1 Based upon the site information provided by the Owner, the Contractor shall develop and make detailed surveys necessary for construction including slope stakes, batter boards, and other working points, lines and elevations.

3.11.2 The Contractor shall report any errors, inconsistencies, or omissions to the Design Professional as a request for information.

3.11.3 The Contractor shall preserve benchmarks, reference points and stakes, and in the case of destruction thereof by the Contractor, shall be responsible for damage or mistakes resulting from unnecessary loss or disturbance.

3.12 LAND

3.12.1 Additional land and access thereto not shown on Drawings that may be required for temporary construction facilities or for storage of materials shall be provided by the Contractor at his expense with no liability to the Owner. The Contractor shall confine his equipment and storage of materials and the operation of his workmen to those areas shown on the Drawings and described in the Specifications, and such additional areas which he may provide or secure as approved by the Owner.

3.12.2 The Contractor shall not enter upon private property for any purpose without first obtaining permission.

3.12.3 The Contractor shall be responsible for the preservation of and prevent damage or injury to all trees, monuments, and other public property along and adjacent to the street and right-of-way. The Contractor shall prevent damage to pipes, conduits and other underground structures, and shall protect from disturbance or damage all monuments and property marks until an authorized agent has witnessed or otherwise referenced their location, and shall not remove monuments or property marks until directed.

3.13 **LIMITS OF WORK**

3.13.1 The Contractor shall conduct Work and operations so as to cause a minimum of inconvenience to the public. At any time when, in the opinion of the Owner or Design Professional, the Contractor is obstructing a larger portion of a road, street, or other public right-of-way than is necessary for the proper execution of the Work, the Design Professional may require the Contractor to finish the sections on which work is in progress before work is commenced on any new sections.

3.14 **WARRANTY**

3.14.1 The Contractor shall warrant that all Work, materials, and equipment furnished will be free from defects in design, materials, and workmanship and will give successful service under the conditions required. The warranty period for Work, materials, and equipment furnished by the Contractor shall be one year from the date of the written acceptance of the Work as stated in the Substantial Completion Form approved by the Contractor, Owner and Design Professional or the date that UCA approves the final payment request, unless a longer period is agreed upon.

3.15 **PATENTS AND ROYALTIES**

3.15.1 If the Contractor is required or desires to use any design, device, material or process covered by letters, patent, or copyright, he shall provide for such use by suitable legal agreement with the patents or Owner. It is mutually understood and agreed that without exception the Contract Sum shall include all royalties or costs arising from patents, trademarks, and copyrights in any way involved in the Work. The Contractor and the surety shall defend, indemnify, and save harmless the Owner and all its officers, agents and employees from all suits, actions, or claims of any character, name and description brought for or on account of infringement or alleged infringement by reason of the use of any such patented design, device, material or process of any trademark or copyright used in connection with the Work agreed to be performed under this Contract, and shall indemnify the Owner for any cost, expense, or damage which it may be obliged to pay by reason of any action or actions, suit or suits which may be commenced against the Owner for any such infringement or alleged infringement at any time during the prosecution or after the completion of the Work contracted for herein. It is mutually agreed that the Owner may give written notice of any such suit to the Contractor, and thereafter, the Contractor shall attend to the defense of the same and save and keep harmless the Owner from all expense, counsel fees, cost liabilities, disbursements, recoveries, judgments, and executions in any manner growing out of, pertaining to, or connected therewith.

3.16 **CLEANING UP**

3.16.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials.

3.16.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof shall be charged to the Contractor.

ARTICLE 4 -- ADMINISTRATION OF CONTRACT

4.1 DESIGN PROFESSIONAL AUTHORITY

4.1.1 The Design Professional will interpret the requirements of the Contract Documents and decide matters concerning performance there under on request of the Owner or Contractor.

4.1.2 The Design Professional will provide administration of the Contract as described in the Contract Documents and will be the Owner's representative. The Design Professional will decide any and all questions as to the acceptability of materials or equipment furnished, work performed, interpretation of the Drawings and Specifications, rate of progress of the Work, acceptability of the quality of workmanship provided, and other questions as to the fulfillment of the Contract by the Contractor.

4.1.3 The Design Professional will prepare all change orders on the form specified by UCA. The Design Professional may authorize minor changes in the Work not involving adjustment in Contract Sum or extension of Contract Time and not inconsistent with the intent of the Contract Documents.

4.1.4 The Design Professional and his authorized representatives, UCA will have the right to enter the property or location on which the Work shall be constructed.

4.2 CLAIMS

4.2.1 Definition: A claim is a demand or assertion by one of the parties seeking adjustment, or interpretation of Contract terms, payment of money, extension of time, or other relief with respect to the terms of the Contract. The term includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims will be initiated by written notice. The responsibility to substantiate claims shall rest with the party making the claim.

4.2.2 Claims of the Contractor or the Owner: Claims regarding the Work of the Contract shall be referred initially to the Design Professional for a decision. The Design Professional will review claims, and 1) reject in whole or in part; 2) approve the claim; 3) suggest a compromise; 4) advise the parties that the Design Professional is unable to resolve the claim.

4.2.3 Claims for Concealed or Unknown Conditions: If new and unforeseen items of work are discovered, which cannot be covered by any item or combination of items for which there is a Contract Sum, then the Contractor shall notify the Design Professional as quickly as reasonably possible and shall not continue working on the discovered new or unforeseen items without express written permission from the Design Professional. The Contractor shall complete such work and furnish such materials as may be required for the proper completion or construction of

the work contemplated upon written Change Order from the Design Professional as approved by the Owner. Work shall be performed in accordance with the Contract Documents.

4.2.4 Claims for Extensions of Time: The Contractor shall provide written notice to Design Professional within ten days stating the cause of the delay and request an extension of Contract Time. The Design Professional will act on the request in writing. The extension of time shall be for a period equivalent to the time lost by reasons indicated. No extension of time shall be effective until included in a Change Order approved by the Design Professional and UCA.

4.2.5 Claims for Changes in the Work: The Contractor shall provide written notice to Design Professional within ten calendar days after the receipt of instructions from the Owner, as approved by the Design Professional, to proceed with changes in the Work and before such Work is commenced. Changes in the Work shall not be commenced before the claim for payment has been approved, except in emergencies endangering life or property. The Contractor's itemized estimate sheets showing labor and material shall be submitted to the Design Professional. The Owner's order (Change Order) for changes in the Work shall specify any extension of the Contract Time and one of the following methods of payment:

a. Unit prices or combinations of unit prices, which formed the basis of the original Contract.

b. A lump sum fee based on the Contractor's estimate, approved by the Design Professional and accepted by the Owner.

c. The actual cost of the Work plus an allowance of 12 percent and 5 percent for the General Contractor and Subcontractor, respectively.

4.2.6 Claims for Additional Costs: In case of an emergency which threatens loss or injury of property or safety of life, the Contractor shall be allowed to act, without previous instructions from the Design Professional, in a diligent manner. The Contractor shall notify the Design Professional immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted, but in no case more than 7 calendar days following the event causing the emergency, to the Design Professional for consideration. The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided under these General Conditions. No agreement to pay costs for additional work shall be effective until included in a Change Order approved by the Contractor, the Design Professional and UCA.

ARTICLE 5 -- SUBCONTRACTORS

5.1 ASSIGNMENT OF CONTRACT

5.1.1 Neither the Owner nor the Contractor shall have the right to sublet, sell, transfer, assign, or otherwise dispose of the "Contract" or any portion thereof without written consent of the other party. No assignment, transfer, or subletting, even with the proper consent, shall relieve the Contractor of his liabilities under this Contract. Should any Assignee or Subcontractor fail to

perform the work undertaken by him in a satisfactory manner, with UCA approval, has the right to annul and terminate the Assignee's or Subcontractor's contract on the project.

5.2 SUBCONTRACTS

5.2.1 The subcontracting of the whole or any part of the Work to be done under this Contract will not relieve the Contractor of his responsibility and obligations. All transactions of the Owner or Design Professional shall be with the Contractor. Subcontractors will be considered only in the capacity of employees or workmen and shall be subject to the same requirements as to character and competency.

5.2.2 The Contractor shall discharge or otherwise remove from the project any Subcontractor that the Owner or the Design Professional has reasonably determined as incompetent or unfit.

5.2.3 The Contractor may not change those Subcontractors listed on the proposal without the written approval of the Owner, Design Professional. The Contractor shall submit written evidence, which includes but is not limited to, that the substituted contractor is costing the same amount of money or less and if costing less, that the saving will be deducted from the total contract of the prime contractor and rebated to the Owner prior to any approval. The Contractor shall submit his request to the design professional who then shall review the request, if approved, the request and approval shall be forwarded to the Owner. The Owner shall then review the request and accompanying paperwork and if approved, shall forward the approval and the accompanying documents to UCA. UCA shall review all of the documents. UCA shall provide written notification to the Contractor and the Design Professional as its determination. The Contractor shall not be relieved of any liabilities under this Contract, but shall be fully responsible for any Subcontractor or work by said Subcontractor where Subcontractor is employed by the Contractor to perform work under this Contract. Nothing contained in the Contract Documents shall create contractual relations between any Subcontractor and the State.

5.2.4 No officer, agent, or employee of the Owner, including the Design Professional, shall have any power or authority to bind the Owner or incur any obligation in his behalf to any Subcontractor, material supplier or other person in any manner whatsoever.

ARTICLE 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OTHER CONTRACTS

6.1.1 The Owner reserves the right to award other contracts in connection with the Project. The Contractor shall cooperate with the other contractors with regard to the storage of materials and equipment, access to the site, and execution of their work. It shall be the Contractor's responsibility to inspect the work of other contractors which will affect the work of this Contract and to report to the Owner irregularities which will not permit him to complete his work in a satisfactory manner or in the time allotted. Failure to so report shall constitute an acceptance of the work of other contractors.

6.2 **DEPENDENCE ON OTHERS**

6.2.1 If any part of the Contractor's work depends for proper execution or results upon the work of the Owner or any separate contractor, the Contractor shall, prior to proceeding with the work, promptly report to the Design Professional any apparent discrepancies or defects in such other work that render it suitable for such proper execution and results. Failure of the Contractor to so report shall constitute an acceptance of the work.

ARTICLE 7 -- CHANGES IN THE WORK

7.1 **GENERAL**

7.1.1 The Owner may, as the need arises, without invalidating the Contract, order changes in the work in the form of additions, deletions, or modifications. Compensation to the Contractor for additional work or to the Owner for deductions in the work and adjustments for the time of completion shall be adjusted at the time of ordering such change.

7.1.2 Additional work shall be done as ordered in writing by the Owner. The order shall state the location, character, and amount of extra work. All such work shall be executed under the conditions of the Contract, subject to the same inspections and tests.

7.1.3 The Design Professional and the Owner reserve and shall have the right to make changes in the Contract Documents and the character or quantity of the work as may be considered necessary or desirable to complete fully and acceptably the proposed construction in a satisfactory manner.

7.2 **CHANGE ORDERS**

7.2.1 A Change Order is a written instrument, prepared by the Design Professional and approved by UCA stating their agreement upon the following, separately or in any combination thereof:

a. Description and details of the work.

b. Amount of the adjustment in the Contract Sum.

c. Extent of the adjustment in the Contract Time.

d. Terms and conditions of the Contract Documents.

7.2.2.1 Change Order requests by the Contractor shall be submitted in a complete itemized breakdown, acceptable to the Design Professional and UCA.

7.2.2.2 Where unit prices are stated in the Contract, Contractor should submit an itemized breakdown showing each unit price and quantities of any changes in the Contract Amount.

The value of all such additions and deductions shall then be computed as set forth in Paragraph 7.2.2.3.

7.2.2.2 The Contractor shall present an itemized accounting together with appropriate supporting data for the purposes of considering additions or deductions to the Contract Amount. Supporting data shall include but is not limited to the following:

a. Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and worker or workmen's compensation insurance;
b. Cost of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;

c. Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

d. Costs of premiums for all bonds and insurance, permit fees, and sales, use of similar taxes related to the Work; and

e. Additional costs of supervision and field office personnel directly attributable to the change.

The burden of proof of cost rests upon the Contractor. Contractor agrees that UCA's Representative shall have the right, at reasonable times, to inspect and audit the books and records of Contractor to verify the propriety and granting of such cost.

7.2.2.3 Compute requests for changes be they additions or deductions as follows:

a. For work performed by the Contract:

Net Cost of Materials	a._____
State Sales Tax	b._____
Net Placing Cost	c._____
W.C. Insurance Premium and FICA Tax	d._____
Subtotal of a+b+c+d	_____
Overhead and Profit, 12% x (a+b+c+d)	e._____
Allowable Bond Premium	f._____
TOTAL COST a+b+c+d+e+f	_____

b. Credit for work deleted shall be computed as outlined in 7.2.2.3 a. through e., except the Contractor's share of overhead and profit percentage is seven percent.

c. For added work performed by Subcontractors: Subcontractors shall compute their work as outlined in 7.2.2.3 a. through e. To the cost of that portion of the work (Change) that is performed by the Subcontractor, the Contractor shall add an Overhead and Profit Change of five percent plus the Allowable Bond Premium.

d. For work deleted by a Subcontractor: Subcontractors shall compute their work as outlined in 7.2.2.3 a through e, except that the overhead and profit shall be seven percent and the Contractor's overhead and profit shall be five percent.

7.3 PAYMENT FOR CHANGES IN THE WORK

7.3.1 All changes in the Work will be paid for in the manner indicated in Article 4, Paragraph 4.2, and the compensation thus provided shall be accepted by the Contractor as payment in full for the use of small tools, superintendent's services, premium on bond, and all other overhead expenses incurred in the prosecution of such work.

7.3.2 The Owner shall not be deemed to have agreed to any costs for additional work, to have agreed to additional time for completion, or to have agreed to any other change in the terms and conditions of the Contract Documents until Owner, Design Professional and Contractor have executed a Change Order to this Contract, and the Change Order is approved by UCA.

ARTICLE 8 -- TIME

8.1 DEFINITIONS

8.1.1 Contract Time is the period of time identified in the Contract Documents for Substantial Completion of the Work, including authorized adjustments made as part of Change Orders agreed to by the Contractor Design Professional and UCA.

8.1.2 Date for commencement of the Work is the fifth calendar day following the date of mailing, by regular mail, of the Notice to Proceed, unless otherwise stated in the Contract.

8.1.3 Date of Substantial Completion is the date certified by the Design Professional and UCA.

8.2 PROGRESS

8.2.1 Time limits identified in the Contract Documents are of the essence of the Contract. The Contractor confirms that the Contract Time is a reasonable period of time for performing the Work.

8.3 HOLIDAYS

8.3.1 New Year's Day, Robert E. Lee/Dr. Martin Luther King's Birthday, President's Birthday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and the day thereafter, Christmas Eve and Christmas Day will be considered as being legal holidays; no other days will be considered unless declared by the Governor of the State of Arkansas through an Executive Order or Proclamation. No Design Professional clarifications, observations, or State inspections will be provided on legal holidays.

8.4 **DELAYS**

8.4.1 Delays beyond the Contractor's control occasioned by an act or omission on the part of the Owner, strikes, fires, additions to the work, delays by any separate contractor employed by the Owner, extremely abnormal weather conditions, or other delays beyond the Contractor's control may, if agreed to by Change Order by the Contractor, the Design Professional and entitle the Contractor to an extension of time in which to complete the work. While such delays may be just cause for an extension of the Contract Time, the Contractor shall not have a claim for damages for any such cause or delay.

8.5 **INCLEMENT WEATHER**

8.5.1 Include in construction time stated in Contract documents an allowance for calendar days per month which, according to the following inclement weather table may not be available for construction out-of-doors (normal inclement weather).

January (7)	April (7)	July (6)	October (3)
February (5)	May (8)	August (4)	November (6)
March (7)	June (6)	September (6)	December (4)

8.5.2 Contract time will not be extended due to normal inclement weather unless the Contractor can substantiate, to satisfaction of Architect, that greater-than-normal inclement weather occurred, considering the full term of contract Time, using a 5-year average of accumulated record mean values from climatological data compiled by the U.S. Department of commerce National Oceanic and Atmospheric Administration for the project local, and that alleged greater-than-normal inclement weather actually delayed work or portions of work. All inclement weather day extension submittals must be submitted to the Architect for review and approval by the 15th of the following month.

The measure of extreme weather shall be the number of days in excess of those stated for each month, in precipitation exceeded 0.10 inch, from area weather station for same period of time, which is source of data used to determine normal weather losses.

If total accumulated number of calendar days lost to weather exceeds total accumulated number expected for same period from inclement weather table, time for completion will be extended by number of calendar days needed to include excess number of calendar days lost.

ARTICLE 9 -- PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

9.1.1 The Contractor shall accept the compensation, as herein provided, in full payment for furnishing all materials, equipment, labor, tools, and incidentals necessary to complete the Work and for performing all Work contemplated and embraced under the Contract; also for loss or damage arising from the nature of the Work, from the action of the elements or from any unforeseen difficulties which may be encountered during the prosecution of the Work until the final acceptance by the Design Professional and Owner and for all risks of every description connected with the prosecution of the Work, for all expenses incurred in consequence of the suspension or discontinuance of the Work as specified, for any infringement of patent, trademark, or copyright, and for completing the Work according to the Contract Documents. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material.

9.1.2 No moneys payable under Contract or any part thereof, except the estimate for the first month or period, shall become due and payable if the Owner so elects until the Contractor shall satisfy the said Owner that he has fully settled or paid for all materials and equipment used in or on the Work and labor done in connection therewith, and the Owner, if he so elects, may pay any or all such bills wholly or in part and deduct the amount or amounts so paid from any monthly or final estimate excepting the first estimate.

9.1.3 In the event the surety on any contract or payment bond given by the Contractor becomes insolvent, or is placed in the hands of a receiver, or has the right to do business in a state revoked as provided by law, the Owner may at its election withhold payment of any estimate filed or approved by the Design Professional until the Contractor shall give a good and sufficient bond in lieu of the bond so executed by such surety. Any and all subsequent bonds shall be filed with the Circuit Clerk of the County in which the Work is being performed.

9.2 SCHEDULE OF VALUES

9.2.1 The Contractor shall submit to the Design Professional a schedule of values for each part of the Work. The schedule shall be a complete breakdown of labor and materials for the various parts of the Work including an allowance for profit and overhead. The total of these amounts shall equal the Contract Sum. The approved schedule of values shall be used as a basis for the monthly payments to the Contractor. In applying for the monthly payment, the Contractor shall show a detailed account of work accomplished in conformity with the schedule.

9.3 MEASUREMENT OF QUANTITIES

9.3.1 The Contractor shall be paid for all Work performed under the Contract based on Design Professional computations of as-built quantities and the Contractor's Contract Sum. This payment shall be full compensation for furnishing all supplies, materials, tools, equipment, transportation, and labor required to do the Work; for all loss or damage, because of the nature of the Work, from the action of the elements or from any unforeseen obstruction or difficulty which may be encountered in the prosecution of the Work and for which payment is not specifically provided for all or any part of the Work; and for well and faithfully completing the

Work in accordance with the Contract Documents. The method of computation and payment for each item shall be as set forth in the Specifications or the General and Supplementary Conditions.

9.4 REQUESTS FOR PAYMENT

9.4.1 The Contractor may submit periodically, but not more often than once each month, a Request for Payment for work completed. When unit prices are specified in the Contract Documents, the Request for Payment shall be based on the quantities completed.

9.4.2 Unless otherwise provided in the Contract Documents, payments will be made on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site, and if approved in advance by the Owner, payments may similarly be made for materials or equipment suitably stored at some other location agreed upon in writing. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner and the Design Professional to establish the Owner's title to such materials or equipment or otherwise protect the Owner's interest including applicable insurance and transportation to the site for those materials and equipment stored off the site.

9.4.3 The Contractor shall furnish the Design Professional all reasonable facilities and job tickets required for obtaining the necessary information relative to the progress and execution of the Work and the measurement of quantities. Each Request for Payment shall be computed from the work completed on all items listed in the approved schedule of values less 10 percent of the first 50 percent of the adjusted Contract Sum and less previous payments to the Contractor on the Contract.

9.5 PERIODIC ESTIMATES FOR PAYMENT

9.5.1 Unless otherwise stated in the Specifications or General and Supplementary Conditions, the Owner shall cause the Design Professional to prepare an Estimate for Payment to the Contractor each month. The Design Professional will make the estimate for the materials complete in place and the amount of work performed in accordance with the Contract between the twenty-fifth day of the month and the fifth day of the succeeding month.

9.5.2 From the total of the amount estimated to be paid, an amount equal to 10 percent of the total completed shall be retained until the Contract is 50 percent complete after which no further retainage will be withheld from the monthly estimates. All sums withheld by the Owner and requested in a Final Pay Request prepared by the Owner or Contractor will be paid to the Contractor within 30 days after the Contract has been completed and the work approved by UCA. No retainage will be withheld on that amount of the progress payment pertaining to the cost of materials stored at the site or within a bonded warehouse.

9.6 **PAYMENT FOR INCREASED OR DECREASED QUANTITIES**

9.6.1 When alterations in the quantities of work not requiring Contract modifications are ordered and performed, the Contractor shall accept payment in full at the Contract Sum, for the actual quantities of work accomplished. No allowance will be made for anticipated profits. Increased or decreased work involving Contract modifications shall be paid for as stipulated in such Contract modifications

9.7 **DESIGN PROFESSIONAL'S ACTION ON A REQUEST FOR PAYMENT** (See 9.9)

9.7.1 The Owner shall cause the Design Professional to, within five working days plus time required for transmittal from one party to another, act on a Request for Payment by the Contractor in one of the following:

a. Approve the Request for Payment as submitted by the Contractor, and transmit same to the Owner.

b. Approve an adjusted amount, as the Design Professional will decide is due the Contractor informing the Contractor in writing of the reason for the adjusted amount, and transmit same to the Owner.

c. Withhold the Request for Payment submitted by the Contractor informing the Contractor, and UCA in writing of the reason for withholding the request.

9.8 **OWNER'S ACTION ON A REQUEST FOR PAYMENT AND FINAL PAYMENT (**See 9.9)

9.8.1 The Owner will, within five working days plus transmittal time between the various state agencies involved, act on a Request for Payment (not Final) after approval by the Design Professional by one of the following:

a. Approve the Request for Payment as approved by the Design Professional, process the payment.

b. Approve payment of an adjusted amount as the Owner will decide is due the Contractor, informing the Contractor and~~,~~ the Design Professional in writing of the reason for the adjusted amount of payment.

c. Withhold the Request for Payment informing the Contractor, and the Design Professional in writing of the reason for withholding the payment.

9.8 **ARKANSAS STATE AGENCIES ACTION ON A REQUEST FOR PAYMENT**

9.8.1 The State shall process payments in accordance with Ark. Code Ann. §19-4-1411, which establishes the time limits for the Design Professional, the Owner, and the Department of Finance and Administration. It also authorizes the Chief Fiscal Officer of the State to investigate

any complaints of late payments and assess penalties for late payment. Complaints shall be addresses to "Chief Fiscal Officer of the State: Department of Finance and Administration; 1509 West Seventh Street, Suite 401; Post Office Box 3278; Little Rock, AR 72203-3278.

9.9 WITHHOLDING PAYMENT

9.9.1 The Design Professional or the State may withhold payment for contested issues, including but not limited to, defective work on the project; evidence indicating the probable filing of claims by other parties against the Contractor related to the project; damage caused to another contractor; reasonable evidence that Work cannot be completed for the unpaid balance of the Contract Sum or within Contract Time or failure of the Contractor to make payments on materials, equipment or labor to subcontractors. It is the responsibility of the contesting party to notify the Contractor in writing that payment has been contested and the reasons why. The notification must be done within the timeframe specified for processing of payment under Ark. Code Ann. §19-4-1411.

9.10 PAYMENT FOR UNCORRECTED WORK

9.10.1 Should the Design Professional direct the Contractor not to correct work that has been damaged or that was not performed in accordance with the Contract Documents, an equitable deduction from the Contract Sum shall be made to compensate the Owner for the uncorrected work. The Design Professional shall determine the amount of the equitable deduction.

9.11 PAYMENT FOR REJECTED MATERIALS AND WORK

9.11.1 The removal of rejected Work and materials and the re-execution of acceptable work by the Contractor shall be at the expense of the Contractor. The Contractor shall pay the cost of replacing the work of other contractors destroyed or damaged by the removal of the rejected work or materials and the subsequent replacement with acceptable work.

9.12 DATE OF SUBSTANTIAL COMPLETION

9.12.1 A Certificate of Substantial Completion, which shall establish the Date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to work, and insurance and shall fix the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion, unless another timeframe is stated in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall not become effective until approved by UCA.

9.13 FINAL COMPLETION AND PAYMENT BY OWNER

9.13.1 The Contractor shall furnish a letter from the Design Professional attached to the Contractor's final estimate, which shall include all retainage withheld, certifying that the Design Professional has received and approved all guarantees, bonds, maintenance and operation manuals, air balance data, shop drawings, catalog data, and record documents specified in the Contract Documents.

9.13.2 Before final payment, the Contractor shall furnish to the Design Professional executed copies of the Release of Claims and Consent of the Performance and Payment Bond Surety for Final Payment. Items listed in this Section Nine (9) shall be submitted with and at the same time as the final estimate to the Design Professional and shall be promptly delivered by the Design Professional to the Owner. No final payment or release of retained amounts shall be made without complete compliance with this Section Nine (9), and approval by UCA of the Final Pay Request, which shall include payment of all retained amounts,

9.14.3 Any claim by the Contractor to the Owner for interest on a delinquent final payment shall only be made pursuant to Ark. Code Ann. § 22-9-205.

9.14 **PARTIAL OCCUPANCY OR USE**

9.14.1 The Owner may occupy or use any completed or partially completed portion of the Work provided such use or occupancy is consented to by the insurer and authorized. The Contractor will prepare a list of items to be completed or corrected before partial acceptance. Upon receipt of the Contractor's list, the Design Professional will make an inspection to determine whether the Work or portion thereof is substantially complete. No portion of the work shall be considered substantially complete unless described in a Certificate of Substantial Completion Form approved by the Contractor, Owner, and Design Professional.

9.14.2 The Design Professional will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to Work and insurance, identify work items to be corrected or completed by the contractor and shall fixing the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion, unless another timeframe is stated in the Certificate of Substantial Completion. No retained amounts shall be paid until the Contractor, Design Professional and the Owner approve a Certificate of Substantial Completion for all of the Work unless specifically provided for by this contract, and all other conditions for final acceptance of this Work are met to the satisfaction of the Owner.

9.15.3 Instances where some of the Work is "sectioned" out and substantially completed, the retained amounts shall not be paid until the final Certificate of Substantial Completion of the entire Work is approved by the Contractor, Design Professional and the Owner and all other conditions of this Section Nine (9) are met by the Contractor.

9.15 **FINAL INSPECTION**

9.15.1 Tests, inspections, and approvals of portions of the Work required by the Contract Documents, laws, ordinances, or any public authority having jurisdiction shall be made at the appropriate time. The Contractor shall give the Design Professional timely notice of when and where tests and inspections shall be made so that the Design Professional may be present. The Contractor shall make arrangements for the testing and inspection with an independent testing laboratory.

9.15.2 The Contractor shall ensure that the final completed work is in accordance with the Contract Documents. Required certificates of testing and inspection shall be secured by the Contractor and delivered to the Design Professional, unless otherwise required by the Contract Documents.

9.16 **ASSIGNMENT OF WARRANTIES**

9.16.1 All warranties of materials and workmanship running in favor of the Contractor shall be transferred and assigned to the Owner on completion of the Work and at such time as the Contractor receives final payment.

9.16.2 In case of warranties covering work performed by subcontractors, such warranties shall be addressed to and in favor of the Owner. The Contractor shall be responsible for delivery of such warranties to the Owner prior to final acceptance of the work.

9.16.3 Delivery of guarantees or warranties shall not relieve the Contractor from any obligation assumed under any provision of the Contract. All warranties shall be for one year from the date of Substantial Completion of the Project, unless extended otherwise

9.17 **ACCEPTANCE AND FINAL PAYMENT**

9.17.1 Upon receipt of written notice that the Work is ready for final inspection, the Design Professional together with UCA will conduct such inspection and when the Design Professional determines the work is acceptable to the Design Professional, UCA and the Design Professional shall certify his acceptance to the Owner. Final Payment shall be the Contract Sum plus approved Change Order additions less approved Change Order deductions and less previous payments made. The Contractor shall furnish evidence that he has fully paid all debts for labor, materials, and equipment incurred in connection with the Work. The Owner, upon approval by the Design Professional of all documentation to be provided by the contractor in accordance with this Section 9, and approval by the Design Professional, Contractor and Owner of the Certificate of Substantial Completion will accept the Work and release the Contractor, except as to the conditions of the Performance and Payment Bond, any legal rights of the Owner, required guarantees and correction of faulty work after Final Payment, and shall authorize payment of the Contractor's final Request for Payment. The Contractor must allow sufficient time between the time of completion of the work and approval of the final Request for Payment for the Design Professional to assemble and check the necessary data.

9.17.2 Acceptance of final payment by the Contractor shall constitute waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Request for Payment. Any claims for interest on delinquent payments shall be made pursuant to Ark. Code Ann. § 22-9-205.

ARTICLE 10 -- PROTECTION OF PERSONS AND PROPERTY

10.1 GENERAL

10.1.1 The Contractor shall at all times exercise precaution for the safety of employees on the Project and of the public, and shall comply with all applicable provisions of federal, state and municipal safety laws and applicable building and construction codes. The Contractor shall provide and maintain passageways, guard fences, lights, and other facilities for protection required by all applicable laws. All machinery, equipment, and other physical hazards shall be guarded in accordance with all federal, state or municipal laws or regulations.

10.1.2 The Work, from commencement to completion, and until written acceptance by the Design Professional, and the Owner or to such earlier date or dates when the Owner may take possession and control in accordance with Section Nine (9) of these General Conditions, shall be under the charge and control of the Contractor and during such period of control by the Contractor, all risks in connection therewith shall be borne by the Contractor. The Contractor shall make good and fully repair all damages to the Project by reason of the Contractor's negligence, and make good on all injuries to persons caused by any casualty or cause by reason of the Contractor's negligence. The Contractor shall adequately protect adjacent Property as provided by law and the Contract Documents. The Contractor shall hold the Owner harmless from any and all claims for injuries to persons or for damage to property during the control by the Contractor of the project or any part thereof.

10.1.3 The Contractor shall at all times so conduct the Work as to ensure the least possible obstruction to traffic, to the general public, and the residents in the vicinity of the Work, and to ensure the protection of persons and property. No road, street, or highway shall be closed to the public except with the permission of the Owner and proper governmental authority. Fire hydrants on or adjacent to the Work shall be kept accessible to firefighting equipment at all times. The local fire department shall be notified of the temporary closing of any street.

ARTICLE 11 -- INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1 The Contractor shall secure and maintain in force during this Contract such insurance as is specified within the Contact Documents, from an insurance company authorized to write the prescribed insurance in the jurisdiction where the Project is located as will protect the Contractor, his subcontractors, and the Owner from claims for bodily injury, death, or property damage which may arise from operations under this Contract. The Contractor shall not commence work under this Contract until he has obtained all the insurance required, has filed the Certificate of Insurance with the Owner, and the certificate has been approved by the Owner. Each insurance policy shall contain a clause providing that it shall not be canceled by the insurance company without written notice to the Owner of intention to cancel.

11.1.2 Workman's Compensation and Employer's Liability Insurance in statutory limits shall be secured and maintained as required by the laws of the State of Arkansas. This insurance shall cover all employees who have performed any of the obligations assumed by the Contractor under these Contract Documents including Employer's Liability Insurance. This insurance shall protect the Contractor against any and all claims resulting from injuries, sickness, disease, or death to employees engaged in work under this Contract.

11.1.3 Comprehensive General Liability Insurance, including automobile and truck liability. Prior to blasting, the Contractor shall furnish Certificate of Insurance, which shall certify that damage caused by blasting is within the coverage of his Comprehensive General Liability Insurance to the full limits thereof. Hired and non-owned automobile insurance for automobiles and trucks shall include hired and non-owned automobile coverage.

11.1.4 Contractor's Protective Liability Insurance: The Contractor shall indemnify and save harmless the Owner from and against all losses and all suits, claims, demands, judgments, actions, and payments of every description and nature brought or recovered against him by reason of any omission or act of the Contractor, his agents, or employees in the execution of the Work or in the guarding of it. The Contractor shall secure and maintain protective liability insurance in the name of the Owner and the Contractor covering them from contingent liability under this Contract.

11.1.5 Builder's Risk and Fire Insurance: The Contractor shall procure and maintain during the life of this Contract Builder's Risk Insurance fire, lightning, extended coverage, vandalism, and property theft on the insurable portion of the Project on a 100 percent completed value basis against damage to the equipment, structures, or material. The Owner and the Contractor, as their interests may appear, shall be named as the Insured.

11.1.6 Proof of Insurance: The Contractor shall maintain the insurance coverage’s required by this contract (see Section 007316 Insurance requirements) throughout the term of this contract, and shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled, or materially altered except after 15 days prior written notice has been received by the Owner."

11.2 **BONDS**

11.2.1 Performance and Payment Bond: The Contractor shall, at the time of execution of the Contract, furnish bonds covering faithful performance of the Contract and the payment of obligations. Performance and Payment bonds, and any amendments thereto, shall be filed with the circuit clerk office in the County Courthouse of the county where the work shall be performed.

ARTICLE 12 -- UNCOVERING AND CORRECTION OF WORK

12.1 EXAMINATION OF COMPLETED WORK

12.1.1 If any portion of the work should be covered contrary to the request of the Owner, Design Professional, or Inspector or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Owner, Design Professional, or Inspector, be uncovered for his observation and replaced at the Contractor's expense.

12.2 DEFECTIVE WORK

12.2.1 Defective work, whether through the use of defective materials, the result of poor workmanship, or any other cause, shall be removed within ten days after notice is given by the Owner or Design Professional. The Work and affected materials and equipment shall be removed and replaced as necessary to comply with the Contract Documents without additional cost to the Owner. The fact that the defective work may have been previously overlooked by the Design Professional shall not constitute acceptance.

12.3 REJECTED MATERIALS

12.3.1 Materials which do not conform to the requirements of the Contract Documents, are not equal to samples approved by the Design Professional, or are in any way unsuited or unsatisfactory for the purpose for which intended, shall be rejected. Defective materials shall be removed within ten days after notice by the Design Professional. The materials shall be replaced with new materials as necessary to comply with the Contract Documents at no additional cost to the Owner. The fact that the defective material may have been previously overlooked by the Design Professional shall not constitute acceptance.

12.3.2 Should the Contractor fail to remove and replace rejected material within the specified ten days after written notice to do so, the Owner may remove and replace the material and deduct the cost from the Contract Sum.

12.4 CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT

12.4.1 The approval of the final Request for Payment by the Design Professional and the making of the final payment by the Owner to the Contractor shall not relieve the Contractor of responsibility to correct faulty materials or workmanship promptly after receipt of written notice from the Owner. The Owner shall give such notice of faulty materials or workmanship promptly, after discovery of the condition. If the Contractor fails to correct the defects, promptly, after receipt of written notice from Owner, the Owner may have the work corrected at the Contractor’s expense.

ARTICLE 13 -- MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

13.1.1 The Contract shall be governed by the laws and regulations of the STATE OF ARKANSAS. Venue for any administrative action or judicial proceedings shall be Pulaski County, Arkansas. Nothing in these General Conditions shall be construed to waive the sovereign immunity of the STATE OF ARKANSAS or any entities thereof.

13.1.2 The Contractor shall give all notices and comply with all federal, state, and local laws, ordinances, and regulations in any manner affecting the conduct of the Work. The Contractor shall indemnify and save harmless the Owner against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree whether by himself or his employees.

13.1.3 The Contractor shall comply with the laws of the local, state, and federal government regarding wages and hours of labor.

13.2 WRITTEN NOTICE

13.2.1 Consider as served when delivered in person or sent by certified or registered mail to the individual, firm, or corporation or to the last business address of such known to him who serves the notice.

13.2.2 The written Notice to Proceed with the Work shall be issued by the Design Professional after the execution of the Contract by the Owner. The Contractor shall begin and prosecute the Work and uninterruptedly in a manner that will complete the Work within the time limits stated in the Contract.

13.3 TESTS AND INSPECTIONS

13.3.1 All materials and each and every part of the Work shall be subject at all times to inspection by the Owner, Design Professional, or the Inspector. The Contractor shall be held to the intent of the Contract Documents in regard to quality of materials, equipment, and workmanship, and the diligent execution of the Contract. The inspection may extend to and include plant, shop, or factory inspection of material furnished. The Contractor agrees to allow Federal or State inspectors, acting in an official capacity, to have access to the job site.

13.3.2 The Owner, Design Professional and the Inspector shall be allowed access to all parts of the Work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection for ascertaining if the Work as performed is in accordance with the requirements and the Contract Documents.

13.3.3 Inspectors shall only have authority to suspend any work in a life-threatening situation, which is being improperly done, subject to the final decision of the Owner or Design Professional. Inspectors shall have no authority to permit deviations, or to relax provisions of the Contract

Documents without the written permission or instruction of the Owner or Design Professional, or delay the Contractor by failing to work with reasonable promptness.

13.4 **VERBAL AGREEMENTS**

13.4.1 No verbal objection, order, claim, or notice by any of the parties involved to the other parties shall affect or modify any of the terms or obligations contained in the Contract Documents. None of the terms or provisions of the Contract Documents shall be considered waived or modified unless the waiver or modification thereof is in writing, and agreed upon by the parties in the form of a Change Order approved by the Design Professional, Contractor and UCA, and no evidence shall be introduced in any proceeding of any other waiver or modification.

ARTICLE 14 -- TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 **SUSPENSION OF WORK**

14.1.1 The work or any portion thereof may be suspended at any time by the Owner provided that the Owner gives the Contractor written notice of the suspension. The notice shall set forth the date on which the work is to be suspended and the date on which the work is to be resumed. The Contractor shall resume the work upon written notice from the Owner within ten days after the date set forth in the notice of suspension.

14.1.2 The Owner will have the authority to suspend the work, wholly or in part, for such period of time as deemed necessary. The suspension may be due to unsuitable weather, or such other conditions as are considered unfavorable for the proper prosecution of the work, or the failure on the part of the Contractor to fulfill the provisions of the Contract. Failure to supply material, equipment, or workmanship meeting the requirements of the Contract Documents shall be just cause for suspension of the Work. The Contractor shall not have the right to suspend operations without the Design Professional or Owner's permission.

14.2 **TERMINATION BY OWNER FOR CAUSE**

14.2.1 The Owner will have the right to terminate the Contract upon giving ten days written notice of the termination to the Contractor and the Contractor’s surety, in the event of any default by the Contractor and upon written notice from the Design Professional to the Owner that sufficient cause exists to justify such action. In the event of termination of the Contract, the Owner may take possession of the Work and of all materials, tools, and equipment and construction equipment and machinery thereon and may finish the work by whatever method he may select. If the Owner does not elect to use his own forces, the surety shall furnish a competent licensed contractor within 10 working days from the written notice to the surety.

14.2.2 It shall be considered a default by the Contractor whenever he shall become insolvent; declare bankruptcy assigns assets for the benefit of his creditors; fails to provide qualified superintendence, proper materials, competent subcontractors, competent workmen; fails to make prompt payments for labor, materials, or equipment; disregards or violates provisions of

the Contract Documents; disregards the Owner's, or the Design Professional's instructions; fails to prosecute the Work according to the approved schedule of completion, including extensions thereof as provided for by approved Change Orders; and fails to start the Work on the date established in the Notice to Proceed.

14.3 TERMINATION BY OWNER FOR CONVENIENCE

The Owner will have the right to terminate the Contract for Convenience and without cause upon giving ten days written notice of the termination to the Contractor and Contractor's surety and UCA. Once notice is received, the Contractor shall: cease all operations as indicated by the written notice and take necessary actions or at the Owner's direction as indicated by the written notice, for the protection and preservation of the work; and terminate existing subcontractors and purchase orders upon the effective termination date as indicated in the notice and not enter into any contracts involving subcontractors or purchase orders.

If the contract is terminated upon the convenience of the Owner, the Contractor is entitled to receive payment for the work executed and accepted by the Owner, and the overhead and profit credit amount of 7% of the work that was left to be performed in the contract.

ARTICLE 15 – ALTERNATIVE DISPUTE RESOLUTION

15.1 MEDIATION

15.1.1 In the event of any dispute regarding the Contractor, Architect, Engineer, and/or Owner (hereinafter referred to as party/parties for this section only) under this Agreement, the party shall notify the appropriate UCA Administrator (UCA Procurement Director) in writing. The UCA Administrator or his designee will then attempt to negotiate a settlement of the dispute between the parties.

15.1.2 If the UCA Administrator, or designee, determines he is unable to negotiate a settlement between the parties, the parties may participate in mediation. A request for mediation must be made in writing to the Owner and the parties shall agree upon the location of the mediation. A Mediator mutually agreed upon by the parties shall conduct the mediation process. Mediation shall be voluntary, non-binding and all proceedings in connection with such shall be subject to this Agreement and applicable provisions of Arkansas law. Any mediation fees shall be borne equally between the parties. The parties shall coordinate mediation and the Owner shall notify of any mediation prior to it taking place. UCA Administrator or his designee may view any and all mediation proceedings. Any settlements arising out of the mediation process must be approved by UCA.

15.1.3 Notwithstanding anything to the contrary contained herein, if any dispute arises between the Parties, whether or not it requires at any time the use of dispute resolution procedures described above, in no event, nor for any reason, shall the Contractor, Architect, or Engineer interrupt the provision of services/performance to the Owner, or perform any other action that prevents, slows down, or reduces, in any way, the provisions of the Agreement unless: (a) authority to do so is

granted by UCA and approved by UCA or (b) the Agreement has been terminated by the UCA. Nothing in these contract documents, including the use of mediation, shall be construed to waive the sovereign immunity of the State of Arkansas or any entities thereof.

15.2. **ARBITRATION**

15.2.1 In the event of any dispute regarding the Contractor, Architect, Engineer, and/or Owner (hereinafter referred to as party/parties for this section only) under this Agreement, the party shall notify the appropriate UCA Administrator (Procurement Director) in writing. The UCA Administrator or his designee will then attempt to negotiate a settlement of the dispute between the parties.

15.2.2 Claims, disputes and other matters in question between the parties may be decided by arbitration if the UCA Administrator, or designee, determines he is unable to negotiate a settlement (due to time or other reasons) between the parties, and/or the parties are unwilling to have UCA negotiate and/or the parties are unable to settle the dispute, and these issues were not resolved by mediation. Requests for arbitration must be made in writing to the Owner. The parties shall agree upon the Arbitrator, process and procedures and the location of arbitration. Arbitration while voluntary shall be binding and all proceedings in connection with such shall be subject to this Agreement and applicable provisions of Arkansas law. Any arbitration fees shall be borne equally between the parties. The parties shall coordinate arbitration and the Owner shall notify of any arbitration prior to it taking place. UCA Administrator or his designee may view any and all arbitration proceedings.

15.2.3 Notwithstanding anything to the contrary contained herein, if any dispute arises between the Parties, whether or not it requires at any time the use of dispute resolution procedures described above, in no event, nor for any reason, shall the Contractor, Architect, or Engineer interrupt the provision of services/performance to the Owner, or perform any other action that prevents, slows down, or reduces, in any way, the provisions of the Agreement unless: (a) authority to do so is granted by UCA and approved by UCA or (b) the Agreement has been terminated by UCA. Any award rendered by the arbitrator shall be final. Nothing in these contract documents, including the use of arbitration, shall be construed to waive the sovereign immunity of the State of Arkansas or any entities thereof.

End of
GENERAL CONDITIONS
007213

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CONTRACTOR'S INSURANCE REQUIREMENTS
Section 007316

(1) Commercial General Liability: The Contractor shall obtain, at Contractor's expense, and keep in effect during the term of the contract, Commercial General Liability insurance covering bodily injury and property damage containing minimum limits of one million dollars ($1,000,0000) written on a per occurrence form with a two million dollars ($2,000,000) aggregate limit. This insurance shall include personal injury coverage with employment exclusion deleted, and contractual liability. Such coverage shall include products and completed operations and shall not be excluded under the commercial general liability insurance. Nothing shall prohibit the University from requiring increased amounts than stated herein.

(2) Umbrella Liability: The Contractor shall be required to furnish umbrella liability coverage, and keep in effect during the term of the contract which provides excess limits over the primary coverages. Agencies must refer to the recommendation of the Risk Management division of the Arkansas Insurance Department on the minimum amount of coverage.

(3) Automobile Liability: The Contractor shall obtain, at Contractor's expense and keep in effect during the term of the contract, automobile liability insurance including hired and non-owned coverage in minimum amounts of one million dollars (1,000,000) per occurrence.

(4) Workers' Compensation and Employers' Liability: The Contractor, its subcontractors, if any and all employee providing work, labor or materials used in connection with this work.

(5) Contractor's Equipment:
(a) The Contractor shall be responsible for any loss, damage or destruction of its own property or that of any subcontractor's equipment and materials used in connection with this work.
(b) Contractor will purchase at Contractor's own sole cost and expense such policy to cover contractor's owned property.
(c) Contractor will provide waiver of subrogation to Owner.
(d) Pollution Liability: If requested by Owner at any time, Contractor shall, at Contractor's expense, obtain and maintain in force and effect for the term of the contract Pollution Liability Insurance covering losses caused by pollution conditions that result from the performance of the Contract. This requirement also applies to any consultant or contractor engaged by Contractor or performing construction, geotechnical, well drilling, abatement activities or contractor services.
(e) Pollution Liability Insurance shall cover Owner costs and liabilities attributable to bodily injury; property damage, including loss of use of damaged property or of property that has not been physically injured; clean-up cost; and defenses, including costs and expenses (including attorney's fees) incurred in the investigation, defense or settlement of claims. Contractor shall maintain such insurance in an amount of at least two million dollars (2,000,000) per loss with annual aggregate of at least five million dollars ($5,000,000). Nothing shall prohibit the University from increasing the amounts stated herein.
(f) If coverage is written on a claims-made basis, Contractor represents that any retroactive dates applicable to coverage under the policy precedes the effective date of the letter; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three

(3) years or as required by law beginning from the time that services under the contract are completed.
(g) If the scope of work as defined in this Contract includes the disposal of any hazardous or non-hazardous materials from the Projects site, the Contractor must furnish to the owner evidence of pollution liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting waste under this Contract. Such coverage must be maintained in amounts conforming to applicable laws, rules and regulations.
(h) Remediation: Remediation Contractor shall provide liability insurance for the removal or remediation of asbestos including the transportation and disposals of asbestos waste materials from the Project site. Limits of insurance shall be not less than those required under the Commercial General Liability policy. Depending on the nature and amount of asbestos to be removed/abate, Owner may request higher limits than those required by the Commercial General Liability policy.
(i) Additional Requirements: All policies shall be provided by insurers qualified to write the respective insurance in the State of Arkansas, be in such form and include such provision as are generally considered standard provisions for the type of insurance involved.

End of
CONTRACTOR'S INSURANCE REQUIREMENTS
007216

"General Decision Number: AR20230163 01/06/2023

Superseded General Decision Number: AR20220163

State: Arkansas

Construction Type: Highway

County: Faulkner County in Arkansas.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number Publication Date
0 01/06/2023

SUAR2014-035 07/21/2014

	Rates	Fringes

CARPENTER, Includes Form Work....$ 14.09 ** 0.00

CEMENT MASON/CONCRETE FINISHER...$ 16.01 ** 0.00

FENCE ERECTOR.....$ 12.69 ** 0.00

HIGHWAY/PARKING LOT STRIPING:
Operator (Striping Machine).....$ 13.25 ** 0.00

HIGHWAY/PARKING LOT STRIPING:
Painter.....$ 21.75 0.00

IRONWORKER, REINFORCING.....$ 14.22 ** 0.00

IRONWORKER, STRUCTURAL.....$ 15.36 ** 0.00

LABORER: Asphalt, Includes
Raker, Shoveler, Spreader and
Distributor.....$ 14.45 ** 0.00

LABORER: Common or General.....$ 12.57 ** 0.00

LABORER: Mason Tender -
Cement/Concrete.....$ 15.23 ** 0.00

LABORER: Pipelayer.....$ 14.33 ** 0.00

OPERATOR: Asphalt Spreader.....$ 15.80 ** 0.00

OPERATOR:
Backhoe/Excavator/Trackhoe.....$ 17.81 0.00

OPERATOR: Bobcat/Skid
Steer/Skid Loader.....$ 16.06 ** 0.00

OPERATOR: Broom/Sweeper.....$ 12.00 ** 0.00

OPERATOR: Bulldozer.....$ 16.74 0.00

OPERATOR: Crane.....$ 20.63 0.00

OPERATOR: Distributor.....$ 14.52 ** 0.00

OPERATOR: Drill.....$ 14.85 ** 0.00

OPERATOR: Grade Checker.....$ 15.54 ** 0.00

OPERATOR: Grader/Blade.....$ 20.04 0.00

OPERATOR: Hydroseeder.....$ 10.79 ** 0.00

OPERATOR: Loader.....$ 17.05 0.00

OPERATOR: Mechanic.....$ 22.19 0.00

OPERATOR: Milling Machine.....$ 17.52 0.00

OPERATOR: Oiler.....$ 18.46 0.00

OPERATOR: Paver (Asphalt,
Aggregate, and Concrete).....$ 17.99 0.00

OPERATOR: Post Driver
(Guardrail/Fences).....$ 16.97 0.00

OPERATOR: Roller.....$ 20.27 0.00

OPERATOR: Scraper.....$ 19.31 0.00

OPERATOR: Screed.....$ 15.01 ** 0.00

TRAFFIC CONTROL: Flagger.....$ 12.67 ** 0.00

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 13.37 ** 0.00

TRUCK DRIVER: Dump Truck.....$ 14.81 ** 0.00

TRUCK DRIVER: Flatbed Truck.....$ 21.03 0.00

TRUCK DRIVER: Lowboy Truck.....$ 17.61 0.00

TRUCK DRIVER: Servicer.....$ 15.90 ** 0.00

TRUCK DRIVER: Water Truck.....$ 14.73 ** 0.00

TRUCK DRIVER: Semi/Trailer
Truck.....$ 12.50 ** 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($16.20) or 13658 ($12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical

order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

Contract and Grant Disclosure and Certification Form

Failure to complete all of the following information may result in a delay in obtaining a contract, lease, purchase agreement, or grant award with any Arkansas State Agency

Subcontractor: Subcontractor Name:

☐ **Yes** ☐ **No**

Taxpayer ID Name: Is This For: ☐ **Goods?** ☐ **Services?** ☐ **Both?**

Your Last Name: First Name: M.I.

Address:

City: State: Zip Code: Country:

AS A CONDITION OF OBTAINING, EXTENDING, AMENDING, OR RENEWING A CONTRACT, LEASE, PURCHASE AGREEMENT, OR GRANT AWARD WITH ANY ARKANSAS STATE AGENCY, THE FOLLOWING INFORMATION MUST BE DISCLOSED

FOR INDIVIDUALS *

Indicate below if: you, your spouse or the brother, sister, parent, or child of you or your spouse is a current or former: member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee:

Position Held	Mark (x)		Name of Position of Job Held (senator, representative, name of board/ commission, data entry, etc.)	For How Long?		What is the person(s) name and how they relate to you? (i.e. Jane Q. Public, Spouse, John Q. Public, Jr., child, etc.)	
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Relation
General Assembly							
Constitutional Officer							
State Board or Commission Member							
State Employee							

☐ **None of the above applies**

FOR AN ENTITY (BUSINESS) *

Indicate below if any of the following persons, current or former, hold any position of control or hold any ownership interest of 10% or greater in the entity: member of the General Assembly, Constitutional Officer, State Board or Commission Member, State Employee, or the spouse, brother, sister, parent, or child of a member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee. Position of control means the power to direct the purchasing policies or influence the management of the entity.

Position Held	Mark (x)		Name of Position of Job Held (senator, representative, name of board/ commission, data entry, etc.)	For How Long?		What is the person(s) name and what is his/her % of ownership interest and/or what is his/her position of control?		
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Ownership Interest (%)	Position of Control
General Assembly								
Constitutional Officer								
State Board or Commission Member								
State Employee								

☐ **None of the above applies**

* Note: Please list additional disclosures on separate sheet of paper if more space is needed.

Contract and Grant Disclosure and Certification Form

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the agency.

As an additional condition of obtaining, extending, amending, or renewing a contract with a state agency I agree as follows:

1. Prior to entering into any agreement with any subcontractor, prior or subsequent to the contract date, I will require the subcontractor to complete a **Contract and Grant Disclosure and Certification Form**. Subcontractor shall mean any person or entity with whom I enter an agreement whereby I assign or otherwise delegate to the person or entity, for consideration, all, or any part, of the performance required of me under the terms of my contract with the state agency.

2. I will include the following language as a part of any agreement with a subcontractor:

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this subcontract. The party who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the contractor.

3. No later than ten (10) days after entering into any agreement with a subcontractor, whether prior or subsequent to the contract date, I will mail a copy of the **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM** completed by the subcontractor and a statement containing the dollar amount of the subcontract to the state agency.

I certify under penalty of perjury, to the best of my knowledge and belief, all of the above information is true and correct and that I agree to the subcontractor disclosure conditions stated herein.

Signature _____ Title _____ Date _____

Vendor Contact Person _____ Title _____ Phone Number _____

Agency Use Only

Agency Number	Agency Name	Agency Contact Person	Contact Phone #	Contract or Grant Number

* Note: Please list additional disclosures on separate sheet of paper if more space is needed.

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Project consists of the construction of a Pedestrian Bridge across Stone Dam Creek with related sidewalks and lighting.

1. Project Location: University of Central Arkansas, 201 Donaghey Ave., Conway, Arkansas.

B. Owner: University of Central Arkansas, 201 Donaghey Ave., Conway, Arkansas.

1. Owner's Representative: Danielle Barron, Construction Inspector, Physical Plant; (501) 450-3196.

C. Architect: Stocks-Mann Architects, PLC, 401 W. Capitol, Suite 402, Little Rock, Arkansas 72201.

D. The Work consist of the construction of an aluminum pedestrian bridge, with connecting ramps and stairs.

E. Project will be constructed under a general construction contract.

1.2 USE OF PREMISES

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of premises to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.3 COORDINATION WITH OCCUPANTS

A. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.4 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work at the site to normal business working hours of 7:00 a.m. to 3:30 p.m., Monday through Friday, unless otherwise indicated.

1. Work on the week-ends is allowed as needed. Notify Owner at least 24 hours prior to work.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Owner not less than three days in advance of proposed utility interruptions.
2. Obtain Owner's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Owner not less than three days in advance of proposed disruptive operations.
2. Obtain Owner's written permission before proceeding with disruptive operations.

E. Nonsmoking Building: Smoking is not permitted on the project site.

F. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.5 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements governing the following:

1. Lump-sum allowances.
2. Unit-cost allowances.
3. Testing and inspecting allowances.

B. See Division 1 Section "Unit Prices" for procedures for using unit prices.

C. See Division 1 Section "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.

1.2 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.3 SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.4 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.5 LUMP-SUM AND UNIT-COST ALLOWANCES

A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner under allowance and shall include taxes, freight, and delivery to Project site.

B. Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.6 TESTING AND INSPECTING ALLOWANCES

A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.

B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.

C. Costs of services not required by the Contract Documents are not included in the allowance.

D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

1.7 UNUSED MATERIALS

A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, prepare unused material for storage by Owner when it is not economically practical to return the material for credit. If directed by Architect, deliver unused material to Owner's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Unit-Cost Allowance #1: Include 560 cubic yards multiplied by the unit cost quoted on the bid form for soil removal and replacement with approved materials per observations from the Geo-tech engineer report and as specified in Division 31 Section "Earth Moving" and as shown on the drawings.

B. Allowance No. 2: Unit-Cost Allowance #2: Include 55 cubic yards multiplied by the unit cost quoted on the bid form for drilled pier locations per observations from the Geo-tech engineer report and as specified in Division 3 Section 036660 “Drilled Piers” and Division 31 Section "Earth Moving" and as shown on the drawings.

C. Allowance No. 3: Unit Cost Allowance #3: Include a lump sum cost quoted on the bid form for the installation of the premanufactured bridge, gangways, ramps, stairs, landings, and all related components for the complete installation.

1. This allowance includes, receiving, handling, installation, and Contractor overhead and profit.
2. Coordinate quantity allowance adjustment with corresponding unit price requirements of Division 1 Section “Unit Prices”.

D. Allowance No. 4: Unit-Cost Allowance #4: Include 30 cubic yards multiplied by the unit cost quoted on the bid form for rock removal at drilled pier locations per observations from the Geo-tech engineer report and as specified in Division 3 Section 036660 “Drilled Piers” and Division 31 Section "Earth Moving" and as shown on the drawings.

E. Allowance No.5: Include the lump sum of $19,000 for testing and inspections as specified in Division 3 Section 033000 -“Cast-In-Place Concrete”, Section 036660 –“Drilled Piers” and Division 31 Section 312000 - “Earth Moving”.

END OF SECTION 012100

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:
1. See Division 0 Section "Bid Form Attachment ‘A’ Unit Prices" for including unit prices to establish quantity allowances.

2. Section 012100 "Allowances" for procedures for using unit prices to adjust quantity allowances.

1.2 DEFINITIONS

A. Unit price is a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit Price No.1 – Soils Removal and Replacement:

1. Description: Soil Removal and replacement with approved materials per observations from the Geo-tech engineer report, including procedures for measurement and payment, according to Division 31 Section “Earth Moving."
2. Unit of Measurement: Cubic yard of soil removed/replaced.

B. Unit Price No.2 – Drilled Piers

1. Description: Provision of drilled piers per observations from the Geo-tech engineer report, including procedures for measurement and payment, according to Division 3 Section 036660 “Drilled Piers” and Division 31 Section “Earth Moving."
2. Unit of Measurement: Cubic yard of installed drilled pier.

C. Unit Price No.3 – Installation of Premanufactured Bridge

1. Description: Installation of Premanufactured Bridge, gangways, ramps, stairs, landings, and all related components for complete installation:
2. Unit of Measurement: Lump Sum.

D. Unit Price No.4 – Rock Removal:

1. Description: Rock Removal from bottom of drilled piers per observations from the Geo-tech engineer report, including procedures for measurement and payment, according to Division 3 Section 0366600 “Drilled Piers” and Division 31 Section “Earth Moving."
2. Unit of Measurement: Cubic yard of rock.

END OF SECTION 012200

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Sections:

1. Section 002113 – INSTRUCTIONS TO BIDDERS, Item #4 – Substitutions

2. Section 016000 "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.

1.3 ACTION 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 in the Project Manual 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 modifications 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. 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.
j. Cost information, including a proposal of change, if any, in the Contract Sum.
k. 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.
l. 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: 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 of acceptance or rejection of proposed substitution within 14 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Change Order or Architect's Supplemental Instructions for minor changes in the Work.
b. 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 qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 14 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:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
b. Requested substitution will not adversely affect Contractor's construction schedule.
c. Requested substitution has received necessary approvals of authorities having jurisdiction.
d. Requested substitution is compatible with other portions of the Work.
e. Requested substitution has been coordinated with other portions of the Work.
f. Requested substitution provides specified warranty.
g. 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.

B. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice of Award.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:

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 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.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

Advancement of Construction Technology

SUBSTITUTION REQUEST

(After the Bidding Phase)

Project: _____ Substitution Request Number: _____

_____ From: _____

To: _____ Date: _____

_____ A/E Project Number: _____

Re: _____ Contract For: _____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Installer: _____ Address: _____ Phone: _____

History: ☐ New product ☐ 2-5 years old ☐ 5-10 yrs old ☐ More than 10 years old

Differences between proposed substitution and specified product: _____

_____

_____

☐ Point-by-point comparative data attached - REQUIRED BY A/E

Reason for not providing specified item: _____

_____

Similar Installation:

Project: _____ Architect: _____

Address: _____ Owner: _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

_____

Savings to Owner for accepting substitution: _____ ($ _____).

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ days.

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

September 1996
CSI Form 13.1A

SUBSTITUTION REQUEST
(Continued)

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.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- 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.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

_____

Telephone: _____

Attachments: _____

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01330.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: Date:

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐ _____

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SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on "Architect's Supplemental Instructions" document.

1.3 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
2. Within ten (10) days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
5. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Form: Use AIA Document G709.

1.4 ADMINISTRATIVE CHANGE ORDERS

A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701 or the University of Central Arkansas Change Order Form.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:

1. Section 012100 "Allowances" for procedural requirements governing the handling and processing of allowances.
2. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
3. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.
4. Section 017700 "Closeout Procedures" for requirements for Project closeout procedures associated with final payment application.

1.2 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including Application for Payment forms with Continuation Sheets.
2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:

a. Project name and location.
b. Name of Architect.
c. Architect's project number.
d. Contractor's name and address.
e. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:

a. Related Specification Section or Division.

b. Description of the Work.
c. Name of subcontractor.
d. Name of manufacturer or fabricator.
e. Name of supplier.
f. Change Orders (numbers) that affect value.
g. Dollar value.

1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the General Conditions. The period of construction Work covered by each Application for Payment is the period indicated in the General Conditions.

C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
2. Include amounts of Change Orders issued before last day of construction period covered by application.

E. Transmittal: Submit five signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Delays: Submit each Application for Payment with Contractor's waiver of mechanic's lien for construction period covered by the application.

    a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of Values.
3. Contractor's Construction Schedule (preliminary if not final).
4. Submittals Schedule (preliminary if not final).
5. List of Contractor's staff assignments.
6. Copies of building permits.
7. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
8. Certificates of insurance and insurance policies.
9. Performance and payment bonds.
10. Data needed to acquire Owner's insurance.
11. Substitution Requests.

H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.

2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706-1994, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A-1994, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707-1994, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

UNIVERSITY OF CENTRAL ARKANSAS
SPECIAL PROVISION
JOB 080670

DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES

Although this contract does not have a Disadvantaged Business Enterprise (DBE) Goal, in accordance with Subsection 103.08(a) of the Standard Specifications all payments made to DBE Contractors, suppliers, manufacturers, and/or non-construction service firms must be reported by the Prime Contractor.

As required by Subsection 103.08(h), the Prime Contractor must use the appropriate DBE Payment Log form included in this Special Provision during the progress of the Contract. Listed below are the instructions on when each form is required to be submitted.

- The Prime DBE Payment Log (page 3) must be submitted by the Prime Contractor when he/she is a certified DBE Contractor and work was performed by their own forces or money was earned by the DBE Prime Contractor for work performed by a Subcontractor during the estimate period.
- The DBE Subcontractor Payment Log (page 2) must be submitted by the Prime Contractor when a Subcontractor is a certified DBE Contractor and work was performed by a Subcontractor or money was earned by a Subcontractor for work performed by a Second-tier Subcontractor during the estimate period.
- The 2nd Tier DBE Payment Log (page 4) must be submitted by the Prime Contractor when a 2nd Tier Subcontractor is a certified DBE Contractor and work was performed by a 2nd Tier Subcontractor during the estimate period.
- The 2nd Tier DBE Payment Log (page 4) must be submitted by the Prime Contractor when payments are made to a Department Certified DBE supplier, manufacturer, and/or non-construction service firm by the Prime Contractor or any Subcontractor or 2nd Tier Subcontractor during the estimate period.

A separate DBE Payment Log form is required for each DBE firm receiving payments for work completed or services provided during each estimate period. The DBE Payment Log forms, along with instructions for their use, are available on the Department's website at:

http://ardot.gov/Construc/SpecBK03/DBE_Log.xls

All certifications of payments must be received by the Resident Engineer within thirty-five (35) calendar days following the end of each estimate period. Facsimile or scanned copies of the completed original payment log forms are acceptable to fulfill this requirement.

Upon completion of the contract, a final certificate of payments to all DBE firms -- page 5 of this Special Provision -- is required by Subsection 103.08 (h). The final amount paid to each DBE firm shall match the total to date reported on the last DBE payment log submitted for each firm. If necessary, an additional DBE payment log shall be submitted with the certificate of payment itemizing all payments made to DBE firms since the last estimate period. A signed, original of the Final Certificate of Payment must be furnished to the Resident Engineer.

UNIVERSITY OF CENTRAL ARKANSAS

DBE Subcontractor Payment Log

Job Number _____ Prime Contractor _____

Estimate No. _____ DBE Subcontractor _____

Estimate Ending Date_____ Date Payment Made to DBE _____

Item Code*	Item Description	Subcontract Unit Price	2nd Tier Unit Price	Quantity	Value Earned By Subcontractor

* Item Codes for pay items are shown on the estimate voucher

Total This Estimate	
Retainage Withheld This Estimate	
Net Total This Estimate	
Previous Total	
Total To Date	

DBE Payment Log must be received within 35 calendar days of the ending date of the estimate.

___% Retainage

The Prime Contractor certifies that the payment listed has been made to the DBE Subcontractor and that the documentation of this payment is available for inspection upon request.

Authorized Signature_____ Title _____

Typed or Printed Name_____ Date _____

Department Use Only

Received By _____ Date _____

Verified By _____ Date _____ RE Initials _____

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DBE Prime Contractor Payment Log

Job Number _____ DBE Prime Contractor _____

Estimate No. _____

Estimate Ending Date_____

Item Code*	Item Description	Contract Unit Price	Sub Unit Price	Quantity	Value Earned By DBE Prime

* Item Codes for pay items are shown on the estimate voucher

Total This Estimate	
Previous Total	
Total To Date	

DBE Payment Log must be received within 35 calendar days of the ending date of the estimate.

The Prime Contractor certifies that the information shown above is correct and represents the value earned by the DBE Prime Contractor during the above estimate period.

Authorized Signature_____ Title _____

Typed or Printed Name_____ Date _____

Department Use Only

Received By _____ Date _____

Verified By _____ Date _____ _____ RE Initials

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DBE 2nd Tier Payment Log

Job Number _____ Prime Contractor _____

Estimate No. _____ Subcontractor _____

Estimate Ending Date_____ DBE 2nd Tier Subcontractor _____

Date Payment Made to DBE _____

Item Code*	Item Description	2nd Tier Unit Price	Quantity	Value Earned by 2nd Tier

* Item Codes for pay items are shown on the estimate voucher

Total This Estimate	
Retainage Withheld This Estimate	
Net Total This Estimate	
Previous Total	
Total To Date	

DBE Payment Log must be received within 35 calendar days of the ending date of the estimate.

___% Retainage

The Prime Contractor certifies that the payment listed has been made to the DBE 2nd Tier Subcontractor and that the documentation of this payment is available for inspection upon request.

Authorized Signature_____ Title _____

Typed or Printed Name_____ Date _____

Department Use Only

Received By _____ Date _____

Verified By _____ Date _____ _____ RE Initials

Rev. 9-6-17

UNIVERSITY OF CENTRAL ARKANSAS
CERTIFICATE OF PAYMENT

JOB _____ **F.A.P.** _____

JOB NAME _____

ORIGINAL CONTRACT AMOUNT $_____ **DBE GOAL $**_____*
(Contract Commitment)

DBE CONTRACT GOAL ___%

FINAL PAYMENT TO DBEs

The undersigned Contractor on the above mentioned project hereby certifies that the following amount(s) were paid to:

DBE Subcontractor(s)	Amount Paid
	$
	$
	$
	$
	$
	$
	$
	$
	$
	$
	$
	$
Total Paid to DBEs	$

Only payments related to work, services, or material actually provided by DBE firms should be shown. Payments under second tier subcontracts from DBE firms to non-DBE firms should not be included.
DBE prime Contractors should include the value of work performed by its own forces.

Contractor:			
Signature:			
Typed or Printed Name:			
Title:		Date:	

THIS "CERTIFICATE OF PAYMENT" IS TO BE SUBMITTED TO THE RESIDENT ENGINEER PRIOR TO PROJECT ACCEPTANCE.

* If goal not met, brief explanation: _____

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SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. Coordination drawings.
2. Requests for Information (RFIs).
3. Project meetings.

B. Related Requirements:

1. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.2 DEFINITIONS

A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.3 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entities performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

1.4 COORDINATION

A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.

2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

1.5 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
b. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid.

2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility.

1.6 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

C. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:

a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for coordination information already indicated in the Contract Documents.
d. Requests for adjustments in the Contract Time or the Contract Sum.
e. Requests for interpretation of Architect's actions on submittals.
f. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.

D. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log at each Project Meeting. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.

E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 3 days of the meeting.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than five days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:

    a. Tentative construction schedule.
    b. Phasing.
    c. Critical work sequencing and long-lead items.
    d. Designation of key personnel and their duties.
    e. Procedures for processing field decisions and Change Orders.
    f. Procedures for RFIs.
    g. Procedures for testing and inspecting.
    h. Procedures for processing Applications for Payment.
    i. Distribution of the Contract Documents.
    j. Submittal procedures.
    k. Preparation of record documents.
    l. Use of the premises and existing building.
    m. Work restrictions.
    n. Working hours.
    o. Owner's occupancy requirements.
    p. Responsibility for temporary facilities and controls.
    q. Procedures for moisture and mold control.
    r. Procedures for disruptions and shutdowns.
    s. Construction waste management and recycling.
    t. Parking availability.
    u. Office, work, and storage areas.
    v. Equipment deliveries and priorities.
    w. First aid.
    x. Security.
    y. Progress cleaning.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

    a. Contract Documents.

b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. Review of mockups.
i. Possible conflicts.
j. Compatibility problems.
k. Time schedules.
l. Weather limitations.
m. Manufacturer's written recommendations.
n. Warranty requirements.
o. Compatibility of materials.
p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings at intervals agreed upon at the Preconstruction Conference. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Status of correction of deficient items.
13) Field observations.
14) Status of RFIs.
15) Status of proposal requests.
16) Pending changes.
17) Status of Change Orders.
18) Pending claims and disputes.
19) Documentation of information for payment requests.

3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Contractor's Construction Schedule.
2. Submittals Schedule.
3. Field condition reports.

B. See Division 1 Section "Payment Procedures" for submitting the Schedule of Values.

1.2 DEFINITIONS

A. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration and contains no float.

B. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

C. Major Area: A story of construction, a separate building, or a similar significant construction element.

1.3 SUBMITTALS

A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:

1. Scheduled date for first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational).
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Architect's final release or approval.

B. Contractor's Construction Schedule: Submit three printed copies of initial schedule, large enough to show entire schedule for entire construction period.

C. CPM Reports: Concurrent with CPM schedule, submit three printed copies of each of the following computer-generated reports. Format for each activity in reports shall contain activity

number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float.

1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
3. Total Float Report: List of all activities sorted in ascending order of total float.

D. Field Condition Reports: Submit two copies at time of discovery of differing conditions.

1.4 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
2. Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work Restrictions: Show the effect on the schedule of the following:

a. Coordination with existing construction.
b. Limitations of continued occupancies.
c. Uninterruptible services.
d. Use of premises restrictions.

3. Work Stages: Indicate important stages of construction for each major portion of the Work.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, interim milestones indicated below, Substantial Completion, and Final Completion.

1. Start and end of each phase.

E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 10 days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 REPORTS

A. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect, Owner, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

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SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

B. Related Requirements:

1. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
2. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Architect's responsive action.

B. Informational Submittals: Written information that does not require Architect's approval. Submittals may be rejected for not complying with requirements.

1.3 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic copies of digital data files of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 10 days for review of each resubmittal.

D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.

a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., Bldg 7200-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., Bldg 7200-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner**,** containing the following information:

a. Project name.
b. Date.
c. Name and address of Architect.
d. Name of Construction Manager.
e. Name of Contractor.
f. Name of firm or entity that prepared submittal.
g. Names of subcontractor, manufacturer, and supplier.
h. Category and type of submittal.
i. Submittal purpose and description.
j. Specification Section number and title.
k. Specification paragraph number or drawing designation and generic name for each of multiple items.
l. Drawing number and detail references, as appropriate.
m. Location(s) where product is to be installed, as appropriate.
n. Related physical samples submitted directly.
o. Indication of full or partial submittal.
p. Transmittal number, numbered consecutively.
q. Submittal and transmittal distribution record.
r. Other necessary identification.

s. Remarks.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:

a. Project name.
b. Number and title of appropriate Specification Section.
c. Manufacturer name.
d. Product name.

E. Options: Identify options requiring selection by Architect.

F. Deviations: Identify deviations from the Contract Documents on submittals.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Provide complete paper copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements:

1. Submit electronic submittals via email as PDF electronic files.

a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Standard color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

    a. Wiring diagrams showing factory-installed wiring.
    b. Printed performance curves.
    c. Operational range diagrams.
    d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:

    a. PDF electronic file.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

    a. Identification of products.
    b. Schedules.
    c. Compliance with specified standards.
    d. Notation of coordination requirements.
    e. Notation of dimensions established by field measurement.
    f. Relationship and attachment to adjoining construction clearly indicated.
    g. Seal and signature of professional engineer if specified.

2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
4. Submit Shop Drawings in the following format:

    a. PDF electronic file.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

    a. Generic description of Sample.
    b. Product name and name of manufacturer.
    c. Sample source.
    d. Number and title of applicable Specification Section.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: Submit manufacturer's color charts (not digital) consisting of units or sections of units showing the full range of colors, textures, and patterns available.

    a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

    a. Number of Samples: Submit two sets of Samples. Architect will retain one Sample sets; remainder will be returned.

        1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

    1. Submit product schedule in the following format:

a. PDF electronic file.

F. Coordination Drawings Submittals: Comply with requirements specified in Section 013100 "Project Management and Coordination."

G. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."

H. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures.

I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."

J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."

K. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."

L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

M. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

N. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

O. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

R. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

S. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

T. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.

U. Schedule of Tests and Inspections: Comply with requirements specified in Section 014000 "Quality Requirements."

V. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

W. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

X. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Approved
2. Approved as Noted
3. Revise and Resubmit
4. Not Approved

C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections:

1. Divisions 2 through 33 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.

C. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

D. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.

J. Experienced: When used with an entity or individual, "experienced" means having successfully completed previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 INFORMATIONAL SUBMITTALS

A. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.5 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
5. Other required items indicated in individual Specification Sections.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

F. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

G. Manufacturer's Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

H. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's and Construction Manager's approval of mockups before starting work, fabrication, or construction.

    a. Allow five days for initial review and each re-review of each mockup.

5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed, unless otherwise indicated.

1.7 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.8 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.
7. .

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 1 Section "Execution Requirements."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

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SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

D. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the organizations responsible for the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG Americans with Disabilities Act (ADA)
Architectural Barriers Act (ABA)

CFR Code of Federal Regulations

1.3 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

BOCA BOCA International, Inc. (See ICC)

IAPMO International Association of Plumbing and Mechanical Officials

ICBO International Conference of Building Officials (See ICC)

ICBO ES ICBO Evaluation Service, Inc. (See ICC-ES)

ICC International Code Council

ICC-ES ICC Evaluation Service, Inc.

SBCCI Southern Building Code Congress International, Inc. (See ICC)

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE Army Corps of Engineers

CPSC	Consumer Product Safety Commission
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FDA	Food and Drug Administration
GSA	General Services Administration
HUD	Department of Housing and Urban Development
LBL	Lawrence Berkeley National Laboratory
NCHRP	National Cooperative Highway Research Program (See TRB)
NIST	National Institute of Standards and Technology
OSHA	Occupational Safety & Health Administration
PBS	Public Building Service (See GSA)
PHS	Office of Public Health and Science
RUS	Rural Utilities Service (See USDA)
SD	State Department
TRB	Transportation Research Board
USDA	Department of Agriculture
USPS	Postal Service

D. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AHTD	Arkansas State Highway and Transportation Department

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

B. Related Requirements:

1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.
2. Section 017300 Section "Execution" for progress cleaning requirements.

1.2 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, testing agencies, and authorities having jurisdiction.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire prevention program.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:

1. Keep temporary services and facilities clean and neat.
2. Relocate temporary services and facilities as required by progress of the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.

B. Water: Potable.

2.2 TEMPORARY FACILITIES

A. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

2.3 EQUIPMENT

A. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.

1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

B. Drinking-Water Fixtures: Containerized, tap-dispenser, bottled-water, drinking-water units, including paper cup supply.

C. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.

D. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

1. Disposable Supplies: Provide, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
2. Drinking-Water Facilities: Provide bottled-water, drinking-water units.

C. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment.

1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

D. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

E. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install one telephone line for each field office.

1. At each telephone, post a list of important telephone numbers including police and fire departments, Contractor's home office, Architect's office, Owner's office, and Principal subcontractors' field and home offices.
2. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide incombustible construction for sheds located within construction area or within 30 feetf building lines. Comply with NFPA 241.
2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

A. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility services. Sheds may be open shelters or fully enclosed spaces within building or elsewhere on-site.

1. Construct framing, sheathing, and siding using fire-retardant-treated lumber and plywood.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.

D. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

E. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

F. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
2. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are the property of Contractor.
2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

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SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for selecting products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

B. Related Requirements:

1. Section 012500 "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

A. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request.

Architect will notify Contractor of approval or rejection of proposed comparable product request within 14 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
5. Store products to allow for inspection and measurement of quantity or counting of units.
6. Store materials in a manner that will not endanger Project structure.
7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
9. Protect stored products from damage.

1.6 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
1. Refer to other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT OPTIONS

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.

B. Product Selection Procedures: Procedures for product selection include the following:

1. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.

a. Substitutions may be considered, unless otherwise indicated.

2. Manufacturers: Where Specification paragraphs or subparagraphs titled "Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.

a. Substitutions may be considered, unless otherwise indicated.

3. Available Products: Where Specification paragraphs or subparagraphs titled "Available Products" introduce a list of names of both products and manufacturers, provide one of the products listed or another product that complies with requirements. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
4. Available Manufacturers: Where Specification paragraphs or subparagraphs titled "Available Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed or another manufacturer that complies with requirements. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
5. Basis-of-Design Products: Where Specification paragraphs or subparagraphs titled "Basis-of-Design Product" are included and also introduce or refer to a list of manufacturers' names, provide either the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.

    a. Substitutions may be considered, unless otherwise indicated.

6. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches satisfactorily.

    a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.

7. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.

    a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that does not include premium items.
    b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:

1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.

2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

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UNIVERSITY OF CENTRAL ARKANSAS

SPECIAL PROVISION

JOB 080670

PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

In accordance with the requirements of 2 CFR 200.216, equipment utilized on this project for telecommunications and video surveillance services or equipment shall not be produced by:

1) Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

2) Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

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SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 017700 "Closeout Procedures" for recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS (Not Used)

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping, underground electrical services, and other utilities.

a. The University of Central Arkansas has a contract with “One – Call”, the contractor has the responsibility to contact “One – Call” to verify the location of water-service piping, underground electrical services and other utilities.

A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.

3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

B. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Architect not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

B. Benchmarks: Establish and maintain a minimum of one permanent benchmark on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Asphalt Paving, Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg FContainerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements"

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in "Cutting and Patching" article.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.
5. Repair of the Work.

B. Related Sections:

1. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
2. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
3. Divisions 2 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 ACTION SUBMITTALS

A. Product Data: For cleaning agents.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
4. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.

5. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
6. Complete startup testing of systems.
7. Submit test/adjust/balance records.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Advise Owner of changeover in heat and other utilities.
10. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
6. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
7. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
8. Complete final cleaning requirements, including touchup painting.
9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Submit list of incomplete items in the following format:

    a. PDF electronic file. Architect will return annotated copy.

1.6 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

3.2 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for Final Completion for entire Project or for a portion of Project:

    a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    g. Sweep concrete floors broom clean in unoccupied spaces.
    h. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

        1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.
    i. Leave Project clean and ready for occupancy.

3.3 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Product maintenance manuals.
3. Equipment maintenance manuals.

1.2 CLOSEOUT SUBMITTALS

A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operations and maintenance manuals in the both of the following formats:

1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.

    a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
    b. Enable inserted reviewer comments on draft submittals.

2. One paper copy. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves.

C. Manual Submittal: Submit each manual in final form prior to requesting inspection for Final Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.

1. Correct or modify each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 REQUIREMENTS FOR OPERATION AND MAINTENANCE MANUALS

A. Directory: Prepare a single, comprehensive directory of operation and maintenance data and materials, listing items and their location to facilitate ready access to desired information.

B. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

C. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Architect.
7. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
8. Cross-reference to related systems in other operation and maintenance manuals.

D. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

E. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

F. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

G. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

   a. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

   a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
   b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.2 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.

3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

C. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Do not use original project record documents as part of operation and maintenance manuals.

D. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

B. Related Requirements:

1. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit copies of record Drawings as follows:

a. Submit PDF electronic files of scanned record prints and one paper-copy set of marked-up record prints.
b. Print each drawing, whether or not changes and additional information were recorded.

A. Record Specifications: Submit one paper copy and annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

B. Record Product Data: Submit one paper copy and annotated PDF electronic files and directories of each submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data,

whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Record data as soon as possible after obtaining it.
c. Record and check the markup before enclosing concealed installations.

2. Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.
3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
4. Note alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Identification: As follows:

a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. Note related Change Orders and record Drawings where applicable.

B. Format: Submit record Specifications as annotated PDF electronic file and as paper copy.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders and record Drawings where applicable.

B. Format: Submit record Product Data as annotated PDF electronic file and as paper copy.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as PDF electronic file and as paper copy.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and modifications to project record documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 017839

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SECTION 020630 - SCHEDULE FOR SUBSURFACE INVESTIGATION

PART 1 GENERAL

1.1 WORK INCLUDED

A. Surface reconnaissance and evaluation of existing site conditions.

B. Sub-surface evaluation by contractor's chosen method of investigation.

1.2 RELATED WORK

A. Section 010000 - General Condition.

B. Section 012636 - Supplementary Conditions.

PART 2 GENERAL

2.1 EXECUTION

A. The Contractor is responsible for having a thorough knowledge of all existing site conditions, Drawings, Specifications, General and Supplementary Conditions, and other Contract Documents. Failure to acquaint himself with this knowledge does not relieve him of the responsibility for performing his work in a manner acceptable to the Owner. No additional compensation will be allowed because of conditions that occur due to failure by the Contractor to familiarize himself and all workers with this knowledge.

B. Protection of Existing Trees and Vegetation:

1. Protect existing trees and other vegetation, indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.

2. Water trees and other vegetation to remain within limits of contract work as required to maintain their health during course of construction operations.

3. Repair or replace trees and vegetation indicated to remain which are damaged by construction operations, in manner acceptable to the Architect/Engineer. Employ qualified tree surgeon to repair damage to trees and shrubs.

END OF SECTION 020630

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SECTION 024113 - SELECTIVE SITE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Selective demolition work, complete, as indicated, specified, and required for new work, including removal and disposal of demolished materials.

B. Removal, protection, and storage of items designated to be reused.

C. Removal, protection, and delivery of items designated as Owner's salvage to location as directed by Owner.

1.2 RELATED WORK

A. Not in this Phase

1.3 SUBMITTALS:

A. Before commencing selective demolition work, submit for review and approval of the Engineer, a schedule showing the commencement, order, and completion dates for the various parts of this work. Include coordination for shut-off, capping, and continuation of utility services as required, together with details for dust and noise protection.

B. Before starting any work relating to existing utilities that will temporarily discontinue service to adjacent buildings, notify the Engineer / Owner 72 hours in advance and obtain approval before proceeding with work. Do not disconnect or disrupt service without Engineer's prior approval.

1.4 PROJECT CONDITIONS:

A. Condition of Structure: Owner assumes no responsibility for actual condition of items or portions of structures to be demolished.

B. Salvageable Items:

C. Salvage items indicated. Store at location as directed by Owner.

D. Items indicated to be removed, and not designated for Owner's salvage or for reuse, may be salvaged by the Contractor. Transport salvaged items from site as they are removed. Storage or sale of removed items on site will not be permitted.

E. Protections:

F. Provide protective measures as required to protect personnel and general public from injury due to selective demolition work.

G. Provide adequate fire protection in accordance with local Fire Department requirements.

H. Damages: Promptly repair, to the satisfaction of the Engineer, damages caused to contents by demolition work or due to insufficiency of protection provided, at no cost to Owner. Replace damaged work, as directed by the Engineer, if not satisfactory.

I. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.

J. Explosives: Use of explosives will not be permitted.

K. Environmental Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practicable level. Comply with governing regulations pertaining to environmental protection.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 DEMOLITION

A. Refer to drawings and provide selective demolition as indicated and as required for new work.

B. Proceed in a systematic manner. Use such methods as required to complete work in accordance with demolition schedule and governing regulations.

C. Demolish concrete in small sections. Cut concrete at junctures with construction to remain using power-driven masonry saw or hand tools: do not use power driven impact tools.

3.2 DISPOSAL OF DEMLOISHED MATERIAL

A. Remove debris, rubbish, and other materials resulting from demolition operations as the work progresses. Transport and legally dispose of materials off site. Burning of debris will not be permitted on site.

3.3 CLEAN UP AND REPAIR

A. Upon completion of selective demolition work, remove tools, equipment and demolished materials from site. Remove protections.

B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 024113

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

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

1. Spread Footings.
2. Piers.

B. Related Sections:

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

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.
B. Design Mixtures: For each concrete mixture.
C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement.

1.3 INFORMATIONAL SUBMITTALS

A. Material certificates.
B. Material test reports.
C. Floor surface flatness and levelness measurements.
D. Curing compounds.
E. Vapor Retarders.

1.4 QUALITY ASSURANCE

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

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

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

1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

3. ACI 318, “Building Code Requirements for Reinforce Concrete.”
4. CRSI, “Manual of Standard Practice.”

D. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

E. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer’s plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

F. Preinstallation Conference: Conduct conference at Project site.

1.5 FIELD CONDITIONS

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

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

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

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

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

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

C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

E. Formulate form-release agent with rust inhibitor for steel form-facing materials.

F. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish units that will leave no corrodible metal closer than 1inch to the plane of exposed concrete surface.
2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.
3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

G. Form Materials: Contractor shall provide form materials with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.

H. Earth Cuts: Don not use earth cuts as forms for vertical surfaces. Natural rock formations that maintain a stable vertical edge may be used as side form.

G. STEEL REINFORCEMENT

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

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

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

1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.
3. For zinc-coated reinforcement, use galvanized wire or dielectric-polymer-coated wire bar supports.
4. For slabs-on-grade, use supports with sand plates or horizontal runners when base material will not support chair legs.

K. Mechanical Bar Couplers: Mechanical splices and connectors are compatible with reinforcing bars that comply with ASTM A615, ASTM A706, ASTM A996, or equal and consist of smooth, shaped, steel sleeves with converging sides.

2.2 CONCRETE MATERIALS

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

1. Portland Cement: ASTM C 150, Type I or Type II, gray. Supplement with the following:

a. Fly Ash: ASTM C 618, Class F or C.

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

1. Maximum Coarse-Aggregate Size: 1-1/2 inches typical; 3/4 inch for floor slabs, nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Lightweight Aggregate: ASTM C 330, 1 – inch nominal maximum aggregate size.

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

2.3 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

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

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

2.4 CURING MATERIALS

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

1. Products: Subject to compliance with requirements, provide one of the following:
   a. Axim Italcementi Group, Inc.; CATEXOL CimFilm.
   b. BASF Construction Chemicals - Building Systems; Confilm.
   c. ChemMasters; SprayFilm.
   d. Conspec by Dayton Superior; Aquafilm.
   e. Dayton Superior Corporation; Sure Film (J-74).
   f. Edoco by Dayton Superior; BurkeFilm.
   g. Euclid Chemical Company (The), an RPM company; Eucobar.
   h. Kaufman Products, Inc.; Vapor-Aid.
   i. Lambert Corporation; LAMBCO Skin.
   j. L&M Construction Chemicals, Inc.; E-CON.
   k. Meadows, W. R., Inc.; EVAPRE.
   l. Metalcrete Industries; Waterhold.
   m. Nox-Crete Products Group; MONOFILM. Sika Corporation; SikaFilm.
   n. SpecChem, LLC; Spec Film.
   o. Symons by Dayton Superior; Finishing Aid.
   p. TK Products, Division of Sierra Corporation; TK-2120 TRI-FILM.
   q. Unitex; PRO-FILM.
   r. Vexcon Chemicals, Inc.; Certi-Vex Envio Set.

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

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

D. Water: Potable.

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

1. Products: Subject to compliance with requirements, provide one of the following:

a. Anti-Hydro International, Inc.; AH Curing Compound #2 DR WB.
b. BASF Construction Chemicals - Building Systems; Kure 200.
c. ChemMasters; Safe-Cure Clear.
d. Conspec by Dayton Superior; W.B. Resin Cure.
e. Dayton Superior Corporation; Day-Chem Rez Cure (J-11-W).
f. Edoco by Dayton Superior; Res X Cure WB.
g. Euclid Chemical Company (The), an RPM company; Kurez W VOX; TAMMSCURE WB 30C.
h. Kaufman Products, Inc.; Thinfilm 420.
i. Lambert Corporation; AQUA KURE - CLEAR.
j. L&M Construction Chemicals, Inc.; L&M Cure R.
k. Meadows, W. R., Inc.; 1100-CLEAR.
l. Nox-Crete Products Group; Resin Cure E.
m. Right Pointe; Clear Water Resin.
n. SpecChem, LLC; Spec Rez Clear.
o. Symons by Dayton Superior; Resi-Chem Clear.
p. TK Products, Division of Sierra Corporation; TK-2519 DC WB.
q. Vexcon Chemicals, Inc.; Certi-Vex Enviocure 100.

2.5 RELATED MATERIALS

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

B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 per ASTM D 2240.

C. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types I and II, non-load bearing or Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

E. Reglets: Fabricate reglets of not less than 0.022-inch-thick, galvanized-steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.

F. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than 0.034 inch thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

G. Non-Shrink, Non-Metallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

1. Products: Subject to compliance with requirements, provide one of the following:

a. BASF (Master Builders), Masterflow 713 Plus.
b. Euclid, Euco NS Grout.
c. W.R. Meadows, Sealtight 588 Grout.

H. Saw Cut Control Joint Filler: Elastomeric sealant

2.8 REPAIR MATERIALS

A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, Portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
4. Compressive Strength: Not less than 4000 psi at 28 days when tested according to ASTM C 109/C 109M.

B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, Portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109/C 109M.

2.9 CONCRETE MIXTURES

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

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

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

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

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

2.10 CONCRETE MIXTURES FOR ALL CONCRETE FOUNDATIONS.

A. Footings: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: as shown on the Design Drawings at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.48.
3. Slump Limit: 4 inches; 8 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch.
4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch nominal maximum aggregate size.

2.11 FABRICATING REINFORCEMENT

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

2.12 CONCRETE MIXING

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

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

PART 3 - EXECUTION

3.1 FORMWORK

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

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

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

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

E. Install keyways, reglets, recesses, and the like, for easy removal.

F. Do not use rust-stained steel form-facing material.Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

H. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

I. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

J. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

K. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 REMOVING FORMS

A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.

1. Leave formwork for beam soffits, joists, slabs, and other structural elements that supports weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.

2. Remove forms only if shores have been arranged to permit removal of forms without l loosening or disturbing shores.

3.4 STEEL REINFORCEMENT

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

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

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials

that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.6 JOINTS

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

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

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

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.5 CONCRETE PLACEMENT

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

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

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

C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.

D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

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

1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

G. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

H. Hot-Weather Placement: Comply with ACI 301 and as follows:

4. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

5. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.6 FINISHING FORMED SURFACES

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

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

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

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

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

1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.

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

3.7 CONCRETE PROTECTING AND CURING

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

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

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

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven

days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

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

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

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

3.10 JOINT FILLING

A. Prepare, clean, and install joint filler according to manufacturer's written instructions.

   1. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.

C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.11 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval. Take pictures and send to Architect for approval before starting work.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part Portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

D. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

1. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
2. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.

E. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

F. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

G. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.12 FIELD QUALITY CONTROL

D. Testing and Inspecting: Contractor to engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

E. Inspections:

1. Steel reinforcement placement.
2. Verification of use of required design mixture.
3. Concrete placement, including conveying and depositing.

F. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.

    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M.

    a. Cast and field cure two sets of two standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.

    a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
    b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
9. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive

strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

G. Measure floor and slab flatness and levelness according to ASTM E 1155 within 24 hours of finishing.

END OF SECTION 033000

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SECTION 024660 - DRILLED PIERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes dry-installed drilled piers.

1.2 UNIT PRICES

A. Unit prices are included in Division 1 Section "Unit Prices."

B. Drilled Piers: Actual net volume of drilled piers in place and approved below grade. Actual length, shaft diameter, and bell diameter if applicable, may vary, to coincide with elevations where satisfactory bearing strata are encountered. These dimensions may also vary with actual bearing value of bearing strata determined by an independent testing and inspecting agency. Adjustments will be made on net variation of total quantities, based on design dimensions for shafts and bells.

1. Base bids on indicated number of drilled piers and, for each pier, the design length from top elevation to bottom of shaft.
2. Unit prices include labor, materials, tools, equipment, and incidentals required for excavation, trimming, shoring, casings, dewatering, reinforcement, concrete fill, testing and inspecting, and other items for complete drilled-pier installation.

C. Rock Measurement: Volume of rock actually removed, measured in original position, but not to exceed outside dimensions of drilled piers cast against rock.

1.3 SUBMITTALS

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

B. Design Mixtures: For each concrete mixture.

C. Shop Drawings: For concrete reinforcement.

D. Welding certificates.

1.4 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.4, "Structural Welding Code - Reinforcing Steel."

B. Drilled-Pier Standard: Comply with ACI 336.1 unless modified in this Section.

1.5 PROJECT CONDITIONS

A. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer. Owner will not be responsible for interpretations or conclusions drawn from this data.

1. Make additional test borings and conduct other exploratory operations necessary for drilled piers.
2. The geotechnical report is included elsewhere in the Project Manual.

B. Survey Work: Engage a qualified land surveyor or professional engineer to perform surveys, layouts, and measurements for drilled piers. Before excavating, lay out each drilled pier to lines and levels required. Record actual measurements of each drilled pier's location, shaft diameter, bottom and top elevations, deviations from specified tolerances, and other specified data.

1. Record and maintain information pertinent to each drilled pier and cooperate with Owner's testing and inspecting agency to provide data for required reports.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

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

2.2 CONCRETE MATERIALS

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

1. Portland Cement: ASTM C 150, Type I, Supplement with the following as allowed on design drawings:

a. Fly Ash: ASTM C 618, Class C or Class F.

B. Normal-Weight Aggregate: ASTM C 33, graded, 1” nominal maximum coarse-aggregate size.

1. Fine Aggregate and Coarse Aggregate: Free of materials with deleterious reactivity to alkali in cement. If noted on drawings for a mix design application provide testing for ASR in fine and coarse aggregates per ASTM 1260 or ASTM 1567.

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

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

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.

3. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
4. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.3 STEEL CASINGS

A. Steel Pipe Casings: ASTM A 283/A 283M, Grade C, or ASTM A 36/A 36M, carbon-steel plate, with joints full-penetration welded according to AWS D1.1/D1.1M if required for installation.

2.4 CONCRETE MIXTURES AND MIXING

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

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 limits as if concrete were exposed to deicing chemicals.

C. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

D. Proportion normal-weight concrete mixture as follows:

1. Compressive Strength (28 Days): 3000 psi.
2. Air Content: Do not air entrain concrete.

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

PART 3 - EXECUTION

3.1 EXCAVATION

A. Unclassified Excavation: Excavate to bearing elevations regardless of character of surface and subsurface conditions encountered.

B. Classified Excavation: Excavation is classified as standard excavation, special excavation, and obstruction removal and includes excavation to bearing elevations as follows:

1. Standard excavation includes excavation accomplished with conventional augers fitted with soil or rock teeth, drilling buckets, or underreaming tools attached to drilling equipment of size, power, torque, and downthrust necessary for the Work.
2. Special excavation includes excavation that requires special equipment or procedures above or below indicated depth of drilled piers where drilled-pier excavation equipment used in standard excavation, operating at maximum power, torque, and downthrust, cannot advance the shaft.
3. Obstructions: Payment for removing unanticipated boulders, concrete, masonry, or other subsurface obstructions that cannot be removed by conventional augers fitted with soil or rock teeth, drilling buckets, or underreaming tools attached to drilling equipment of size, power, torque, and downthrust necessary for the Work will be according to Contract provisions for changes in the Work.

C. Excavate shafts for drilled piers to indicated elevations. Remove loose material from bottom of excavation.

D. Notify and allow testing and inspecting agency to test and inspect bottom of excavation. If unsuitable bearing stratum is encountered, make adjustments to drilled piers as determined by Architect.

1. Do not excavate shafts deeper than elevations indicated unless approved by Architect.
2. Payment for additional authorized excavation will be according to Contract provisions for changes in the Work.

E. End-Bearing Drilled Piers: Probe with auger to a depth below bearing elevation, equal to diameter of the bearing area of drilled pier. Determine whether voids, clay seams, or solution channels exist.

F. Temporary Casings: Install watertight steel casings of sufficient length and thickness to prevent water seepage into shaft; to withstand compressive, displacement, and withdrawal stresses; and to maintain stability of shaft walls.

1. Remove temporary casings, maintained in plumb position, during concrete placement and before initial set of concrete.

G. Tolerances: Construct drilled piers to remain within ACI 336.1 tolerances.

3.2 INSTALLATION

A. Install steel casings of minimum wall thickness indicated and of diameter not less than diameter of drilled pier.

B. Comply with recommendations in CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

C. Place concrete in continuous operation and without segregation immediately after inspection and approval of shaft by Owner's independent testing and inspecting agency.

D. Place concrete to fall vertically down the center of drilled pier without striking sides of shaft or steel reinforcement. Vibrate top 60 inches of concrete.

E. Coordinate withdrawal of temporary casings with concrete placement to maintain at least a 60-inch head of concrete above bottom of casing. Vibrate top 60 inches of concrete after withdrawal of temporary casing.

3.3 FIELD QUALITY CONTROL

A. Special Inspections: Engage a qualified special inspector to perform the following special inspections:

1. Drilled piers.
2. Excavation.
3. Concrete.
4. Steel reinforcement welding.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Drilled-Pier Tests and Inspections: For each drilled pier before concrete placement.

1. Soil Testing: Bottom elevations, bearing capacities, and lengths of drilled piers indicated have been estimated from available soil data. Actual elevations and drilled-pier lengths and bearing capacities will be determined by testing and inspecting agency. Final evaluations and approval of data will be determined by Architect.

D. Concrete Tests and Inspections: ACI 301.

END OF SECTION 02466

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SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Steel tube railings.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Railing brackets.
2. Grout, anchoring cement, and paint products.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

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

D. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

A. Welding certificates.

1.4 QUALITY ASSURANCE

B. Welding Qualifications: Qualify procedures and personnel in accordance with the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Handrails and Top Rails of Guards:

    a. Uniform load of 50 lbf/ ft. applied in any direction.
    b. Concentrated load of 200 lbf applied in any direction.
    c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Infill of Guards:

    a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
    b. Infill load and other loads need not be assumed to act concurrently.

2.2 METALS, GENERAL

A. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

1. Provide type of bracket with predrilled hole for exposed bolt anchorage and that provides 1-1/2-inch clearance from inside face of handrail to finished wall surface.

2.3 STEEL RAILINGS

A. Tubing: ASTM A 500 (cold formed) or ASTM A 513, Type 5.

B. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.

1. Provide galvanized finish for exterior installations and where indicated.

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

2.4 FASTENERS

A. General: Provide the following:
1. Ungalvanized-Steel Railing Components: Plated steel fasteners complying with ASTM F1941/ASTM F1941M, Class Fe/Zn 5 for zinc coating.

2. Hot-Dip Galvanized Railing Components: Plated steel fasteners complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5 for zinc coating.

2.5 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

B. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

D. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.6 FABRICATION

A. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

B. Form work true to line and level with accurate angles and surfaces.

C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove flux immediately.
4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

D. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

E. Form changes in direction by bending or by inserting prefabricated elbow fittings.

F. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

G. Close exposed ends of railing members with prefabricated end fittings.

H. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

2.7 STEEL AND IRON FINISHES

A. Galvanized Railings:

1. Hot-dip galvanize exterior steel railings, including hardware, after fabrication.

B. Preparing Galvanized Railings for Shop Priming: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.

B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1. Coat, with a heavy coat of bituminous paint, concealed surfaces of aluminum that are in contact with grout, concrete, masonry, wood, or dissimilar metals.

3.2 ANCHORING POSTS

A. After posts are inserted into concrete, fill annular space between post and concrete with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.

3.3 ADJUSTING AND CLEANING

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

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

END OF SECTION 055213

SECTION 099123 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes surface preparation and field painting of exposed exterior items and surfaces.

1. Steel and iron.
2. Galvanized metal.

1.2 SUBMITTALS

A. Product Data: For each product indicated.

B. Samples: For each type of finish-coat material indicated.

1.3 PROJECT CONDITIONS

A. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.

B. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F.

C. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F.

D. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1.4 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied and, in the quantities, described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

1. Quantity: 5 percent, but not less than 1 gal., of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Sherwin-Williams Co. (Sherwin-Williams) products indicated or comparable product by one of the following:

1. Benjamin Moore & Co. (Benjamin Moore).
2. PPG Industries, Inc. (Pittsburgh Paints).

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

C. Colors: As selected from manufacturer's full range.

2.3 PREPARATORY COATS

A. Exterior Primer: Exterior alkyd or latex-based primer of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indicated.

1. Ferrous-Metal and Aluminum Substrates: Rust-inhibitive metal primer.
2. Zinc-Coated Metal Substrates: Galvanized metal primer.
3. Where manufacturer does not recommend a separate primer formulation on substrate indicated, use paint specified for finish coat.

2.4 EXTERIOR FINISH COATS

A. Exterior Low-Luster Acrylic Paint:

1. Sherwin-Williams; A-100 Exterior Latex Satin House & Trim Paint A82-100 Series.

B. Exterior Semigloss Acrylic Coating:

1. Sherwin-Williams; Pro Industrial 0 VOC Acrylic Coating, B66-650 Series.

PART 3 - EXECUTION

3.1 APPLICATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

C. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

D. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime.

2. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.

a. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
b. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.

3. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

E. Material Preparation:

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.

F. Exposed Surfaces: Include areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.

1. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
2. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
3. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
4. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.

G. Sand lightly between each succeeding enamel or varnish coat.

H. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. Omit primer over metal surfaces that have been shop primed and touchup painted.
2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.

I. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

J. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide total dry film thickness of the entire system as recommended by manufacturer.

K. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces, unless noted otherwise.

L. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.

M. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

O. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.

3.2 CLEANING AND PROTECTING

A. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.

B. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

C. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.3 EXTERIOR PAINT SCHEDULE

A. Ferrous Metal:

1. Acrylic Finish: Two finish coats over a rust-inhibitive primer.

a. Primer: Exterior ferrous-metal primer (not required on shop-primed items).
b. Finish Coats: Exterior semigloss acrylic enamel.

B. Zinc-Coated Metal:

1. Acrylic Finish: Two finish coats over a galvanized metal primer.

a. Primer: Exterior galvanized metal primer.
b. Finish Coats: Exterior low-luster acrylic paint.

END OF SECTION 099123

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SECTION 134920 – FABRICATED PEDESTRIAN BRIDGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Premanufactured Aluminum Pedestrian Bridge.

B. Related Requirements:

1. Division 3, Section 033000 “Cast-In-Place Concrete” for concrete foundations

1.2 ACTION SUBMITTALS

A. Product Data: For each type of component.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and assembly of work specified.

C. Delegated-Design Submittal: For all premanufactured components specified.

1. Include analysis data indicating compliance with performance requirements and design data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

A. Welding certificates.

B. Letter of Design Certification: Signed and sealed by a qualified professional engineer. Include the following:

1. Name and location of Project.
2. Order number.
3. Name of manufacturer.
4. Name of Contractor.
5. Bridge dimensions including width, length, height.
6. Governing building code and year of edition.
7. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).
8. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.

C. Source quality-control reports.

D. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer.

1. Engineering Responsibility: Preparation of comprehensive engineering analysis and Shop Drawings by a professional engineer who is legally qualified to practice in jurisdiction where Project is located.

B. Design of the aluminum members shall conform t the current edition of The Aluminum Association Specifications and Guidelines for Aluminum Structures.

C. Installer Qualifications: Fabricator of products.

D. Welding Qualifications: Qualify procedures and personnel according to ANSI/AWS D1.2-97 GMAW process, Structural Welding Code – Aluminum."

1. All exposed surfaces shall be smooth and free of sharp or jagged edges.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components specified that fail in materials or workmanship within specified warranty period.

1. Warranty Period: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. The aluminum pedestrian bridge, ramps and stairs shall comply with AASHTO’S Guide Specifications for Design of Pedestrian Bridges.

2.2 PEDESTRIAN BRIDGE

A. Basis-of-Design Product: Subject to compliance with requirements, provide Hydro Extrusions LLC (REDD Team), Delhi, LA, or a comparable product by one of the following:

1. G & A Manufacturing.

B. Dimensions:

1. Clear Span: 43’-0”
2. Bridge Inside Width: 8’-0”

C. Engineering

1. Uniform Live Load

a. Pedestrian bridges with a deck influence area up to 400 square feet shall be designed for an evenly distributed live load of 85 pounds per square foot. For deck influence areas exceeding 400 square feet, the pedestrian live load may be reduced per Section 1.2.1 of AASHTO’s Guide Specifications for Design of Pedestrian Bridges. In no case shall the pedestrian live load be less than 65 pounds per square foot.

b. All bridges shall conform to the Current Edition of The Aluminum Association Specifications and Guidelines for Aluminum Structures.

D. Design

1. Low profile design
2. Bridge Rail Height: 3’-6” above the deck
3. Single diagonal per panel.
4. Safety Hand Rail and Guard Rails.
   a. Continuous 1 1/4“ schedule 40 pipe (1.66 O.D.) aluminum grab rails, 34” above top of deck.
   b. Continuous kick plate shall be 0.25 x 3-inch aluminum flat bar along edge of walking surface on the inside of railing
   c. 3/4“ square aluminum tube vertical pickets such that a sphere with a diameter of 4 inches cannot pass through any opening.

5. Bridge Camber

a. Flat bridges shall be cambered to offset self-induced bridge dead load deflection.

6. Finish: Mill finish.

2.3 MATERIALS

A. Aluminum bridges shall be constructed using 6000 series aluminum alloy with 6061-T6 for primary structural components.

B. Fasteners for aluminum structures shall be stainless series grade 304.

C. All aluminum welding shall be done using 5358 series aluminum filler wire and in accordance with the ANSI / AWS D1.2-97 GMAW / GTAW process.

D. Deck material shall be 1 1/2” x 6” or 1 1/2” x 8” triple I-beam slip-mating extended aluminum planks with no gaps and minimum coefficient of 0.93.

2.4 FABRICATION

A. General: Design components and field connections required for erection to permit easy assembly.
   1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
   2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.

B. Primary Framing: Shop fabricate framing components to indicated size and section, with baseplates, bearing plates, stiffeners, and other items required for erection. Cut, form, punch, drill, and weld framing for bolted field assembly.

C. Secondary Framing: Shop fabricate framing components to indicated size and section by roll forming or break forming, with baseplates, bearing plates, stiffeners, and other plates required for erection. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Bridge installer to examine piers and footings prior to installation of fabricated bridge.

3.2 INSTALLATION, GENERAL

A. Erect fabricated pedestrian bridge in accordance manufacturer’s written instructions and drawings.

B. Do not field cut, drill, or alter structural members without written approval from the pedestrian bridge manufacturer’s professional engineer.

C. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials and roughen surfaces prior to setting plates. Clean bottom surface of plates.
   1. Set plates for structural members on wedges, shims, or setting nuts as required.
   2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
   3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

D. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
   1. Level and plumb individual members of structure.
   2. Make allowances for difference between temperature at time of erection and mean temperature when structure will be completed and in service.

END OF SECTION 134920

SECTION 134921 – FABRICATED PEDESTRIAN RAMP & LANDING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Premanufactured Aluminum Pedestrian Ramp and Landings.

B. Related Requirements:

1. Division 3, Section 033000 “Cast-In-Place Concrete” for concrete foundations

1.2 ACTION SUBMITTALS

A. Product Data: For each type of component.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and assembly of work specified.

C. Delegated-Design Submittal: For all premanufactured components specified.

1. Include analysis data indicating compliance with performance requirements and design data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

A. Welding certificates.

B. Letter of Design Certification: Signed and sealed by a qualified professional engineer. Include the following:

1. Name and location of Project.
2. Order number.
3. Name of manufacturer.
4. Name of Contractor.
5. Ramp and landing dimensions including width, length, height.
6. Connections to adjacent components
7. Governing building code and year of edition.
8. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).
9. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.

C. Source quality-control reports.

D. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer.

1. Engineering Responsibility: Preparation of comprehensive engineering analysis and Shop Drawings by a professional engineer who is legally qualified to practice in jurisdiction where Project is located.

B. Design of the aluminum members shall conform t the current edition of The Aluminum Association Specifications and Guidelines for Aluminum Structures.

C. Installer Qualifications: Fabricator of products.

D. Welding Qualifications: Qualify procedures and personnel according to ANSI/AWS D1.2-97 GMAW process, Structural Welding Code – Aluminum."

1. All exposed surfaces shall be smooth and free of sharp or jagged edges.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components specified that fail in materials or workmanship within specified warranty period.

1. Warranty Period: One year from date of delivery.

PART 2 - PRODUCTS

2.1 PEDESTRIAN RAMP AND LANDING

A. Basis-of-Design Product: Subject to compliance with requirements, provide Hydro Extrusions LLC (REDD Team), Delhi, LA, or a comparable product by one of the following:

1. G & A Manufacturing.

B. Dimensions, Ramp:

1. Span Length: 30’-0”
2. Ramp Width: 5’-0”

C. Dimensions, Landing:

1. Landing Length: Refer to drawings
2. Width: Refer to drawings

D. Engineering:

1. Ramp and Landing - Uniform Live Load

a. Ramp and Landings shall be designed for a minimum uniform live load of 100 pounds per square foot and a concentrated vertical load of 300 pounds distributed uniformly over an area of 1 square foot.

E. Design

1. Ramp Rail Height: 3’-6” above the deck
2. Landing Rail Height: 3’-6” above the deck.
3. Ramp Safety

a. Continuous 1 1/4“schedule 40 pipe (1.66 O.D.) aluminum grab rails, 34” and 23” above top of deck. Handrail gripping surface shall be smooth and continuous throughout ramp sections and landings.

b. Continuous kick plate shall be 0.25 x 3-inch aluminum flat bar along edge of walking surface on the inside of railing

c. 3/4“ square aluminum tube vertical pickets such that a sphere with a diameter of 4 inches cannot pass through any opening.

4. Ramp legs:

a. Legs to be designed to support the uniform live loads indicated.

b. Shall telescope and allow for height and slope adjustments. The legs shall be designed so that they will be perpendicular to the ground and vertical loads are transmitted axially through them regardless of slope.

c. All legs shall have 1/4" x 6” x 10” aluminum pads.

5. Finish: Mill finish.

2.2 MATERIALS

A. Aluminum components shall be constructed of aluminum alloy 6061-T6.

B. Fasteners for aluminum structures shall be stainless series grade 304.

C. All aluminum welding shall be done using 5358 series aluminum filler wire and in accordance with the ANSI / AWS D1.2-97 GMAW / GTAW process.

D. Deck material shall be 1 1/2” x 6” or 1 1/2” x 8” triple I-beam slip-mating extended aluminum planks with no gaps and minimum coefficient of 0.93.

2.3 FABRICATION

A. General: Design components and field connections required for erection to permit easy assembly.
   1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
   2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.

B. Primary Framing: Shop fabricate framing components to indicated size and section, with baseplates, bearing plates, stiffeners, and other items required for erection. Cut, form, punch, drill, and weld framing for bolted field assembly.

C. Secondary Framing: Shop fabricate framing components to indicated size and section by roll forming or break forming, with baseplates, bearing plates, stiffeners, and other plates required for erection. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Ramp and landing installer to examine piers and footings prior to installation of fabricated ramps and landings. Contractor to provide modifications as required per the installer’s instructions

3.2 INSTALLATION, GENERAL

A. Erect fabricated pedestrian ramps and landings in accordance manufacturer’s written instructions and drawings.

B. Do not field cut, drill, or alter structural members without written approval from the pedestrian bridge manufacturer’s professional engineer.

C. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials and roughen surfaces prior to setting plates. Clean bottom surface of plates.
   1. Set plates for structural members on wedges, shims, or setting nuts as required.
   2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
   3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

D. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
   1. Level and plumb individual members of structure.
   2. Make allowances for difference between temperature at time of erection and mean temperature when structure will be completed and in service.

END OF SECTION 134920

SECTION 134922 – FABRICATED PEDESTRIAN GANGWAY

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Premanufactured Aluminum Pedestrian Gangway.

B. Related Requirements:

1. Division 3, Section 033000 “Cast-In-Place Concrete for concrete foundations.
2. Division 13, Section 134921 “Fabricated Pedestrian Ramp and Landing” for associated systems.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of component.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and assembly of work specified.

C. Delegated-Design Submittal: For all premanufactured components specified.

1. Include analysis data indicating compliance with performance requirements and design data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

A. Welding certificates.

B. Letter of Design Certification: Signed and sealed by a qualified professional engineer. Include the following:

1. Name and location of Project.
2. Order number.
3. Name of manufacturer.
4. Name of Contractor.
5. Gangway dimensions including width, length, height.
6. Connections to adjacent components
7. Governing building code and year of edition.
8. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).

9. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.

C. Source quality-control reports.

D. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer.

1. Engineering Responsibility: Preparation of comprehensive engineering analysis and Shop Drawings by a professional engineer who is legally qualified to practice in jurisdiction where Project is located.

B. Design of the aluminum members shall conform t the current edition of The Aluminum Association Specifications and Guidelines for Aluminum Structures.

C. Installer Qualifications: Fabricator of products.

D. Welding Qualifications: Qualify procedures and personnel according to ANSI/AWS D1.2-97 GMAW process, Structural Welding Code – Aluminum."

1. All exposed surfaces shall be smooth and free of sharp or jagged edges.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components specified that fail in materials or workmanship within specified warranty period.

1. Warranty Period: One year from date of delivery.

PART 2 - PRODUCTS

2.1 PEDESTRIAN GANGWAY

A. Basis-of-Design Product: Subject to compliance with requirements, provide Hydro Extrusions LLC (REDD Team), Delhi, LA, or a comparable product by one of the following:

1. G & A Manufacturing.

B. Dimensions, Gangway:

1. Span Length: Refer to drawings”

2. Gangway Width (Inside): 5’-0”

C. Engineering:

1. Uniform Live Load

a. Gangway shall be designed for a minimum uniform live load of 85 pounds per square foot.

b. Maximum deflection of structure shall be calculated using L/180 where “L” is the length of the gangway in inches.

c. Deck material shall be designed for a concentrated vertical load of 300 lbs. / square foot.

d. Handrails shall be designed for a horizontal load of 20 lbs. / linear foot.

e. All gangways shall conform to the Current Edition of The Aluminum Association Specifications and Guidelines for Aluminum Structures.

E. Design

1. Gangway Rail

a. Height: 3’-6” above the deck

b. Top rail (top chord member) shall extend 18” beyond both ends of gangway.

c. Top rail (top chord member) Selection: Round schedule 40 aluminum pipe. (Size of pipe per manufacturer’s standard dependent upon length and width of gangway).

2. Gangway Safety

a. Continuous 1 1/4“schedule 40 pipe (1.66 O.D.) aluminum grab rails, 34” above top of deck. Handrail gripping surface shall be smooth and continuous throughout gangway.

b. Continuous kick plate shall be 0.25 x 3-inch aluminum flat bar along edge of walking surface on the inside of railing.

c. Continuous rub rail shall be 0.25 x 3-inch aluminum bar midway on inside of railing.

c. Guard rails: 3/4“square aluminum tube vertical pickets such that a sphere with a diameter of 4 inches cannot pass through any opening.

3. Finish: Mill finish.

2.2 MATERIALS

A. Aluminum components shall be constructed of aluminum alloy 6061-T6.

B. Fasteners for aluminum structures shall be stainless series grade 304.

C. All aluminum welding shall be done using 5358 series aluminum filler wire and in accordance with the ANSI / AWS D1.2-97 GMAW / GTAW process.

D. Deck material shall be 1 1/2” x 6” or 1 1/2” x 8” triple I-beam slip-mating extended aluminum planks with no gaps and minimum coefficient of 0.93.

E. Rollers used at the end of the gangway shall be ultra-high molecular weight polyethylene (UHMW) with black UV inhibitor added.

F. Non-hinged end of gangway shall be designed by the gangway manufacturer to attached to a concrete walk.

2.3 FABRICATION

A. General: Design components and field connections required for erection to permit easy assembly.
   1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
   2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.

B. Primary Framing: Shop fabricate framing components to indicated size and section, with baseplates, bearing plates, stiffeners, and other items required for erection. Cut, form, punch, drill, and weld framing for bolted field assembly.

C. Secondary Framing: Shop fabricate framing components to indicated size and section by roll forming or break forming, with baseplates, bearing plates, stiffeners, and other plates required for erection. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Gangway installer to examine concrete abutments prior to installation of fabricated gangways. General Contractor to provide modifications as required per the installer’s instructions.

3.2 INSTALLATION, GENERAL

A. Erect fabricated pedestrian gangway in accordance manufacturer’s written instructions and drawings.

B. Do not field cut, drill, or alter structural members without written approval from the pedestrian gangway manufacturer’s professional engineer.

C. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials and roughen surfaces prior to setting plates. Clean bottom surface of plates.
   1. Set plates for structural members on wedges, shims, or setting nuts as required.
   2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.

3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

D. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
   1. Level and plumb individual members of structure.
   2. Make allowances for difference between temperature at time of erection and mean temperature when structure will be completed and in service.

END OF SECTION 134920

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SECTION 134923 – FABRICATED PEDESTRIAN STEPS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Premanufactured Aluminum Pedestrian Stair System.

B. Related Requirements:

1. Division 3, Section 033000 “Cast-In-Place Concrete” for concrete foundations
2. Division 13, Section 134821 “Fabricated Tower Pedestrian Landing” for associated systems.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of component.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and assembly of work specified.

C. Delegated-Design Submittal: For all premanufactured components specified.

1. Include analysis data indicating compliance with performance requirements and design data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

A. Welding certificates.

B. Letter of Design Certification: Signed and sealed by a qualified professional engineer. Include the following:

1. Name and location of Project.
2. Order number.
3. Name of manufacturer.
4. Name of Contractor.
5. Bridge dimensions including width, length, height.
6. Governing building code and year of edition.
7. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).

8. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.

C. Source quality-control reports.

D. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer.

1. Engineering Responsibility: Preparation of comprehensive engineering analysis and Shop Drawings by a professional engineer who is legally qualified to practice in jurisdiction where Project is located.

B. Design of the aluminum members shall conform t the current edition of The Aluminum Association Specifications and Guidelines for Aluminum Structures.

C. Installer Qualifications: Fabricator of products.

D. Welding Qualifications: Qualify procedures and personnel according to ANSI/AWS D1.2-97 GMAW process, Structural Welding Code – Aluminum."

1. All exposed surfaces shall be smooth and free of sharp or jagged edges.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components specified that fail in materials or workmanship within specified warranty period.

1. Warranty Period: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. The aluminum pedestrian stairs systems shall comply with AASHTO’S Guide Specifications for Design of Pedestrian Bridges.

2.2 PEDESTRIAN STAIRS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Hydro Extrusions LLC (REDD Team), Delhi, LA, or a comparable product by one of the following:

1. G & A Manufacturing.

B. Dimensions, Stairs:

1. Span Length: Refer to drawings
2. Ramp Width: 5’-0”

D. Engineering

1. Uniform Live Load - Stair

a. Stairs treads and stringers shall be designed for a minimum uniform live load of 100 pounds per square foot and a concentrated vertical load of 300 pounds over an area of 4 square inches.

2. Stair Rails

a. Handrail shall be designed to resist a concentrated load of 200 lbs. applied at any point and in any direction at the top of the rail.

b. Handrails shall be designed to resist a simultaneous load o 50 lbs. per linear foot applied horizontally and 100 lbs. per linear foot applied vertically downward at the top of the rail.

c. Guardrail systems shall be designed to resist 200 lb. concentrated horizontal load applied evenly over a one square foot area at any point in the system.

E. Design

1. Riser Height: 7”
2. Handrail Height: Continuous 1 1/4” schedule 40 pipe (1.66 O.D.) aluminum rail 34” and 23” high perpendicularly from the tread nose to top of the rail. Handrail to extent 18” beyond each end of stair.
3. Guard Rails.

a. 1 1/4“ schedule 40 aluminum grab rails, 42” high perpendicularly from tread nose to the top of the rail.
b. Rail shall form a protective barrier such that a sphere with a diameter of 4 inches cannot pass through any opening.

4. Finish: Mill finish.

2.3 MATERIALS

A. Stair treads, stringers and risers shall be constructed using 6000 series aluminum alloy with 6061-T6 for primary structural components.

B. Fasteners for aluminum structures shall be stainless series grade 304.

C. All aluminum welding shall be done using 5358 series aluminum filler wire and in accordance with the ANSI / AWS D1.2-97 GMAW / GTAW process.

D. Trend material shall be extended aluminum planks with no gaps and minimum coefficient of 0.93.

2.4 FABRICATION

A. General: Design components and field connections required for erection to permit easy assembly.
   1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
   2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.

B. Primary Framing: Shop fabricate framing components to indicated size and section, with baseplates, bearing plates, stiffeners, and other items required for erection. Cut, form, punch, drill, and weld framing for bolted field assembly.

C. Secondary Framing: Shop fabricate framing components to indicated size and section by roll forming or break forming, with baseplates, bearing plates, stiffeners, and other plates required for erection. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Stair installer to examine attachment conditions prior to installation of fabricated stairs. Contractor to provide modifications as required per the installer’s instructions.

3.2 INSTALLATION, GENERAL

A. Erect fabricated pedestrian stairs in accordance manufacturer’s written instructions and drawings.

B. Do not field cut, drill, or alter structural members without written approval from the pedestrian landing manufacturer’s professional engineer.

C. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials and roughen surfaces prior to setting plates. Clean bottom surface of plates.
   1. Set plates for structural members on wedges, shims, or setting nuts as required.
   2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
   3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

D. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
   1. Level and plumb individual members of structure.
   2. Make allowances for difference between temperature at time of erection and mean temperature when structure will be completed and in service.

END OF SECTION 134920

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SECTION 260000 – SUPPLEMENTARY GENERAL CONDITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes supplementary general requirements for the following:
1. Codes and Standards
2. Conflicting Requirements
3. Specifications and Drawing Conventions
4. Coordination with Occupants
5. Fees, Permits, and Inspection
6. Submittals
7. Products
8. Warranties
9. Electrical License Requirement
10. Operation and Maintenance Manuals
11. Demolition, Salvage, and Waste
12. General Coordination for Electrical Work
13. Cutting and Patching
14. Excavation and Trenching
15. Painting
16. Continuity Tests
17. Connection Torque Tests
18. Mechanical Operation Tests
19. Rotational Tests

1.3 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Engineer. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

J. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
   1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
   3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

K. Basis-of-Design Product: A product in which a specific manufacturer's product is named on the drawings or is accompanied by the words "basis-of-design product" in the specifications, including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

L. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

M. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

N. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

O. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

P. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

Q. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

R. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

S. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 CODES, STANDARDS, and references

A. All materials and workmanship shall comply with all applicable codes, specifications, local ordinances, industry standards and utility company regulations. Where specific code requirements apply, they shall be included in the job, whether or not specifically shown or elsewhere specified.

B. The latest applicable edition of specifications and standards of issues listed below but referred to thereafter by basic designation only, form a part of these specifications:
1. National Electrical Code
2. National Fire Protection Association's Recommended Practices
3. Local, City & State Codes & Ordinances
4. National Electrical Safety Code
5. Underwriter's Laboratories, Inc.
6. Illumination Engineering Society
7. Institute of Electrical & Electronic Engineers
8. Insulated Power Cable Engineers Association
9. National Electrical Manufacturers Association
10. Earthquake Requirement of the International Building Code
11. American Society for Testing Materials
12. Occupational Safety & Health Act
13. Service requirements of serving utility company
14. Americans with Disabilities Act (ADA)
15. ASHRAE / IESNA Standard 90.1
16. Arkansas Energy Code

1.5 CONFLICTING REQUIREMENTS

A. Conflicting requirements: If compliance with standards, codes, regulations, and specifications establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Engineer for a decision before proceeding.

1.6 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
   1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
   2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
   3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.7 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy site during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
   1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
   2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.8 WORK RESTRICTIONS

A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
   1. Notify Owner not less than 7 days in advance of proposed utility interruptions.

1.9 FEES, PERMITS, AND INSPECTIONS

A. This Contractor shall be responsible for all costs incurred to provide necessary temporary power, anticipated to be for instance a 5kW portable generator, and battery-powered hand carried tools.

B. The Contractor shall be responsible for coordinating with the municipal authority, and/or Owner prior to bidding, on all aspects of the fees, permits, and inspections. Failure to do so will not constitute sufficient grounds for an authorized change order to the project.

1.10 PROJECT / SITE CONDITIONS:

A. Install Work in locations shown on Drawings. The Architect / Owner reserves the right to relocate any device a maximum distance of 6’ - 0” at the time of installation without an extra cost being incurred.

B. Prepare drawings showing proposed rearrangement of Work if necessary to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of Architect / Engineer before proceeding.

1.11 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. The Contractor shall submit five (5) copies to the Architect for approval, a list of all equipment he proposes to furnish, together with descriptive literature, capacities, manufacturer's name, approximately delivery date and any other pertinent facts concerning the various items. The submittal shall consist of a tabulation of all items included, followed by catalog and data sheets, wiring diagrams, etc., all bound in one folder, loose leaf sheets will not be acceptable.
2. The equipment listed herein or on the drawings will be furnished as specified unless scheduled "or equal". If "or equal" is indicated, the product of any reputable manufacturer regularly engaged in the commercial production of the specified equipment will not be excluded on the basis of minor differences, provided all essential requirements of this specification relative to materials, limitations of available space for equipment, capacity, and performance are met. The Contractor shall be responsible for any and all additional costs required by modifications to architectural, structural, mechanical or electrical facilities, devices, systems, etc. resulting from the approved substitution.
3. Wherever the substituted equipment actually furnished under these specifications requires the use of larger connections, more connections, or a different connection arrangement than indicated on the drawings or specified under these specifications, the Contractor shall furnish a scaled drawing showing how he proposes to install substituted equipment. Drawings shall show clearances and be coordinated with other mechanical and electrical equipment in the space. Should a substitution require the Architect or Engineer to provide additional services to accommodate it, the Contractor shall be responsible for costs incurred by the Architect or Engineer.
4. The Contractor shall submit shop drawings to the Architect in accordance with the schedule prepared by the General Contractor but not later than 45 calendar days after the date of the agreement. Failure to submit shop drawings within 45 days, shall disqualify the Contractor from substituting specified equipment.
5. The contractor shall not install any equipment or materials until the shop drawings for the equipment or materials have been approved.
6. The Contractor shall submit five (5) copies to the Architect for approval, a list of all equipment he proposes to furnish, together with descriptive literature, capacities, manufacturer's name, approximately delivery date and any other pertinent facts concerning the various items. The submittal shall consist of a tabulation of all items included, followed by catalog and data sheets, wiring diagrams, etc., all bound in one folder, loose leaf sheets will not be acceptable.
7. The equipment listed herein or on the drawings will be furnished as specified unless scheduled "or equal". If "or equal" is indicated, the product of any reputable manufacturer regularly engaged in the commercial production of the specified equipment will not be excluded on the basis of minor differences, provided all essential requirements of this specification relative to aesthetics, materials, limitations of available space for equipment, capacity, and performance are met. The Contractor shall be responsible for any and all additional costs required by modifications to architectural, structural, mechanical or electrical facilities, devices, systems, etc. resulting from the approved substitution.
8. Wherever the substituted equipment actually furnished under these specifications requires the use of larger connections, more connections, or a different connection arrangement than indicated on the drawings or specified under these specifications, the Contractor shall furnish a scaled drawing showing how he proposes to install substituted equipment. Drawings shall show clearances and be coordinated with other mechanical and electrical equipment in the space. Should a substitution require the Architect or Engineer to provide additional services to accommodate it, the Contractor shall be responsible for costs incurred by the Architect or Engineer.

9. The Contractor shall submit shop drawings to the Architect in accordance with the schedule prepared by the General Contractor but not later than 45 calendar days after the date of the agreement. Failure to submit shop drawings within 45 days, shall disqualify the Contractor from substituting specified equipment.
10. The contractor shall not install any equipment or materials until the shop drawings for the equipment or materials have been approved.
11. Engineer will return annotated file.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal from Architect. Submittals shall not be presented directly to Engineer. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 14 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
2. Resubmittal Review: Allow 14 days for review of each resubmittal.

D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Name file with submittal number or other unique identifier, including revision identifier.
2. Transmittal Form for Electronic Submittals: Use electronic form containing the following information:
   a. Project name.
   b. Name and address of Architect
   c. Name and address of Engineer.
   d. Name of Construction Manager.
   e. Name of Contractor.
   f. Name of firm or entity that prepared submittal.
   g. Names of subcontractor, manufacturer, and supplier.
   h. Category and type of submittal.
   i. Specification Section number and title.
   j. Indication of full or partial submittal.
   k. Remarks.

E. Options: Identify options requiring selection by Architect or Engineer.

F. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of revision in label or title block and clearly indicate extent of revision.
2. Resubmit submittals until they are marked with approval notation from Engineer.

1.12 CLOSEOUT SUBMITTALS

A. Closeout submittals shall include, but not limited to, the following:
1. Operation and Maintenance Materials
2. Record Drawings
3. Demonstration and Training Materials

1.13 QUALITY ASSURANCE

A. Products:
1. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
a. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
b. If a dispute arises between contractors over concurrently selectable but incompatible products, Engineer will determine which products shall be used.

1.14 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:
1. There is no long-term storage at Project site.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:
1. Store products to allow for inspection and measurement of quantity or counting of units off-site at a secure location under control of contractort.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements in a warehouse, not outside.
4. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
5. Protect stored products from damage.
6. There is no long-term storage at Project site. A two-axel trailer and two work trucks may be parked at the site during working hours. Coordinate location with Owner.

1.15 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Submit warranties in accordance with “Closeout Procedures.”

1.16 FIELD CONDITIONS

A. The Contractor shall visit the site of the building before submitting a proposal on this work, and shall thoroughly familiarize himself with the existing conditions and operations. Failure on his part to do this will not be cause of extras after the contract is signed, by reason of unforeseen conditions.

1.17 GUARANTEE/WARRANTY

A. The work herein specified shall be free from defects in workmanship and material under normal use and service. If, within twelve (12) months from date of substantial completion and Owner acceptance of the work herein described, any of the equipment or materials, or the installation thereof, is found to be defective in workmanship or material, it shall be replaced or repaired free of charge.

B. The Contractor shall, after completion of the original test of the installation, and acceptance by the Engineer, provide any service incidental to the proper performance of the electrical systems under guarantees outlined above for a period of 1 full year after acceptance by the Engineer and Owner. Regardless of anything to the contrary in warranties by the equipment manufacturer involved, the Contractor's warranty shall run for 1 full year after final acceptance by the Engineer.

1.18 ELECTRICAL LICENSE REQUIREMENT

A. No person shall perform electrical work on the contract without possessing a Master’s or Journeyman’s License from the State Electrical Examiners Board. All electrical work and apprentice electricians shall be supervised by a Master or Journeyman Electrician on a one to one ratio.

B. All electricians shall have a copy of their license with them and shall be required to show it to an appropriate inspector upon request.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
   1. Submit electronic submittals to Engineer.
      a. Engineer will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. Mark each copy of each submittal to show which products and options are applicable.
   2. Include the following information, as applicable:
      a. Manufacturer's catalog cuts.
      b. Manufacturer's product specifications.
      c. Standard color charts.
      d. Statement of compliance with specified referenced standards.

e. Testing by recognized testing agency.
f. Application of testing agency labels and seals.

3. For equipment, include the following in addition to the above, as applicable:
   a. Wiring diagrams showing factory-installed wiring.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale and sufficiently large to show all pertinent features of the item, method of connections, and notations clearly legible. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Engineer's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.

2.2 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: Provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Where two or more units of materials or equipment of the same type or class are required, these units shall be products of one manufacturer.
4. Products containing asbestos shall not be used.
5. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
   a. Restricted List: Products by manufacturer Valen are specifically excluded.
4. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

2.3 COMPARABLE PRODUCTS

A. Conditions for Consideration: Engineer will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Engineer may return requests without action, except to record noncompliance with these requirements:
   1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
   2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
   3. Evidence that proposed product provides specified warranty.
   4. Contractor is responsible for any modification required by products other than the basis of design product at no additional cost to the owner including but not limited to modifications to supports and connections.
   5. Satisfaction of owner

2.4 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. After approval of materials and equipment for use in this project, a copy of an Operation and Maintenance Manual shall be submitted for approval.

B. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
   1. List of documents.
   2. List of equipment.
   3. Table of contents.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

E. Upon final approval, submit one (1) bound copy of the approved Operation and Maintenance Manual to the Architect and hold two (2) copies for instruction of Owner as hereinafter specified.

2.5 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
   1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
   2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

2.6 EQUIPMENT AND MATERIALS:

A. All materials shall be new and shall bear the manufacturer's name, trade name and the UL label in every case where a standard has been established for the particular material. The equipment to be furnished under each section of the specification shall be essentially the standard product of a manufacturer regularly engaged in the production of the required type of equipment, and shall be the manufacturer's latest approved design.

B. When 2 or more units of materials or equipment of the same type or class are required, these units shall be products of 1 manufacturer. Equipment and materials of the same general type shall be of the same make throughout the work to provide uniform appearance, operation and maintenance. Manufacturers of equipment assemblies, which use components made by others, assume complete responsibility for the final assembled product.

C. Nameplate bearing manufacturer's name or identifiable trademark shall be securely affixed in a conspicuous place on equipment, or name or trademark cast integrally with equipment, stamped or otherwise permanently marked on each item of equipment.

D. Asbestos products or equipment or materials containing asbestos shall not be used.

E. Equipment and materials shall be delivered to the site and stored in the original containers, suitably sheltered from the elements, on the day of their installation. Long term storage in not available on site. Items subject to moisture damage (such as controls) shall be stored in dry, heated space off site.

F. Equipment shall be tightly covered and protected against dirt, water, and chemical or mechanical injury and theft. At the completion of the work, fixtures, equipment, and materials shall be cleaned and polished thoroughly. Damage or defects developing before acceptance of the work shall be made good at the Contractor's expense.

G. It shall be the responsibility of the Contractor to insure that items to be furnished fit the space available. The Contractor shall make necessary field measurements to ascertain space requirements, including those for connections, and shall furnish and install such sizes and shapes of equipment that the final installation shall suit the true intent and meaning of the Drawings and Specifications.

H. Manufacturer's directions shall be followed completely in the delivery, storage, protection, and installation of all equipment and materials. Should the Contractor perform any work that does not comply with the manufacturer's directions, he shall bear all costs arising in correcting the deficiencies.

2.7 EQUIPMENT ACCESSORIES:

A. The Contractor shall furnish and install all equipment, accessories, connections, and incidental items necessary to fully complete the work, ready for use by the Owner, whether or not specifically shown on the plans or herein specified.

B. Connections: All final connections to equipment shall be installed as required by the manufacturer and/or Vendor.

C. Connections Different From Those Shown: Where equipment requiring different arrangement or connections from those shown is approved, it shall be the responsibility of the Contractor to install the equipment to operate properly with the intent of the drawings and specifications. When

directed, the Contractor shall submit drawings showing the proposed installation. If the proposed installation is approved, the Contractor shall make all incidental changes. The Contractor shall provide any additional equipment required for the proper operation of the system resulting from the selection of equipment, including all required changes in affected trades. The Contractor shall be responsible for the proper location of roughing in and connections by other trades. All changes shall be made at no increase in the contract amount or additional cost to the other trades.

PART 3 - EXECUTION

3.1 CONTRACTOR'S SUBMITTAL REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect..

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ENGINEER'S SUBMITTAL ACTION

A. Action Submittals: Architect and Engineer will both review each submittal, make marks to indicate corrections or revisions required, and return it.

B. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer.

C. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

D. Submittals not required by the Contract Documents may be returned by the A/E team without action.

3.3 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction daily. There is no on-site storage capacity for waste.
   1. Do not allow waste materials that are to be disposed of accumulate on-site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
   3. Disposal: Remove waste materials from Owner's property daily, and legally dispose of them on contractor’s own schedule for waste disposal.

3.4 RECORD DRAWING RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

3.5 COORDINATION OF WORK

A. The Contractor shall compare the Electrical Drawings and Specifications with the drawings and specifications for other trades and shall report any discrepancies between them to the Engineer and obtain written instructions for changes necessary in the Electrical Work. The Electrical Work shall be installed in cooperation with other trades installing related work. Before installation, the Contractor shall make proper provision to avoid interferences. All changes required in the work of the Contractor caused by a failure to coordinate the work with other trades shall be made by the Contractor at his own expense.

B. Anchor bolts, sleeves, inserts and supports that may be required for the Electrical Work shall be furnished under the same section of the specifications as the respective items to be supported, and they shall be installed, except as otherwise specified, by the trade furnishing and installing the material in which they are to be located. Location of anchor bolts, sleeves, inserts and supports shall be directed by the trade requiring them, which trade shall also ensure that they are properly installed. Any expense resulting from the improper location or installation of anchor bolts, sleeves, inserts and supports shall be paid for by the Contractor under the section of the specifications for the trade with the responsibility for directing their proper location.

C. Any modification to the bridge structure required to mount luminaire poles as specified will be provided by the various trades in their respective materials, but the trade requiring them shall see that they are properly located, and shall do any cutting and patching caused by the neglect to do so. Slots, openings and recesses in existing structure shall be cut by the trade requiring them and patched and repaired by that trade.

D. Connections Different From Those Shown: The Contractor shall be responsible for the proper location of roughing in and connections by other trades. All changes after A/E review and approval shall be made at no increase in the contract amount or additional cost to the other trades.

E. Connections: All conduit connecting to equipment shall be installed without strain at the conduit connection

3.6 EXCAVATION AND TRENCHING FOR ELECTRICAL CONDUIT AND POLE BASES

A. The Contractor shall perform all boring or excavation of every description and of whatever substances encountered to the depths indicated on the drawings or as otherwise specified. During excavation, material suitable for backfilling shall be piled in an orderly manner.

B. The Contractor shall remove all rust, oil and grease from exposed surfaces and clean all apparatus or materials specified to be painted under this section of the specifications. Equipment specified to have factory finishes shall be protected until completion of the Contract, with Contractor being responsible for maintaining finishes.

C. Apply paint to exposed piping according to the following, unless otherwise indicated:

3.7 Damage and Touchup: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.

3.8 Galvanized surfaces damaged during installation shall be repaired with a galvanized repair compound. Any equipment scratched, marred or damaged will be repainted to the original condition.

3.9 OPERATION TESTS:

Remote control features using Bluetooth technology including especially those implemented on devices such as tablets or cellular phones must be fully tested and demonstrated to the satisfaction of the owner.

END OF SECTION

SECTION 265600 – EXTERIOR LIGHTING
PART 1: GENERAL

SCHEDULE 0 - RELATED DOCUMENTS

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

SCHEDULE 1 - SUMMARY

A. Section Includes:

1. Exterior luminaires with LEDs and drivers.

2. Luminaire-mounted photoelectric and photovoltaic devices and/or controls

3. Poles and accessories including pole mounted PV panels

SCHEDULE 2 - DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color-rendering index.

C. HID: High-intensity discharge.

D. LER: Luminaire efficacy rating.

E. LED: Light emitting diode

F. Luminaire: Complete lighting fixture including pole, PV panels, LED luminaire, and remote control

G. Pole: Luminaire support structure, including tower used for large area illumination.

H. Standard: Same definition as "Pole" above.

SCHEDULE 3 - ACTION SUBMITTALS

A. Product Data: For each luminaire, pole, and support component, arranged in order of lighting unit designation. Provide manufacturer specification sheets with highlighted options.

SCHEDULE 4 - CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For luminaires to include in normal operation, with maintenance manuals.

SCHEDULE 5 - MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents as available from and recommended by the manufacturer.

SCHEDULE 6 - QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

SCHEDULE 7 - DELIVERY, STORAGE, AND HANDLING See 260000

A. Store poles on decay-resistant-treated skids in a warehouse. There is no long-term storage at Project site.

B. Support poles to prevent distortion and arrange to provide free air circulation.

C. Retain factory-applied pole wrappings on metal poles until right before pole installation. For poles with nonmetallic finishes, handle with web fabric straps.

SCHEDULE 8 - WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs or alterations from special warranty coverage.

1. Warranty Periods from date of Substantial Completion
   a. Luminaires: 10 years
   b. Metal Corrosion: 10 years
   c. Solar Panels:
      1) At least 90% output in years 0-10
      2) At least 83.5% output in years 10-20
      3) At least 80% output in years 20-25

2. Warranty Period for Color Retention: 10 years from date of Substantial Completion.

3. Warranty Period for Poles: Repair or replace lighting poles and standards that fail in finish, materials, and workmanship within 10 years from date of Substantial Completion.

PART 2: PRODUCTS

SCHEDULE 0 - MANUFACTURERS

A. Products: Products are limited to product(s) indicated on Drawings unless a substitute is explicitly approved by A/E within 30 days of issuance of notice to proceed.

B. Clearworld basis of design, see fixture schedule.

C. Products by manufacturer Valen are specifically excluded.

SCHEDULE 1 - GENERAL REQUIREMENTS FOR LUMINAIRES

A. Luminaires shall be listed and labeled for installation in wet locations.

B. Metal Parts: Free of burrs and sharp corners and edges.

C. Exposed Hardware Material: Stainless steel.

D. Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.

E. Lenses and Refractors Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.

F. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and tested luminaire before shipping.

G. Color: Provide painted finish from manufacturer’s standard colors. Confirm paint color and all other finish details with Architect.

SCHEDULE 2 - LED light emitting diodes and drivers

A. Description: Solid State LED, light emitting diodes, and PV compatible driver. The luminaire shall be a single, self-contained, device, fully assembled for installation. Clearworld basis of design. See fixture schedule.

SCHEDULE 3 - GENERAL REQUIREMENTS FOR POLES: Clearworld basis of design.

A. Structural Characteristics:

1. Wind-Load Strength of Poles: Adequate at indicated heights above grade without failure, permanent deflection, or whipping in steady winds.

B. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless-steel fasteners and mounting bolts unless otherwise indicated.

C. Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.

1. Materials: Shall not cause galvanic action at contact points.

2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication unless otherwise indicated.

3. Anchor-Bolt Template: Plywood or steel.

D. Handhole: Oval-shaped, with minimum clear opening of 2-1/2 by 5 inches, with cover secured by stainless-steel captive screws. Concrete Pole Foundations: Cast in place, with anchor bolts to match pole-base flange.

E. Power-Installed Screw Foundations: Factory fabricated by pole manufacturer, with top-plate and mounting bolts to match pole base flange and strength required to support pole, luminaire, and accessories.

F. Power and Control: For each pole

1. Provide flexible PV panels and batteries: 60AH LiION battery and 400 W flexible PV panel

2. Provide RetroFlex Bluetooth Bridge and App for all control features.

SCHEDULE 4 - POLES FOR LUMINAIRES

A. Poles: 20’ straight aluminum, 4’ cap arm and 11” base. Clearworld basis of design.

1. Shape: per fixture schedule

2. Mounting Provisions: factory standard

3. Provide all miscellaneous hardware for installation

B. Mast Arms: Material and finish same as pole and to mount luminaire head

C. Brackets for Luminaires: Detachable, cantilever, without underbrace.

1. Match pole material and finish.

D. Intermediate Handhole and Cable Support: Weathertight, 3-by-5-inch handhole as necessary to wire and service the PV panels.

E. Grounding and Bonding Lugs: Welded 1/2-inch threaded lug, listed for attaching grounding and bonding conductors of type and size accessible through handhole or exposed but hidden by shroud at foot of pole.

F. Factory-Painted Finish: Applied by manufacturer at the factory prior to shipment.

G. Color: Provide painted finish from manufacturer’s standard colors. Confirm paint color and all other finish details with Architect.

PART 3: EXECUTION

SCHEDULE 0 - LUMINAIRE INSTALLATION

A. Install PV panels to pole as directed by manufacturer

B. Fasten luminaire to indicated structural supports as directed by manufacturer

C. Orient luminaires as shown on drawings, to assure optimum illumination of footpaths and bridge

SCHEDULE 1 - POLE INSTALLATION

A. Alignment: Align pole foundations and poles for optimum directional alignment of luminaires and their mounting provisions on the pole to assure illumination of bridge and footpath.

B. Clearances: Maintain the following minimum horizontal distances of poles from surface and underground features unless otherwise indicated on Drawings:

1. Fire Hydrants and Storm Drainage Piping: 5 feet.

2. Water, Gas, Electric, Communication, and Sewer Lines: 5 feet.

3. Trees: 10 feet from tree trunk.

C. Concrete Foundations for poles: Set anchor bolts according to anchor-bolt templates furnished by pole manufacturer. Mount pole with leveling nuts, and tighten top nuts to torque level recommended by pole manufacturer.

1. Grout void between pole base and foundation. Use non-shrink or expanding concrete grout firmly packed to fill space.

2. Use a short piece of 1/2-inch diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole.

D. Raise and set poles using web fabric slings (not chain or cabled)

SCHEDULE 2 - GROUNDING

A. Ground metal poles and support structures:

1. At each pole, provide (1) copper clad 10’ ground rod bonded to the metal pole with copper #6 green grounding conductor pigtail using exothermic welding.

2. Install ½” PVC conduit for mechanical protection of the green ground bonding conductor as shown on drawings, terminated under and hidden by the manufacturer provided leveling nut cover.

3. Install copper #6 green THWN ground bonding conductor pigtail in the base for connecting luminaire to ground rod.

SCHEDULE 3 - FIELD QUALITY CONTROL

A. Provide installation training by certified Clearworld Installer

B. Inspect each installed fixture for damage. Replace damaged fixtures and components.

C. Illumination Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with PV power source.

1. Test Bluetooth remote control features including especially those implemented on devices such as tablets or smart cellular phones must be fully tested

2. Demonstrated operation of Bluetooth App and train owner to the satisfaction of the owner.

END OF SECTION

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SECTION 311100 - CLEARING AND GRUBBING

PART 1 GENERAL

1.1 WORK INCLUDED

A. Clearing and grubbing site and street right-of-way.

B. Disposing of removed material

1.2 RELATED WORK

A. Section 312000 – Earth Moving.

1.3 SUBMITTALS

A. See Related Work

PART 2 PRODUCTS

A. No Products included

PART 3 EXECUTION

3.1 SITE PREPARATION & PROTECTION

A. Protection of Existing Improvements.

1. Provide protections necessary to prevent damage to existing improvements indicated to remain in place.

2. Protect improvements on adjoining properties.

3. Restore damaged improvements to their original condition, as acceptable to Architect/Engineer or other parties having jurisdiction.

B. Protection of Existing Trees and Vegetation:

1. Protect existing trees and other vegetation, indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bank, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.

2. Water trees and other vegetation to remain within limits of contract work as required to maintain their health during course of construction operations.

3. Repair or replace trees and vegetation indicated to remain which are damaged by construction operations, in manner acceptable to the Architect/Engineer. Employ qualified tree surgeon/arborist to repair damage to trees and shrubs.

3.2 SITE CLEARING

A. General: clear construction areas of trees, vegetation, improvements, debris, or other obstructions interfering with installation of new construction. Remove such items elsewhere on site or premises as specifically indicated. Tree removals include the removal of root balls and roots.

B. Removal of Improvements: Remove above-grade and below-grade improvements necessary to permit construction, and other work as indicated.

C. Abandonment or removal of certain underground pipe or conduits may be shown on mechanical or electrical drawings, and is included under work of this section. Removal of all other abandoned underground piping or conduit interfering with construction is included under this section.

3.3 DISPOSAL OF WASTE MATERIALS

A. Burning is not permitted on Owner's property.

B. Remove cleared waste materials from Owner's property and dispose of at an off site location secured by the contractor.

END OF SECTION 311100

SECTION 312000 - EARTH MOVING

PART 1 GENERAL

1.1 WORK INCLUDED

A. Stripping and stockpiling surface layer of topsoil and organic matter in building and traffic areas and in all cut and fill areas.

B. Removing and disposing of material unsuitable for use in controlled fill.

C. Excavating site to required subgrade for controlled fill and grading site to required slopes.

D. Placing and compacting excavated material and borrow material to required density and at required subgrade and slope for structures, pavement areas, and other controlled fills.

1.2 RELATED WORK

A. Section 312216 – Fine Grading.

B. Section 330516 – Manholes and Structure.

1.3 REFERENCE STANDARDS

A. ASTM D422 – Particle Size Analysis of Soils.

B. ASTM D4318 – Test for Liquid Limit of Soils.

C. ASTM D4318 – Test for Plastic Limit of Soils.

D. ASTM D2216 – Method of Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil Aggregate Mixtures.

E. ASTM D3017 – Moisture Content on Soil Aggregates in Place by Nuclear Methods (Shallow Depth).

F. ASTM D698 – Standard Test Method for Moisture Density, Relations of Soils, and Soil Aggregate Mixtures Using 5.5 lb Rammer and 12” Drop.

G. ASTM D1557 – Standard Test Methods for Moisture Density Relations of Soils and Soil Aggregate Using 10 lb. Rammer and 18” Drop.

H. ASTM D2922 – Density of Soil and Soil Aggregates in Place by Nuclear Method (Shallow Depth).

1.4 SUBMITTALS

A. See Related Work

1.5 SITE CONDITIONS

A. Establish positive surface drainage during and following clearing and grading activities using proper ditching and sloping methods.

B. Provide erosion control measures to prevent mud and slit from flowing onto adjacent property.

C. Erect sheeting, shoring, and bracing as necessary for protection of persons, utilities improvements, and excavations.

PART 2 PRODUCTS

2.1 SUITABLE MATERAILS FOR CONTROLLED FILL

A. On site excavated soils:

1. Unified Soils Classification Systems Soils.

a. Class SC

b. Class GC

c. Class CL

2. Soils having Liquid Limit of less than 45, Plasticity Index (PI) of 20 or less.

3. Other soils approved by the Engineer.

B. Borrow Material:

1. Soils meeting the requirements of sub-paragraph A.1 of this Article.

2.2 UNSUITABLE MATERIAL FOR CONTROLLED FILL

A. All areas: Organic top soils, soils containing roots, vegetable matter, or trash, and silts (ML) and clays (CH), and cobbles and fractured rock more than 3 inches in greatest dimension.

PART 3 EXECUTION

3.1 SUBSURFACE INVESTIGATION

A. The Contractor is responsible for having a thorough knowledge of all Drawings, Specifications, General and Supplementary Conditions, existing site conditions, and other Contract Documents. Failure to acquaint himself with this knowledge does not relieve him of the responsibility for performing his work in a manner acceptable to the Owner. No additional compensation will be allowed because of conditions that occur due to failure by the Contractor to familiarize himself and all workers with this knowledge.

B. Protection of Existing Trees and Vegetation:

1. Protect existing trees and other vegetation, indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bank, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.

2. Water trees and other vegetation to remain within limits of contract work as required to maintain their health during course of construction operations.

3. Repair or replace trees and vegetation indicated to remain which are damaged by construction operations, in manner acceptable to the Architect/Engineer. Employ qualified tree surgeon to repair damage to trees and shrubs.

3.2 PREPARATION

A. Complete clearing work, removing visible unsuitable materials from site.

B. Protect benchmarks, site corner pins and existing street paving from damage by equipment.

C. Stake the work:

D. Before starting the excavation, establish location and extent of underground utilities occurring in work area.

E. Notify utility companies of lines which are in the way of excavation.

F. Protect existing utility lines to remain which pass through the work area.

G. Protect utility services uncovered by excavation.

H. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

I. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

3.3 EXCAVATION PROCEDURES

A. Excavation General:

1. Strip topsoil in cut and fill areas to whatever depths encountered in a manner to prevent intermingling with underlying subsoil or other objectionable material. Remove and dispose of heavy growth of grass and surface debris from areas prior to stripping topsoil.

    a. Where trees are indicated to be left standing, stop topsoil stripping a sufficient distance to prevent damage to main root system.

2. Stockpile topsoil in storage piles in areas shown, or where directed. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent wind-blown dust.

3. Remove soft or spongy material at the exposed sub-grade of cut and fill areas and replace with approved material and compact.

4. Use all suitable excavated material, as far as practicable, in the formation of controlled fills and fill slopes.

5. Keep all excavations dry by pumping or draining water from the Work.

6. In cut areas where fill is not required proof roll the areas with a loaded tandem axle dump truck or similar equipment to aid in identifying soft areas. Remove soft soils and replace with controlled fill. Scarify exposed sub-grade soils to a depth of at least 8 inches, adjust the soil mixture, and recompact to the same density as required for each layer of controlled fill.

7. Grade excavated slopes to a neat, smooth condition with no loose material or scars left on the surface.

8. Dispose of debris, excess topsoil, excess fill material and unsuitable material at an off site location secured by the contractor.

3.4 CONTROLLED FILL

A. After excavation and before fill placement, proof roll fill areas with a loaded tandem axle dump truck or similar equipment to aid in identifying soft areas. Remove soft areas and replace with controlled fill.

B. Scarify cleared surface in fill areas to a depth of at least 8 inches, adjust the soil mixture, and recompact to the same density as required for each layer of controlled fill.

C. Place fill material in lifts no greater than 8-inch loose-lift uniform thickness and compact to 95% MAX Dry Density as determined by the Modified Proctor Test, ASTM D1557.

1. Aerate material when too wet by manipulation with suitable equipment before compacting.

2. Add water when soil is too dry and mix with the material before compacting.

D. Complete excavation and controlled fill elevations to match finish grade, less the depth of topsoil specified for sodded and seeded areas in the landscape plan.

3.5 FIELD QUALITY CONTROL

A. Field density tests will be performed per ASTM D6938.

B. Frequency of Tests:

1. Tests shall be made every day fill is being placed and representative lifts tested.

2. At least one test per 2,500 sq. ft. under buildings and structural areas.

3. At least one test per 5,000 sq. ft. under paved areas.

4. At least one test per 10,000 sq. ft. in general areas.

5. Contractor to notify engineer when fill work is in progress.

6. Test locations will be selected at random by engineer with an effort made to select areas of questionable compaction.

7. Retesting required because of nonconformance to specified requirements shall be performed by the same agency on instruction from the engineer.

8. Retesting required because of nonconformance to specified requirements shall be paid for by the contractor. Payment for retesting or re-inspection will be charged to the contractor by deducting testing charges from the contact sum/price.

END OF SECTION 312000

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SECTION 312216 - FINE GRADING

PART 1 GENERAL

1.1 WORK INCLUDED

A. Stripping and stockpiling surface layer of topsoil and organic matter in all cut and fill areas.

B. Excavating and grading open drainage ditches.

C. Placing and compacting excavated material or borrow material to required density and at required subgrade and slope for roadway embankment and other compacted fills.

D. Removing and disposing of excess excavated material.

1.2 RELATED WORK

A. Section 312000 – Earth Moving.

B. Section 330516 – Manholes and Structure.

1.3 SUBMITTALS

A. See Related Work

1.4 SITE CONDITIONS

A. Establish positive surface drainage during and following stripping, embankment construction, and roadway grading by proper ditching or slopping.

B. Provide measures to prevent mud and silt from flowing onto adjacent property.

C. Erect sheeting, shoring, and branching as necessary for protection of persons, improvements, and excavations.

PART 2 PRODUCTS

2.1 SUITABLE MATERIAL FOR COMPACTED EMBANKMENT

A. Select fill consisting of sandy clay, clayey sand or clayey gravel having a liquid limit less than 40.

B. On-site excavated soils meeting the requirements of Paragraph A above.

C. Material meeting the requirements of selected material as described in Section 210 of the Arkansas State Highway Department’s Standards Specifications for Highway Construction, Edition of 2003.

2.2 UNSUITABLE MATERIAL FOR COMPACTED EMBANKMENT

A. All areas: Organic topsoil's, soils containing roots, vegetable matter, or trash, and cobbles and fractured rock more than 3 inches in greatest dimension.

PART 3 EXECUTION

3.1 PREPARATION

A. Remove visible unsuitable materials from the site before beginning stripping and site grading operation.

B. Notify Architect/Engineer when work is ready to be staked.

C. Notify the geotechnical engineer representing the Owner's selected testing laboratory at least 48 hours before planned time to begin placing embankment material.

3.2 EXCAVATION PROCEDURES

A. Excavation, General:

1. Strip topsoil in cut and fill areas to whatever depths encountered in a manner to prevent intermingling with underlying subsoil or other objectionable material. Remove and dispose of heavy growth of grass and surface debris from areas prior to stripping topsoil.

    a. Where trees are indicated to be left standing, stop topsoil stripping a sufficient distance to prevent damage to main root system.

2. Stockpile topsoil in storage piles in areas shown, or where directed. Construct storage piles to freely drain surface water. Cover storage piles if required to prevent wind-blown dust.

3. Remove soft or spongy material at the exposed sub-grade of cut and fill areas and replace with approved material and compact.

4. Use all suitable excavated material, as far as practicable, in the formation of controlled fills and fill slopes.

5. Keep all excavations dry by pumping or draining water from the work site.

6. Grade excavated slopes to a neat, smooth condition with no loose material or scars left on the surface.

7. Protect existing asphalt paving and structures designed to remain from drainage by excavation and grading operations.

8. Dispose of debris, excess topsoil, excess fill material and unsuitable material at an off site location secured by the contractor.

B. Excavation, roadway:

1. Excavate and grade to within ±0.1 foot of required subgrade elevations.

2. Grade back slopes to the slope shown on the Drawings.

3. Remove soft or spongy material at the exposed subgrade of cut and fill areas and replace with select material and compact to the same density as required for compacted fill. Identify soft areas by proof rolling with a loaded tandem axle dump truck or similar equipment.

4. DO not allow subsoil in roadbed area to become saturated. Maintain positive surface drainage during and following excavation, grading, and filling operations.

5. Where compacted fill is required, scarify stripped surface to a depth of at least 8 inches, adjust the soil moisture, and recompact to the same density as required for each layer of compacted fill.

3.3 COMPACTED EMBANKMENT

A. Start embankment full width of bottom of embankment cross-section and construct to specified grade over full width in uniform layers.

B. Place fill material in lifts no grater than 8 inch loose-lift uniform thickness and compact to a minimum of 95% of maximum dry density at or near optimum moisture content as determined by the Modified Compaction Procedures, ASTM D1557.

   1. Add Water when soil is too dry and mix the material before compacting.

   2. Aerate material when too wet by manipulation with suitable equipment before compacting.

C. Do not place next lift until the in-place density and moisture content of the preceding lift has been verified.

D. Geotechnical engineer will inspect and test soil for suitability for use in embankment and for need to perform additional “Proctors” as soil composition changes during progress of excavation. Do not compact layer of soil that geotechnical engineer has determined to be a “change in soil composition” until it has been determined to be suitable and a “Proctor” has been run.

E. Coordinate with the geotechnical engineer and provide the necessary assistance to perform the tests. Initial soil testing costs shall be paid for as outlined in the testing specification of the front end documents. Should the tests be unsatisfactory, the Contractor shall be responsible for obtaining and paying for additional tests, which will be performed by an independent laboratory approved by Owner and Engineer.

F. Maintain stability of compacted embankment. Replace or repair portions which have eroded due to elements or to Contractor negligence.

G. Grade for slopes and other embankment areas not to be paved, to neat, smooth conditions with no loose material or scars left on surface. Fill and grade slopes to within three inches of finish grade elevations to allow for topsoil, sod and other landscaping.

3.4 PROTECTION

A. As soon as embankment is completed, proceed with riprap work and notify architect/Engineer that slopes are ready for erosion protection by landscaping contractor.

END OF SECTION 312216

SECTION 312316 - EXCAVATION

PART 1 GENERAL

1.1 WORK INCLUDED

A. Excavating rock encountered during trenching for utility lines and excavating for manholes by mechanical methods. Blasting is not allowed.

B. Disposing of excavated rock material.

1.2 RELATED WORK

A. Section 331100 – Water Utility Distribution Piping.

B. Section 333100 – Sanitary Utility Sewerage Piping.

C. Section 333900 - Sanitary Utility Sewerage Structures.

1.3 SUBMITTALS

A. See Related Work

PART 2 PRODUCTS

2.1 MATERIALS

A. Definition of rock: All solid rock formation that, in the opinion of the Engineer, cannot be excavated by using power shovels or other power excavators which are of recognized manufacture and design, of adequate size and operated by qualified operators without continuous and systematic blasting, barring or wedging. It shall include boulders or pieces of detached rock exceeding one cubic yard in volume and solid rock formations which are interspersed with strata of clay or other material provided however that the solid rock constitutes at least 75% of the total volume of the particular formation. The conventional heavy-duty excavating equipment may be defined as a Caterpillar D-6 bulldozer with single tooth ripper, a Caterpillar 325 track excavator equipped with a single tooth ripper and rock teeth, or equipment of similar power and capability. Rock excavation volumes should be determined based on in-place measurements via cross sectioning. If excavation is to be unclassified, the contractor must be responsible for assessing rock excavation requirements.

PART 3 EXECUTION

3.1 INSPECTION

A. Verify site conditions and note irregularities affecting work of this section.

B. Beginning work of this section means acceptance of existing condition.

3.2 ROCK EXCAVATION – GENERAL

A. Excavate rock encountered in excavating for manholes and trenching for water and sewer lines.

B. De-watering: Provide temporary adequate de-watering equipment to keep excavations free of standing water during rock excavation.

3.3 ROCK EXCAVATION – MECHANICAL METHOD

A. Excavate for and remove rock by the mechanical method.

B. Cut away rock at excavation bottom to form level bearing.

C. Remove shaled layers to provide sound and unshattered base for subgrade levels.

D. Remove Excavated Material from Site.

END OF SECTION 312316

SECTION 312500 - EROSION AND SEDIMENTATION CONTROLS

PART 1 GENERAL

1.1 WORK INCLUDED

A. This work shall consist of temporary erosion control measures needed to control erosion and water pollution, through the use of berms, sediments basins, sediments dams, silt fences, silt dikes, and temporary seeding.

B. Temporary erosion control measures shall be performed promptly when problems occur or when potential problems are anticipated in certain areas in order to minimize soil erosion. The temporary erosion control measures shall be properly maintained until permanent erosion control features are functioning properly.

C. The Contractor shall comply with all Federal, State, and Local laws and regulations controlling pollutions of the environments. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds and reservoirs with fuel, oils, bitumens, chemicals, soil sedimentation or other harmful materials and to prevent pollution of the atmosphere from particulate gaseous matter.

1.2 RELATED WORK

A. Section 311100 –Clearing and Grubbing

B. Section 312000 – Earth Moving

1.3 SUBMITTALS

A. See Related work

1.4 QUALITY ASSURANCE

A. Prior to start of the construction, the Contractor shall submit, to the Owner and Engineer, his schedule for temporary and permanent erosion control work based on the Engineer's erosion control base plan, as is applicable for clearing & grubbing, grading and trenching. The location of the project, type of soil, topography and proximity to watercourses shall be considered when imposing such limitations.

PART 2 PRODUCTS

2.1 FILTER FABRIC

A. The filter fabric for silt fence shall be as indicated on the drawings.

PART 3 EXECUTION

3.1 PERMITTING

A. The Contractor shall file the Notice of intent to discharge storm water associated with the planned construction activity in accordance with the State of Arkansas NPSES General Permit ARR10A000 48 hours before starting construction. The Contractor shall develop a Storm Water Pollution Prevention Plan (SWPPP) document for submittal to ADEQ.

3.2 EROSION CONTROL

A. The Contractor shall schedule and conduct his operations in such a manner as to insure good erosion control practices so as to minimize soil erosion and prevent the contamination of and depositing of sediment in adjacent streams or other water courses, lakes, ponds, and other areas of water impoundment. Temporary erosion control measures which will contribute to the control of erosion and sedimentation shall be carried out in conjunction with clearing & grubbing, grading, and trenching operations.

B. Permanent erosion control devices or measures shall consist of culvert pipe, terraces, gutters, bituminous curb, sectional drains, permanent slope drains, and the establishment of permanent vegetation (seeding), and when included in the contract they shall be incorporated in the construction with the least delay. Trenched areas shall be seeded as the excavation proceeds to the extent considered necessary by the Engineer as desirable or practicable.

C. The Contractor shall also conform to the following practices and controls:

1. When the material is trenched, erosion of the slopes shall be controlled both during and after completion of the work, that erosion will be minimized and sediment will not enter streams, wetlands or other bodies of water. Haul roads shall be located and constructed in a manner that will keep sediment from entering streams.

2. Pollutants such as fuels, lubricants, bitumens, raw sewage and other harmful materials shall not be discharged into or near rivers, streams or impoundments or into natural or man made channels leading thereto. Wash water or waste from concrete mixing operation shall not be allowed to enter live streams.

3. All applicable regulations of agencies and statues relating to the prevention and abatement of pollution shall be complied within the performance of the contract.

4. Dust Control:

a. Implement dust control methods to control dust creation and movement on construction sites and roads and to prevent airborne sediment from reaching receiving streams or storm water conveyance systems, to reduce on-site and off-site damage, to prevent health hazards, and improve traffic safety.

b. Control blowing dust by suing one or more of the following methods:

1. Mulches bound with chemical binders.

2. Temporary vegetative cover.

3. Spray-on adhesives on mineral soils when not used by traffic.

4. Tillage to roughen surface and bring clods to surface.

5. Irrigation by water sprinkling.

6. Barriers using solid board fences, snow fences, burlap fences, crate walls, bales of hay, or similar material.

c. Implement dust control methods immediately when dust is observed blowing on Site.

D. All temporary erosion and sediment control structures shall be constructed in accordance with the Storm Water Pollution Prevention Plan. All temporary structures shall be maintained in proper operating condition during the construction period. The temporary structures shall be removed and the site cleaned up only after the end of the construction activity and the seeding and fertilizing operation has been completed and the grass has been established.

E. The contractor shall follow the general guidelines for placement of erosion and sediment control as indicated on the Erosion Control Plan as part of his SWPPP. The Contractor shall add any required additional erosion and/or sediment control devices as necessary to control erosion and sediment on the project site. The contractor shall use the Engineer's erosion control plan to comply with the SWPPP and it shall include as a minimum the following items:

1. Time scheduling for the various phases of the work designed to limit the time between the clearing and the temporary seeding and fertilizing to a reasonable period of time.

2. Temporary erosion control measures shall be included in the plan in accordance with the temporary erosion control details as included on the Erosion Control Plan.

3. A time schedule shall be included in the plan detailing when each erosion control structure shown on the plans is to be constructed. Each structure should be constructed as soon as practical after access to the site has been achieved and prior to major grading operations.

Temporary erosion control structures shall be maintained to function satisfactorily and all sediment and debris removed and disposed of in a manner acceptable to the Engineer.

3.3 INSPECTION

A. The Contractor shall appoint a qualified person(s) to conduct regularly scheduled inspections during his contract. Inspections shall be conducted, with a minimum frequency of every seven (7) calendar days or within 24 hours following the end of at least a 0.5 inch (1/2 inch) rainfall event, whichever is earliest. During the inspection, the following areas (as a minimum) will be inspected:

1. Disturbed Areas – All areas of disturbed soil i.e. bare soil with no ground cover shall be inspected for signs of washing and erosion.

2. Material Storage Area – All central storage areas where materials/chemicals are stored for signs of spill, leaks and possible contamination.

3. Erosion and Sediment Control Measures – Inspect all erosion and sediment control measures for signs of wear, damage, remaining capacity level, usefulness, etc.

4. Discharge Locations – Immediately following, and possibly during a significant rainfall event, inspect all discharge locations to ascertain the effectiveness of the control measures.

5. Entrance/Exit Locations –Inspect all exit points from the site for evidence of vehicle tracking.

B. The inspector shall complete an inspection form for each inspection performed. As a minimum, the inspection form shall contain the following information:

- Name and location of project.
- Name and title of the inspector.
- Date and time of the inspection.
- Condition of each of the above locations.

3.04 MAINTENANCE OF ROADWAYS

A. The existing paved roadways adjacent to the permitted entrance locations shall be maintained in a clean and passable condition by the Contractor. When required or as requested by the Owner of the Engineer, the Contractor shall broom or wash the existing paved roadways to remove excess mud or dirt at the intersection and for a reasonable length of the existing roadway beyond the intersection. The work shall not be paid for directly, but shall be considered incidental to the other items of work and the cost included as a part of the work.

3.05 PAYMENT

A. Payment for the work in this section shall be included as part of the lump sum contract.

END OF SECTION 312500

SECTION 320523 - CEMENT AND CONCRETE FOR EXTERIOR IMPROVEMENTS

PART 1 GENERAL

1.1 WORK INCLUDED

A. Formwork, complete with required shoring, bracing and anchorage.

B. Control joints and expansion joints.

C. Concrete joints and expansion joints.

D. Cast-in-place concrete.

1.2 RELATED WORK

A. Section 014529 – Testing Laboratory Services.

B. Section 321373 – Concrete Paving Joint Sealants

C. Section 321376 - Sidewalks

D. Section 330516 – Manholes and Structures.

E. Section 334000 – Storm Drainage Utilities.

1.3 SUBMITTALS

A. See Related Work

1.4 QUALITY ASSURANCE

A. Perform cast-in-place concrete work in accordance with ACI 301, unless specified otherwise in this Project Manual.

B. Keep copy of ACI 301-99 in field office for duration of project.

C. Fly ash shall not be used in concrete with integral color.

1.5 TESTING AGENCY

A. Field testing of the concrete mix will be performed by an independent testing laboratory in accordance with Sections 014529.

B. Provide free access to work and cooperate with the appointed laboratory.

C. Tests of cement and aggregates may be performed to ensure conformance with requirements state herein.

1.6 REFERENCE STANDARDS

A. ACI-301-99, Specifications for Structural Concrete.

B. ACI Manual of Concrete Practice, Parts 1, 2, and 3.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Allowable Concrete Mix Temperatures: ACI 301 -99 Section 4.2.2.7.

1. Cold Weather: Minimum 35 degrees F.

2. Hot Weather: Maximum 95 degrees F.

B. Do not place concrete during rain, sleet, or snow unless protection is provided.

C. Keep accurate thermometer in area where work is proceeding.

PART 2 PRODUCTS

2.1 CEMENT (ACI 301-99 Section 4.2).

A. Portland Cement: ASTM C150, Type 1.

B. Use one brand and type of cement throughout project unless otherwise specified.

2.2 ADMIXTURES (ACI 301-99 Section 4.2)

A. Add air-entraining agent as indicated in ACI 301-99 Section 4.2.1.4.

B. Use of accelerating admixtures such as salts, chemicals, or other foreign materials in cold weather will not be allowed. Use no other admixtures without prior approval of the Architect/Engineer.

C. Use of set – retarding admixtures during hot weather will not be allowed.

2.3 STRENGTH (ACI 301-99 Section 1.7.4)

A. Provide concrete of following strength: Compressive strength (28day): 3,500 psi, except where noted otherwise in the Contract Documents

2.4 AIR ENTRAINMENT (ACI 301-99 Section 4.2.1.4)

A. Add air-entraining agent to concrete mix for concrete work exposed to exterior.

2.5 SLUMP (ACI 301-99 Section 4.2.2.2)

A. Contractor shall provide slump cone and test slump for each load of concrete.

B. Minimum, slump for all concrete work: 3 inches.

C. Slump for consolidation by vibration: 4 inches maximum.

D. Slump for slabs and consolidation other than by vibration: 5 inches maximum.

2.6 PROPORTIONS

A. Selection of proportions for normal weight concrete: Method 1, Method 2, or Method 3, Contractor's Option.

B. Fine aggregate shall conform to the requirements of ASTM Specification C-33, latest edition, and shall consist of clean, freshwater sand graded uniformly to conform to Paragraph 4 of the above referenced Specification C-33.

C. Coarse aggregate shall conform to the requirements of ASTM Specification C-33, latest edition, using standard grading size 1 -1/2" to No. 4 of washed gravel or crushed stone meeting requirements above and soundness requirements of ASTM C-33.

D. Water: Clean and free of injurious amounts of oil, acids, alkalis, organic materials, or other deleterious substances.

2.7 REINFORCING STEEL (ACI 301-99 Section 3), where applicable.

A. Where shown on plans and details.

B. Reinforcing Steel: 60 ksi yield grade; deformed billet steel bars, ASTM A615; plain finish.

C. Welded Steel Wire Fabric: plain type, ASTM A 185; in coiled rolls, plain finish, 6x6-W1.4 x W1.4 or 6x6 – W2.9 X W2.9 as shown on the Drawings.

2.8 ACCESSORIES

A. Pre-molded expansion joint fillers: ASTM D1751, See plans and details for width / thickness of joint. Refer to ACI 301-99 Section 10.2.5.

2.9 CONCRETE MIX

A. Mix concrete in accordance with ASTM C94.

B. Mix concrete until there is a uniform distribution of the materials and the mass is homogeneous in consistency and colors. Continue mixing for at least 1 -1/2 minutes after all the ingredients are in the mixer.

PART 3 EXECUTION

3.1 GENERAL

A. Notify Architect/Engineer for inspection at least 24 hours before the planned time to pour concrete.

B. Inspection:

1. Ensure that excavation and formwork are completed and within the allowed tolerances.

2. Ensure that ice and excess water are removed, no frost is present, and that ground is not frozen.

3. Check that reinforcement is secured in place.

4. Verify that insulation, anchors, and other embedded items are secured in position.

C. Install concrete work in accordance with ACI 301-99 except as amended by this section.

3.2 FORMWORK (ACI 301-99 Section 2)

A. Obtain Architect/Engineer's review for use of earth forms. When using earth forms, hand-trim sides and bottoms, and remove loose dirt prior to placing concrete.

B. Tolerances for Formed Services: (Comply with ACI 301-99 Section 2)

3.3 FORM SURFACES PREPARATION (ACI 301-99 Section 2)

A. Apply form release agent on formwork in accordance with manufacturer's recommendations. Apply prior to placing reinforcing steel, anchoring devices and embedded parts. Do not apply form release agent where concrete surfaces will receive special finishes or applied coverings which are affected by agent.

3.4 FINISHING FORMED SURFACES

A. Formed Surfaces Finishes: Provide rough form finish (ACI 301-99 Section 2) at all surfaces not exposed to view. Provide smooth rubbed finished (ACI 301-99 Section 2) at all surfaces exposed to view.

3.5 REMOVAL OF FORMS (ACI 301-99 Section 2)

A. Do not remove forms, shores, and bracing until concrete has gained sufficient strength to carry its own weight, construction loads, and design loads which are liable to be imposed upon it. Verify strength of concrete by compressive test results.

3.6 PLACING REINFORCING

A. Reinforcing shall be unpainted and uncoated, free from rust or scale and shall be cleaned and straightened before being shaped and in position.

B. Position reinforcing accurately and tie securely.

C. Support foot reinforcing on support chairs or concrete grout at maximum 3 feet on center each way to insure proper depth from bottom.

D. Wire dowels to longitudinal bars and place top bars in perfect alignment by the use of wood templates placed 2 inches from the top of the form.

E. Support wire mesh on support chairs, or other approved means, at no greater than three feet on center way to hold reinforcing in the center of the slab or as shown on the drawings.

1. Do not depend on lifting mesh as concrete is being poured.

2. Lap sides and ends not less than one wire spacing in slabs on grade and not less than 12 inches in structural slabs.

F. Provide 3 inches of concrete between reinforcing and the ground, unless detailed otherwise, where concrete is poured against the ground.

G. If, after the removal of forms, concrete surfaces are to be in contact with the ground or exposed to the weather:

1. Bars larger than No.5: Protect with 2 inches of concrete.

2. No. 5 bars and smaller: Protect with 1 1/2 inches of concrete.

H. Concrete covering for any reinforcing at surfaces not exposed directly to the ground or weather: Protect with 1 -1/2 inches of concrete.

3.7 PLACING CONCRETE

A. Convey concrete from mixer to final position by method which will prevent separation or loss of material.

B. Maximum height of concrete free fall; 60 inches.

C. Regulate rate of placement so concrete remains plastic and flows into position.

D. Deposit concrete in continuous operation until panel or section is completed.

E. Do not use concrete that has set and do not re-temper or use concrete that has been mixed for more than 1½ hours.

3.8 CONSOLIDATING CONCRETE:

A. Use mechanical vibrating equipment for consolidation.

B. Vertically insert and remove hand-held vibrators at points 18 inches to 30 inches apart, inserting to within 6 inches of bottom of freshly poured concrete.

C. Do not use vibrators to transport concrete forms.

D. Minimum vibrators frequencies: 6000 impulses per minute.

E. Vibrate concrete minimum amount required for consolidation.

F. Keep spare vibrator on hand during concrete placing operation.

G. Make sure the concrete is thoroughly worked around the reinforcing, the embedded items, and into corners of forms.

3.9 SLABS (ACI 301-99 Section 5)

A. Finish concrete slab surfaces in accordance with ACI 301-99 Section 5:

1. Uniformly spread, screed, and float slabs. Do not use grate tampers or mesh rollers. Do not spread concrete by vibration.

2. Light broom finish exterior surfaces, expect exposed aggregate.

B. Sidewalks: Finish sidewalks in accordance with Section 32 13 76.

3.10 CURING

A. Cure Slabs: Use damp method as per ACI 301-99 Section 5.

B. Cure Walls above Grade: Use moisture-retaining covering as approved by Architect/Engineer in accordance with ACI 308.

3.11 WELDING (ACI 301-99 Section 3)

A. Welding Reinforcing Steel: Not allowed.

3.12 CONSTRUCTION JOINTS

A. Install control expansion joints in accordance with ACI 301-99 Section 5

B. Place expansion and contraction joints shown on plans. Where joints are not illustrated, provide control joints for every 100 SF of surface area and expansion joints for every 400 SF of surface area. Where possible, make joints coincide with joints in adjacent concrete.

C. Fit joints with filler of required profiles. Recess ¼ inch below finished concrete surface.

3.13 INSERTS, EMBEDDED PARTS AND OPENINGS

A. Provide formed openings where required for pipes, conduits, sleeves and other work to be embedded in and passing through concrete members.

B. Coordinate work of other sections and cooperate with trade involved in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

3.14 REPAIR OF SURFACE DEFECTS (ACI 301-99 Section 5.3.7)

A. Allow Architect/Engineer to inspect concrete surfaces immediately upon removal of forms.

B. Modify or replace concrete not conforming to required lines, detail, and elevation.

C. Repair or replace concrete not properly placed resulting in excessive honeycombing and other defects. Do not patch, repair, or replace exposed architectural concrete except upon express direction of Architect/Engineer.

3.15 FIELD QUALITY CONTROL

A. Four (4) concrete test cylinders will be taken by the testing laboratory for every 40 cu. yds., or fraction thereof, of concrete placed. Not less than one (1) set of test cylinders shall be taken for each day's pour.

B. One (1) additional test cylinder will be taken during cold weather concreting and be cured on job site under same conditions as concrete it represents.

C. One (1) slump test will be taken by the testing laboratory for each set of test cylinders taken and for each separate batch of concrete placed.

D. Compression test cylinders: Test cylinders shall be cast on the project site by a representative of the testing laboratory.

1. Make cylinders according to ASTM C31.

2. Make additional sets of test cylinders for curing under job conditions:

    a. When it is needed to determine when to remove forms.

    b. When to put a structure into service.

    c. When temperature extremes are expected during the curing test period.

3. Make test cylinders in the presence of Architect/Engineer.

4. Properly marked prepared test cylinders and fill out the card supplied by the testing laboratory with instructions on when to make test breaks and where to send the test results.

5. Transport in a protected condition, each set of prepared and marked test cylinders to the designated testing laboratory for curing and testing as soon as the cylinders can be transported without damage.

E. Compression Testing concrete Cylinders ASTM C-39: by commercial testing laboratory.

1. Cure cylinders in laboratory until time for testing.

2. Test each set of cylinders at 7 days and 28 days after pouring.

3. Tabulation of breakage schedule and action:

Specified strength of 3,500 psi at 28 days

	Test Break	Action
7 day	Less than 2400 psi	Contractor notify A/E
	2400-3500 psi	Break 28 day cylinder
	Over 3500 psi	Stop Testing
28 day	Less than 3500 psi	Contractor notify Architect, investigate reason for low break and report in writing to AE.

4. For testing cylinders for specified compressive strength other than 3,500 psi, see the Architect/Engineer.

F. In Case of Low Compression Test Results:

1. Architect/Engineer will have right to order change in the mix design, costs to be borne by the contractor.

2. Architect/Engineer will have right to order core tests of the concrete in accordance with SCI C42, or load tests of the structure, the cost to be borne by the Contractor for either test.

3.16 PROTECTION OF COMPLETED WORK

A. During curing period, protect the concrete from damaging mechanical disturbances, water flow, loading, shock, and vibration.

END OF SECTION 320523

SECTION 321200 - FLEXIBLE PAVEMENT

PART 1 GENERAL

1.1 WORK INCLUDED

A. Prepare subgrade to receive base course.

B. Provide compacted base course.

C. Prime base course and place asphaltic concrete hot mix (ACHM) binder course.

D. Tack base course and place ACHM surface course.

1.2 RELATED WORK

A. Section 312000 – Earth Moving.

B. Section 321613 – Concrete Curb and Gutter

C. Section 334000 – Storm Drainage Utilities

1.3 SUBMITTALS

A. See Related Work

1.4 REFERENCES

A. Arkansas State Highway and Transportation Dept (AHTD).

1. Standard Specifications for Highway construction, Edition of 2003, hereafter referred to as “AHTD Standard Specifications”.

PART 2 PRODUCTS

2.1 BASE COURSE MATERIALS

A. Crushed Stone: Class 7, meeting the requirements of Section 303 of the AHTD Standard Specifications, or approved equal.

B. Prime Coat: Medium curing liquid asphalt, MC-30, or approved equal, meeting the requirements of Section 401 of the AHTD Standard Specifications.

C. Tack Coat: Shall be applied as specified and meeting the requirements of Section 401 of the AHTD Standard Specifications.

2.2 ASPHALT PAVEMENT MATERIALS

A. ACHM Surface Course:

1. PG 64-22 mix as described in Sections 407 and 409 of the AHTD Standard Specifications.

2. The surface course shall be composed of a mixture of mineral aggregate and asphalt cement in the proportions by weight for the type mixture designated.

B. ACHM Binder Course:

1. PG 64-22 mix as described in Section 407 and 409 of the AHTD Standard Specifications.

2. The binder course shall be composed of mixture of mineral aggregate and asphalt cement in the proportions by weight for the type mixture designated.

PART 3 EXECUTION

3.1 SUBGRADE PREPARATION

A. Ensure grading of the subgrade to the required elevation.

B. Scarify to a depth of six inches the subgrade where the base course is to be placed.

C. Water and thoroughly mix subgrade until optimum moisture content is obtained when deficiency of moisture content exists. When excess of moisture exists, rework and aerate subgrade until optimum moisture content is obtained.

D. Re-compact the subgrade to a minimum of 95% of the maximum dry density at or near the option moisture content as determined by ASTM D1557.

E. Before final rolling, shape the entire area to the required cross section, adding additional subsoil as required and compact the subgrade surface to the required density.

3.2 PLACEMENT OF BASE COURSE

A. Place the crushed stone base material over the prepared subgrade in accordance with the construction methods described in Section 303 of the AHTD Standard Specifications.

B. Add water during compaction to bring the base course materials to optimum moisture content. When excess moisture exists, rework the base course materials until optimum moisture content is obtained.

C. Compact the base course to 100% of the maximum dry density as determined by ASTM D 1557.

3.3 PLACE PRIME AND TACK COAT

A. Apply the bituminous prime coat to the compacted base at the rate of 0.3 to 0.4 gallons per square yard. Apply the bituminous tack cost to the prepared base at the rate of 0.03 gallon to 0.10 gallon per square yard as designated by the Engineer.

B. Clean the base course surface and place the prime and tack coats in accordance with the requirements of Section 401 of the AHTD Standard Specifications.

3.4 PLACING ACHM SURFACE COURSE

A. Construction Methods: Section 410, AHTD Standard Specifications.

B. Temperature range mix.

1. When discharged from mixer: 285 degrees F to 325 degrees F.

2. When placed on base course: 275 degrees F. to 325 degrees F.

C. Temperature of air: Do not place ACHM when air temperature in the shade is below 40 degrees F.

D. Place asphalt pavement to compacted depth shown on Drawing.

E. Compact to required density, with approved rolling equipment. Start compaction as soon as pavement will bear equipment without checking or undue displacement.

F. Required density: 92% - 96% of maximum theoretical density.

G. Carry out compaction in three operations in pass sequence. Ensure each pass of roller overlaps previous passes to ensure smooth surface free of roller marks. Keep roller wheels sufficiently moist so as not to pick up material.

H. Perform hand tamping in areas not accessible to rolling equipment.

I. Ensure joints made during paving operations and at connection to existing pavement are straight, clean, vertical and free of broken or loose material.

J. Ensure surface of completed asphalt pavement is true to lines, profiles and elevations indicated, and is free from depressions exceeding ¼ inch when measured with a 10 foot straightedge.

K. Do not allow vehicular traffic on newly paved areas until surface has cooled to atmospheric temperature.

3.5 FIELD QUALITY CONTROL

A. Testing laboratory will make in-place tests of density and moisture content of the subgrade and the base course in accordance with ASTM D 6938.

B. Testing laboratory will make density tests of compacted asphalt paving in accordance with ASTM D 2950.

END OF SECTION 321200

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Cold-applied joint sealants.

2. Hot-applied joint sealants.

B. Related Work:

1. Section 321313 - Concrete Paving

2. Section 321376 – Sidewalks

3. Section 321613 – Concrete Curb & Gutter

1.3 PRECONSTRUCTION TESTING

A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufactures, for testing indicated below, Samples of material that will contact of affect joint sealants.

1. Use ASTM C1087 to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

2. Submit no fewer than eight pieces of each type of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.

3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.

4. For materials failing tests, obtain joint-sealant manufacturer’s written instructions for corrective measures including use of specially formulated primers.

5. Testing will no be required if joint-sealant manufactures submit joint-preparation data that are based on previous testing, not older than 24 months, of sealant products for compatibility with and adhesion to joint substrates and other materials matching those submitted.

1.4 SUBMITTALS

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

B. Samples for Verification: For each kind and color of joint sealant required, provide samples with joint sealants in ½ inch wide joints formed between two 6-inch long strips of materials matching the appearance of exposed surfaces adjacent to joint sealants.

C. Pavement-Joint Sealants Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.

2. Joint-sealant manufacturer and product name.

3. Joint-sealant formulation.

4. Joint-sealant color.

D. Qualification Data: For qualified Installer.

E. Product Certificates: For each type of joint sealant and accessory, from manufacturer.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for joint sealants.

G. Preconstruction Compatibility and Adhesion Test Reports: From joint-sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility with and adhesion to joint sealants.

2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this project.

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

C. Product Testing: Testing joint sealants using a qualified agency.

1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C1021 to conduct the testing indicated.

1.6 PROJECT CONDITIONS

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

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

2. When joint substrates are wet.

3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.

4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 PRODUCTS

2.1 MATERIALS

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

B. Colors of Exposed Joints Sealants: As selected by Architect/Engineer from manufacturer's full range, and to be confirmed with submittal.

2.2 COLD-APPLIED JOINT SEALANTS

A. Single-Component, Nonsag, Silicone Joint Sealant for Concrete: ASTM D 5893, Type NS.

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

a. Crafco Inc., and ERGON company; RoadSaver Silicone.

b. Dow Corning Corporation; 888.

c. Pecora Corporation; 301 NS.

B. Single-Component, Self-Leveling, Silicone Joint Sealant for Concrete: ASTM D 5893, Type SL.

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

a. Crafco Inc., and ERGON company; RoadSaver Silicone SL.

b. Dow Corning Corporation; 890-SL

c. Pecora Corporation; 300 SL

C. Multicomponent, Pourable, Traffic-Grade, Erethane Joint Sealant for Concrete: ASTM C 920, Type M. Grade P, Class 25, for Use T.

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

    a. Pecora Corporation; Urespan NR-200.

2.3 HOT-APPLIED JOINT SEALANTS

A. Hot-Applied, Single-Component Joint Sealant for Concrete: ASTM D 3406.

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

    a. Crafco Inc., an ERGON company; Superseal444/777.

B. Hot-Applied, Single-Component Joint Sealant for Concrete and Asphalt: ASTM D 6690, Types I, II, and III.

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

    a. Meadows, W.R., Inc. Sealtight 3405.

    b. Right Pointe; D-3405 Hot Applied Sealant.

2.4 JOINT– SEALANT BACKER MATERIALS

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

B. Round Backer roads for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

C. Round Backer Roads for Cold-Applied Joint Sealant.

D. Backer Strips for Cold and Hot –Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.5 PRIMERS

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

PART 3 EXECUTION

3.1 EXAMINATION

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

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

3.2 PREPARATION

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

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

3.3 INSTALLATION OF JOINT SEALANTS

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

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

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

1. Do not leave gaps between ends of joint-sealant backings.

2. Do not stretch, twist, puncture, or tear joint-sealant backings.

3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place joint sealants so they directly contact and fully wet joint substrates.

2. Completely fill recesses in each joint configuration.

3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nosag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tools sealants according to the following requirements to form smooth, uniform beads of configuration indicated: to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:

   1. Remove excess joint sealant from surfaces adjacent to joints.

   2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.

F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING

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

3.5 PROTECTION

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

END OF SECTION 321373

SECTION 321376 - SIDEWALKS

PART 1 GENERAL

1.1 WORK INCLUDED

A. Providing concrete sidewalk where shown on Drawings.

B. Providing concrete handicap ramps where shown on Drawings.

1.2 RELATED WORK

A. Section 312000 – Earth Moving.

B. Section 320523 – Cement and Concrete for Exterior Improvements.

C. Section 330516 – Manholes and Structures.

D. Section 321373 – Concrete Paving Joint Sealants.

1.3 SUBMITTALS

A. See Related Work

1.4 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM):

1. ASTM D 1751, Specifications for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

PART 2 PRODUCTS

2.1 CONCRETE

A. General: Materials for use in sidewalk construction shall conform to the requirements for Section 32 0523 and shall be 3500 psi concrete with fiber mesh reinforcement at 1.5 lbs. per cubic yard of concrete.

2.2 WORK INCLUDED

A. The joint filler for all expansion joints shall be manufactured according to ASTM D 1751 and shall be elastic waterproof pre-molded compound that will not become soft and push out in hot

weather, nor hard and brittle and chip out in cold weather. The strips shall be ½" in thickness except where shown otherwise on the Drawings; their width shall at least equal the full thickness of the slab; and their length shall at least equal the width of the slab at the joint.

2.3 FORMS

A. Forms shall be steel or 2" nominal thickness lumber true to proper dimensions, smooth, sufficiently braced to resist springing out of shape, and accurately set to proper lines and grades. Used forms shall be free of dirt and mortar. Cross forms shall be ¼" steel of the full width and depth of the concrete work and left in place until the wearing surface has been floated and has obtained its initial set.

2.4 CURING COMPOUND

A. Liquid membrane forming curing compound conforming to AASHTO M 148, Type 2, white pigmented (all-resin base).

2.5 SURFACE TREATMENT

A. Scofield Repello FPS surface treatment for water and stain repellency to concrete surfaces.

PART 3 EXECUTION

3.1 GRADING AND SUBGRADING

A. Prepare subgrade for walks by excavating or filling to a depth below the top of an intended pavement equal to the thickness of the finished walk and in exact conformity to the grade approved by the Engineer. Remove vegetative matter or material that will not compact properly and replace with suitable material. Place all fill required to bring the subgrade to the proper level in thin layers not exceeding 4 inches deep, and thoroughly ram, tamp or roll until it has been made compact and solid. Bring subgrade to true grade in a uniformly firm condition before placing the concrete. Do not place concrete on the subgrade until the Engineer has inspected and approved both grade and condition of subgrade.

3.2 GENERAL

A. Notify Architect/Engineer for inspection at least 24 hours before the planned time to pour concrete.

B. Inspection:

1. Ensure that excavation and formwork are completed and within the allowed tolerances.

2. Ensure that ice and excess water are removed, no frost is present, and that ground is not frozen.

3. Check that reinforcement is secured in place.

4. Verify that insulation, anchors, and other embedded items are secured in position.

C. Install concrete work in accordance with ACI 301-99 except as amended by this section.

3.3 SETTING FORMS

A. Stake forms and hold to the established lines and grades. Provide minimum 1/8" per foot fall away from structures or as shown on the drawings.

3.4 TREATMENT

A. Wet wood and coat metal forms with oil, soft soap, or whitewash before depositing any material against them. Remove all mortar and dirt from forms that have been previously used.

3.5 MARKINGS

A. Cut surface of concrete walks into flags by marking with an edging tool having a radius of ¼". Make flags not longer than 6 feet on any side nor longer than the width of the sidewalk. Round the slabs on all surface edges, including the cross markings between flags, to a radius of ¼".

3.6 JOINTS

A. Provide an expansion joint ½" in thickness, extending full depth of the concrete and with filler as herein specified, at intervals of not more than 15 feet, or as shown on plans. Provide a similar joint ½" in thickness in each walkway at intersection of walkways. Also provide an expansion joint ½" in thickness at each intersection of sidewalk and street curb and at such other points as may be designated by the Engineer. Separate sidewalk from abutting structures by ½" expansion joints. Place expansion joints ½" in thickness extending full depth of the concrete in a square outline around each object in sidewalks, such as fire hydrants, utility poles light standards, etc.

B. All expansion joints must be sealed with an approved joint sealant.

3.7 PLACING CONCRETE

A. Place concrete only on a moist subgrade and not adjacent to or around utility structures until such structures have been set to the proper grade.

B. Transport from the mixer and place by such a means as will not cause segregation of materials or loss of ingredients. Deposit successive batches in one layer by a continuous operation, completing individual sections to the required depth and width. Do not use concrete that has taken its initial set. Fill forms and bring the concrete to the established grade by means of a strike board or straight edge. Thoroughly tamp concrete until mortar is flushed to the surface sufficiently to finish and mark the surface.

C. Spade and/or vibrate the concrete so that it will flow together and completely fill all void spaces especially along forms (including cross forms of joints) to prevent honeycombing and shall be

struck off and tamped in an approved manner, until dense surface is obtained, free from porous or rough spots and at the required sections and grade.

D. Use method of placing the various sections so as to produce a straight clean-out joint between them, in order to make each section and independent unit. Do not use any concrete in excess of that needed to complete a section at the stopping of work.

E. Do not pour concrete when temperature is below 35 degrees Fahrenheit, and do not place concrete on frozen subgrade. Take all necessary precautions to prevent damage to concrete in excess of that needed to complete a section at the stopping of work.

F. At all times during construction period, maintain proper drainage, by natural flow or pumping as required, so that water will drain away from excavated areas. Do not allow water to stand in any excavations, or elsewhere, to be covered by concrete. Provide and maintain in proper working order all necessary pumping and other equipment required to maintain drainage.

3.8 FINISH

A. After the concrete has been brought to the established grade by means of a strike board and tamped to bring the mortar to surface, float to a true even surface and finish with steel trowel. After the trowel finish has taken its initial set, brush surface lightly at right angles to center line of sidewalk with a soft bristle brush.

B. Do not apply heat to the concrete surface to hasten its hardening.

3.9 CURING AND PROTECTION:

A. As soon as the concrete has hardened sufficiently to prevent damage, apply specified liquid membrane-forming curing compound in accordance with manufacturer’s written instructions.

B. Protect the freshly finished concrete from hot sun and drying winds until the curing compound is applied. Do not allow the concrete surface to be damaged or pitted by raindrops. Provide and use, when necessary, sufficient tarpaulins to completely cover all sections that have been placed within the proceeding twelve hours. Erect and maintain suitable barriers to protect the concrete. Repair any section damaged from traffic or other causes occurring prior to its official acceptance. Before the sidewalk is opened to traffic, remove and dispose of the covering.

C. Apply surface treatment to all concrete surfaces per manufacturer’s requirements.

3.10 FREEZING TEMPERATURE

A. If at any time during the progress of the work, the temperature is predicted to drop below 35 degrees Fahrenheit within 24 hours after placement, heat the water and aggregates and take precautions to protect the work from freezing for at least five days.

END OF SECTION 321376

SECTION 321613 - CONCRETE CURB AND GUTTER

PART 1 GENERAL

1.1 WORK INCLUDED

A. Construct cast-in-place combination curb and gutter.

1.2 RELATED WORK

A. Section 312000 – Earth Moving.

B. Section 321376 – Sidewalks.

C. Section 320523 – Cement & Concrete for exterior improvements.

D. Section 321373- Concrete Paving Joint Sealants.

1.3 SUBMITTALS

A. See Related Work

1.4 QUALITY ASSURANCE

A. Perform cast-in-place concrete in accordance with ACI 301 and Section 320523.

1. Standard Specifications for Highway construction, Edition of 2003, hereafter referred to as “AHTD Standard Specifications”.

PART 2 PRODUCTS

2.1 MATERIALS

A. Ready Mixed concrete: ASTM C94 and Articles 2.01 through 2.06 of Section 320523.

B. Curing Compound: ASTM C309.

C. Pre-formed expansion joint fillers: ASTM D1751-78.

1. Thickness: ½ inch.

PART 3 EXECUTION

3.1 SUBGRADE PREPARATION

A. Grade subgrade and compact in same manner and to same density as specified in Section 31 2000 controlled fill.

3.2 GENERAL

A. Notify Architect/Engineer for inspection at least 24 hours before the planned time to pour concrete.

B. Inspection:

1. Ensure that excavation and formwork are completed and within the allowed tolerances.

2. Ensure that ice and excess water are removed, no frost is present, and that ground is not frozen.

3. Check that reinforcement is secured in place.

4. Verify that insulation, anchors, and other embedded items are secured in position.

C. Install concrete work in accordance with ACI 301-99 except as amended by this section.

3.3 INSTALLATION

A. Cast-in-place Concrete: Refer to Section 320523

1. See standard Detail Drawings for Curb and Gutter, and for Handicap Ramp.

2. Prepare subgrade in accordance with Section 312000.

3. Set forms to line and grade.

4. Install forms over full length of curb.

5. Form contraction joints at maximum 10 feet spacing using steel templates, division plates or sawcuts.

6. Remove templates or plates as soon as concrete has hardened sufficiently to retain its shape.

7. Install preformed expansion joint fillers at maximum 40 feet spacing, at curb returns, and behind curb at abutment to sidewalks and other structures.

8. Place top of expansion joint material ¼ inch below curb surface.

9. Place concrete in position without separation of concrete materials.

10. Consolidate concrete with mechanical vibrators.
11. Round face of curbs at top with finishing tool of correct radius.
12. Finish exposed surfaces with wood float followed by light brushing with broom.
13. Apply curing material and cure for seven days.

B. Repair of surface defects: Comply with requirements of Section 320523.

C. Field Quality Control: Comply with requirements of Section 320523.

D. Protection of Completed Work: Comply with requirements of Section 320523.

END OF SECTION 321613

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SECTION 321723 - PAVEMENT MARKINGS

PART 1 GENERAL

1.1 WORK INCLUDED

A. Providing pavement markings as shown on Drawings.

1.2 REFERENCE STANDARDS

A. Federal Specifications (FS):

1. TT-P-115E Paint, Traffic, Highway, White and Yellow.

2. TT-P-1952B Paint, Traffic, and Airfield Marking, Water Emulsion Base.

B. Federal Standard (Fed. Std.)

1. No 141B Paint, Varnish, Lacquer, and related materials.

C. Arkansas State Highway and Transportation Department (AHTD)

1. Standard Specifications for Highway Construction, 2003 Edition

1.3 SUBMITTALS

A. Submit a test report showing either that the proposed batch meets all specified requirements or that a previous batch manufactured using the same formulation as that used in manufacturing the proposed batch for the following properties required in the material specification: weight per gallon, viscosity, fineness of grind, drying time, and gradation. Testing procedures and reports shall be as specified in paragraph 5 of Method 1031.2 of Fed. Std.141.

1.4 DELIVERY, HANDLING AND STORAGE

A. Deliver material in sealed containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer's name, formulation number and directions, all of which shall be plainly labeled at time of use.

B. Furnish paint in containers not larger than five gallons.

C. Store paint on project site. Store emulsion paints to prevent freezing.

1.5 SITE CONDITIONS

A. Unless other wise recommended by the paint manufacturer apply pavement markings material only when the ambient temperature is between 40 and 95 degrees F.

PART 2 PRODUCTS

2.1 MATERIALS

A. Parking:

1. Manufactured according to FS TT-P-115E, FS TT-P-1952B or AHTD Standards Specification Section 718,719, or 720.

2. Symbol Color: White.

3. Handicapped Access Aisles on Asphalt Paving: Color, White

4. Handicapped Access Aisles on Concrete Paving: Color, ADA Blue

5. Paint shall be homogeneous, easily stirred to smooth consistency, and shall show no hard settlement or other objectionable characteristics during a storage period of six months.

6. Note: Verify colors with owner prior to painting.

B. Roadway:

1. Manufactured according to AHTD Standard Specifications Section 719 or 720.

2. Color:

a. Separating traffic traveling in opposite directions: Yellow

b. Left edge of roadways: Yellow

c. Separating two-way left turn lanes and reversible lanes from other lanes: Yellow

d. All other applications: White

e. Pre-molded striping and symbols as shown and called for on plans.

PART 3 EXECUTION

3.1 SURFACE PREPARATION

A. Allow new pavement surfaces to cure for a period of not less than 30 days before application of markings materials.

B. Thoroughly clean all surfaces to be marked before application of paint. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water or a combination of these methods as required.

C. Completely remove rubber deposits, surface laitance, existing paint markings, and other coatings adhering to the pavement with scrapers, wire brushes, sandblasting, approved chemicals, or mechanical abrasion as directed.

D. Where oil or grease are present on old pavements to be marked, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application. After cleaning, seal, seal oil-soaked areas with cut shellac to prevent bleeding through the new paint.

3.2 EQUIPMENT

A. General: Use only approved machines, tools, and equipment. Maintain equipment in satisfactory operating condition. Han-operated push type machines of a type commonly used for application of paint to pavement surfaces will be acceptable for marking small street and parking areas. Use applicator machine equipped with the necessary paint tanks and spraying nozzles. Equipment shall be capable of applying paint uniformly at coverage specified. Provide sandblasting equipment as required for cleaning surfaces to be painted. Use hand-operated spray guns for use in areas where push-type machines cannot be used.

B. Sandblasting Equipment: Sandblasting equipment shall include an air compressor, hoses, and nozzles of proper size and capacity as required for cleaning surfaces to be painted. The compressor shall be capable of furnishing not less than 150 c.f.m of air at a pressure of not less than 90 psi at the nozzle for each nozzle used.

C. During concrete placement, keep base sufficiently moist to prevent excessive absorption of water from freshly placed concrete.

3.3 APPLICATION

A. Rate of Application: Apply two (2) coats of paint at manufacturer’s recommended rate with total maximum of 320 lineal feet per gallon per coat with 4” wide stripe. Apply with mechanical equipment to produce uniform straight edges. At sidewalk curbs, use a straightedge to ensure a uniform, clean, and straight stripe.

B. Paint: Apply paint in stripes of specified width to clean, dry surfaces, unless otherwise approved, only when air and pavement temperature is above 40 F and less than 95 F. Maintain paint temperature within these limits. Apply paint pneumatically with approved equipment at rate of coverage specified herein. Provide guide lines and templates as necessary to control paint application. Take special precautions in marking numbers, letters, and symbols. Sharply outline all edges of markings. Maintain the maximum drying time requirements of the paint specifications to prevent undue softening of bitument, and pickup, displacement, or discoloration by tires of traffic. If there is a deficiency in drying of the markings, discontinue painting operations until cause of the slow drying is determined and corrected.

3.4 PROTECTION

A. Prevent damage to newly painted surfaces by either placing small markers along newly painted lines or controlling traffic to keep vehicles away from area of newly painted lines.

END OF SECTION 321723

SECTION 323223 - SEGMENTAL RETAINING WALLS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes single depth segmental retaining walls.

B. Related Requirements:

1. Section 312000 - Earth Moving.
2. Section 312216 - Fine Grading.
3. Section 312316 - Excavation

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.
B. Samples: For each color and texture of concrete unit specified.
C. Delegated-Design Submittal: For segmental retaining walls.

1.3 INFORMATIONAL SUBMITTALS

A. Retaining Wall Design: For segmental retaining walls and to be provided by material supplier or manufacturer.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E329 for testing of soil and stone compaction.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Basis of Design: Design of segmental retaining wall is based on products and the typical section indicated in the plans. If comparable products of another manufacturer are proposed, provide information regarding the manufacturer, block materials, color, and texture options.

B. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design segmental retaining walls.

C. Compliance Review: Qualified professional engineer responsible for segmental retaining wall design shall review and approve submittals and source and field quality-control reports for compliance of materials and construction with design.

D. Structural Performance: Engineering design shall be based on the following loads and be according to NCMA's "Design Manual for Segmental Retaining Walls,

1. Horizontal Peak Ground Acceleration: Not more than 0.4 g.

2.2 SEGMENTAL RETAINING WALL UNITS

A. Basis of Design: Anchor Wall Systems – Geohold, Concrete Units: ASTM C 1372, Normal Weight, except that units shall not differ in height more than plus or minus 1/16 inch from specified dimensions or a compatible system.

1. Versa-Lok Residential, Kiltie Corporation.

B. Concrete Units.

1. Provide units that comply with requirements in ASTM C 1372 for freeze-thaw durability.
2. Provide units that interlock with courses above and below by means of integral lugs, lips, or tongues and grooves and hollow cores filled with drainage fill.

C. Color: As selected by Architect and Owner from manufacturer's full range of options.

D. Shape and Texture: Provide units with machine-split textured finish.

2.3 INSTALLATION MATERIALS

A. Pins and Clips: If required: Product supplied by segmental retaining wall unit manufacturer for use with units provided, made from non-degrading polymer reinforced with glass fibers.

B. Cap Adhesive: Product supplied or recommended by segmental retaining wall unit manufacturer for adhering cap units to units below.

C. Leveling Base: Comply with requirements in Section 312000 "Earth Moving" for base course.

D. Drainage Fill: Comply with notes in typical detail.

E. Soil Fill: Comply with requirements in Section 312000 "Earth Moving" for satisfactory soils.

F. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

G. Drainage Geotextile (Filter Fabric): Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent.

1. Apparent Opening Size: No. 70 to 100 sieve, maximum; ASTM D 4751.
2. Minimum Grab Tensile Strength: 110 lb. (49.9 kg); ASTM D 4632.

H. Subdrainage Pipe: Comply with requirements noted in the typical detail.

PART 3 - EXECUTION

3.1 RETAINING WALL INSTALLATION

A. General: Place units according to NCMA's "Segmental Retaining Wall Installation Guide" and segmental retaining wall unit manufacturer's written instructions.

1. Lay units in running bond.
2. Form corners and ends by using special units and cutting units with motor-driven saw.

B. Leveling Base: Place and compact base material to thickness indicated and with not less than 95 percent maximum dry unit weight according to ASTM D 698.

C. First Course: Place first course of segmental retaining wall units for full length of wall. Place units in firm contact with each other, properly aligned and level.

1. Tamp units into leveling base as necessary to bring tops of units into a level plane.

D. Subsequent Courses: Remove excess fill and debris from tops of units in course below. Place units in firm contact, properly aligned, and directly on course below.

E. Cap Units: Place cap units and secure with cap adhesive.

3.2 FILL PLACEMENT

A. General: Comply with requirements in Section 312000 "Earth Moving," with NCMA's "Segmental Retaining Wall Installation Guide," and with segmental retaining wall unit manufacturer's written instructions.

B. Fill voids between and within units with drainage fill. Place fill as each course of units is laid.

C. Place, spread, and compact drainage fill and soil fill in uniform lifts for full width and length of embankment as wall is laid. Place and compact fills without disturbing alignment of units. Where both sides of wall are indicated to be filled, place fills on both sides at same time. Begin at wall, and place and spread fills toward embankment.

1. Use only hand-operated compaction equipment within 48 inches of wall, or one-half of height above bottom of wall, whichever is greater.

2. Compact reinforced-soil fill to not less than 95 percent maximum dry unit weight according to ASTM D 698.

a. In areas where only hand-operated compaction equipment is allowed, compact fills to not less than 90 percent maximum dry unit weight according to ASTM D 698.

3. Compact nonreinforced-soil fill to comply with Section 312000 "Earth Moving."

D. Place drainage geotextile against back of wall, and place layer of drainage fill at least 12 inches wide behind drainage geotextile to within 12 inches of finished grade. Place another layer of drainage geotextile between drainage fill and soil fill.

E. Place a layer of drainage fill at least 12 inches wide behind wall to within 12 inches of finished grade. Place a layer of drainage geotextile between drainage fill and soil fill.

F. Wrap subdrainage pipe with filter fabric and place in drainage fill as indicated sloped not less than 0.5 percent to drain.

G. Place impervious fill over top edge of drainage fill layer.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Comply with requirements in Section 312000 "Earth Moving" for field quality control.

1. In each compacted backfill layer, perform at least one field in-place compaction test for each 10 feet or less of segmental retaining wall length.

END OF SECTION 323223

SECTION 328100– PERMANENT GEOSYNTHETIC TURF REINFORCMENT MAT

GENERAL

1.01 SUMMARY

A. This section specifies the permanent Geosynthetic High Performance-Turf Reinforcement Mat (HP-TRM) with High Performance - Flexible Growth Medium (HP-FGM) infill, to prevent long-term soil and vegetation loss resulting from excessive water flow (velocity and shear stress) in which unreinforced vegetation could not resist. Both the HP-TRM and HP-FGM are made in the United States of America. The HP-FGM provides immediate and temporary protection against movement and/or loss of soil until vegetation can be established. The HP-FGM infill also provides an ideal environment for rapid seed germination and accelerated plant and root establishment within the matrix of the HP-TRM.

B. Related Sections: Other Specification Sections, which directly relate to the work of this Section include, but are not limited to the following:

    1. Section 312500 - Erosion and Sedimentation Controls
    2. Section 312216 - Fine Grading
    3. Section 329213 - Hydroseeding

1.02 SUBMITTALS

A. Product Data: Submit manufacturer’s product data and installation instructions. Include required substrate preparation, list of materials and application rate.

B. Certifications: Manufacturer shall submit a letter of certification that the product meets or exceeds all technical and packaging requirements and is made in the U.S.A.

1.03 DELIVERY, STORAGE AND HANDLING

A. Deliver materials and products in UV and weather-resistant factory labeled packages. Store and handle in strict compliance with manufacturer’s instructions and recommendations. Protect from damage, weather, excessive temperatures and construction operations.

PRODUCTS

2.01 MATERIALS

A. Turf Reinforcement Mat shall be manufactured for the purpose of permanent channel lining and turf reinforcement. The HP-TRM shall be made from 100% synthetic material and contain no biodegradable components or materials.

    1. The HP-TRM shall be a homogeneous, three-dimensional matrix consisting of continuous monofilament yarns which are thermally fused at the crossover points to provide a structure that will maintain its dimensional stability without laminated or stitched layers. No nettings or stitching shall be permitted. The HP-TRM shall have a minimum 95% open space available for soil, HP-FGM and root interaction. The HP-TRM shall not lose its structural integrity and shall not unravel or separate when HP-TRM is cut in the field.

    2. The HP-TRM shall exhibit no buoyancy factor (i.e., the specific gravity of the fibers used should be greater than 1.0) so as to allow the HP-TRM to maintain intimate contact with the soil (particularly between fasteners) under low flow or submersed conditions.

3. The HP-TRM, when infilled with HP-FGM, shall meet the following property values:

	Test Method	Units	Value	
Mechanical Properties			**MARV MD**	**MARV CD**
Tensile Strength	ASTM D 6818	lb/ft (kN/m)	3,000 (45)	3,000 (45)
Tensile Strength @ 2% Strain	ASTM D 6818	lb/ft (kN/m)	450 (6.5)	450 (6.5)
Mechanical Properties			**Typical**	**MARV**
Mass Per Unit Area (TRM + Grid)	ASTM D 6566	oz/yd^2 (g/m^2)	20 (678)	16 (543)
Thickness (Min)	ASTM D 6525	inches (mm)	0.75 (19)	0.6 (15.2)
Resiliency (Min)	ASTM D 6524	%	85	80
UV Stability (3000 hrs)	ASTM D4355	%	80	
Endurance				
Functional Longevity[1]	Observed	Months	> 36	
Performance				
C-Factor[2] / % Effectiveness[2]	Large Scale[3]	n/a / %	< 0.01 / > 99	
Manning's n Range	ASTM D6460[4]	n/a	0.025 – 0.045	
Permissible Veg. Velocity	ASTM D6460[4]	ft/s (m/s)	30.0 (9.1)	
Permissible Veg. Shear	ASTM D6460[4]	lb/ft^2 (N/m^2)	20.0 (960)	
Permissible Unveg. Velocity	ASTM D6460[4]	ft/s (m/s)	16.0 (4.9)	
Permissible Unveg. Shear	ASTM D6460[4]	lb/ft^2 (N/m^2)	5.8 (280)	
Vegetation Establishment	ASTM D7322	%	800	
Physical Properties	**Units**		**Value**	
Dimensions [width x length]	ft (m)		8.0 x 90 (2.4 x 27.4)	
Roll Area	yd^2 (m^2)		80.0 (66.9)	
Estimated Roll Diameter	ft (m)		2.0 (0.6)	
Estimated Roll Weight	lb (kg)		90 (40.5)	
Color	n/a		Black	

1. Functional longevity is an estimate of product functionality and is dependent upon moisture, light, microbial and other environmental conditions.
2. Cover Factor is calculated as soil loss ratio of treated surface versus an untreated control surface. % Effectiveness = One minus Cover Factor multiplied by 100%.
3. Large scale testing conducted at Utah Water Research facility using rainfall simulator on 2.5H:1V slope, sandy-loam soil, at a rate of 5" per hour for a duration of 60 minutes.
4. Flume testing performed at Colorado State University – data and details available upon request.

B. All components of the HP-FGM shall be pre-packaged by the Manufacturer to assure both material performance and compliance with the following values. No chemical additives with the exception of fertilizer, soil pH modifiers, extended-term dyes and biostimulant materials should be added to this product.

1. Thermally Processed* (within a pressurized vessel) Wood Fiber – 80%
   *Heated to a temperature greater than 380 degrees Fahrenheit (193 degrees Celsius) for 5 minutes at a pressure greater than 50 psi (345 kPa)
2. Wetting agents (including high-viscosity colloidal polysaccharides, cross-linked biopolymers, and water absorbents) – 10%
3. Crimped Biodegradable Interlocking Fibers – 5%
4. Micro-Pore Granules – 5%

EXECUTION

3.01 SOIL TESTING

A. See Section 329213 – Hydroseeding.

3.02 VEGETATION SPECIES SELECTION

A. Once soils have been analyzed for agronomic potential and amendment recommendations; apply soil amendments and hydroseeding per Section 329213 – Hydroseeding.

3.03 PREPARATION

A. The installation site shall be prepared by clearing, grubbing and excavation or filling the area to the design grade.

B. The surface to receive the HP-TRM shall be prepared to relatively smooth conditions free of obstructions, rocks, dirt clods, roots, stumps, depressions, debris and soft or low density pockets of substrate. Erosion features such as rills, gullies, etc. must be graded out of the surface before HP-TRM deployment. The soil surface shall be scarified and capable of supporting a vegetative cover as determined by soil testing.

C. Compaction as specified by the geotechnical engineer will be required before deploying product to make sure the HP-TRM makes immediate contact with the soil.

D. Cut trenches for initial anchor trenches, termination trench and longitudinal anchor trenches (12 in (30 cm) wide and 12 in (30 cm) in depth) as shown on the drawings.

3.04 INSTALLATION

A. Care shall be taken during installation to avoid damage occurring to the HP-TRM as a result of the installation process. Should the HP-TRM be damaged during installation, a HP-TRM patch shall be placed over the damaged area extending 1.0 ft (0.3 m) beyond the perimeter of the damage.

B. Install initial and secondary anchoring devices according to installation and anchoring details. Additional anchoring devices may be required depending on site conditions or alignment of the slope or channel. Always staple (12 in (30 cm) centers) the seams between individual HP-TRM rolls.

C. When overlapping successive HP-TRM rolls, the rolls shall be overlapped upstream over downstream and/or upslope over downslope.

D. For channels, begin at the downstream end in the center of the channel. Inspect trenches for position accuracy and depth and re-dig to required dimensions. If trenches have not yet been constructed, dig initial anchor trenches, check slot trenches and longitudinal anchor trenches as illustrated in installation guidelines or as directed on the plans. Unroll approximately 10 ft (3 m) of the HP-TRM, positioning the roll face down (as it unrolls) over the initial anchor trench, extending several inches beyond the trench with the roll sitting on the downstream side of the anchor trench. Positioning roll in this manner permits backfilling and compaction of soil into the trench while allowing installer to proceed with proper deployment of HP-TRM by unrolling upstream, over the anchor trench.

E. Position second HP-TRM with a minimum 4-in (10 cm) overlap of the previous HP-TRM and secure it into the anchor trench. After entire width area is installed with the HP-TRM, then backfill and compact the anchor trench.

F. Continue deploying HP-TRM upstream to the next check slot. Overlay a minimum of 18 in (45 cm) the ends of rolls with the next roll(s) being deployed, or position in bottom of check slot, anchor and backfill and compact check slots. Continue the processes until you reach the upstream starting point of the HP-TRM.

G. For slopes, construct top anchor trench 1-3 ft (0.3-0.9 m) beyond crest of slope, or as illustrated in drawings or shown in manufacturers recommended installation guidelines. Position HP-TRM roll at crest of slope with sufficient material to line the entire anchor trench plus enough material left over to cover the trench. Position adjacent rolls to facilitate 6 in.(0.15m) overlaps. Anchor HP-TRM in trench with appropriate pins/staples at 1 ft (0.3 m) centers. Once several rolls are anchored in trench, begin to backfill and compact trench to original elevation. The preferred method of deploying roll down slope is to stand in front of the roll and pin it as it rolls out down the slope, minimizing foot traffic on HP-TRM, which will eliminate depressions under the mat. Always allow the mat to drape over the soil, never pulling it taut, to minimize tenting. Place additional pins into any apparent depressions to maintain contact with the soil.

H. Hydraulically fill the HP-TRM with 0.7 in (18 mm) of HP-FGM, applied with hose at close range. Optimum application rate is 3,500 lb/ac (3,920 kg/ha) or to the depth of where the tips of HP-TRM are still exposed.

I. Strictly comply with HP-FGM manufacturer's installation instructions and recommendations. For optimum HP-FGM pumping and application performance, use approved mechanically agitated, hydraulic seeding/mulching machines, hose of sufficient length to reach the HP-TRM, use of a 50 degree tip/nozzle is highly recommended. Apply HP-FGM from hose positioned over shoulder with nozzle approximately at chest level (4-5 ft or 1.2-1.5 m) to achieve optimum HP-TRM infill.

J. For optimum hydraulic performance and vegetative establishment, be careful not to overfill the HP-TRM. The tips of the HP-TRM shall be slightly exposed.

K. Apply supplemental water over the area as directed by site personnel during germination and initial three months of vegetation growth.

3.05 CLEANING AND PROTECTION

A. After application, thoroughly flush the tank, pumps and hoses to remove all material. Wash all material from the exterior of the machine and remove any slurry spills. Once dry, material will be more difficult to remove.

B. Clean spills promptly. Advise owner of methods for protection of treated areas. Do not allow treated areas to be trafficked or subjected to grazing.

3.06 INSPECTION AND MAINTENANCE

A. All inspections and maintenance recommendations shall be conducted by qualified professionals consistent with the owner, engineer/specifier and regulatory entity(s) expectations.

B. Initial inspections shall insure installations are in accordance with the project plans and specifications with material quantities and activities fully documented. Refer to Section 329219 – Hydroseeding for any additional details.

C. Subsequent inspections shall be conducted at pre-determined time intervals and corrective maintenance activities directed after each significant precipitation or other potentially damaging weather or site event.

END OF SECTION 328100

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SECTION 328200 -TURF REINFORCEMENT MAT ANCHOR

GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Percussive Driven Earth Anchor (PDEA)

B. Related Specification Sections include but are not necessarily limited to:

   1. Section 328100 – Permanent Geosynthetic Turf Reinforcement Mat

C. All anchors indicated on the Drawings or specified are to be PDEAs obtaining their required tension load carrying capacity from embedment into subgrade as a method of anchoring geomembrane liner.

1.2 QUALITY ASSURANCE

A. Qualifications:
   1. Anchor installer to be trained by the anchor manufacturer in the installation and construction of the type of anchors shown on the Drawings and required by the Specification Sections.
   2. The PDEA system should be produced in accordance with Platipus Anchors ISO 9001 standards.

1.3 DEFINITIONS

A. Percussive Driven Earth Anchor (PDEA): Lightweight corrosion resistant earth anchor that does not disturb the soil during installation. The PDEA shall be driven from finished grade elevation using conventional portable equipment such as an electric or pneumatic demolition hammer. The PDEA shall be pulled to an exact holding capacity and fully operational immediately.

B. Anchor Reinforced Grid Solution (ARGS)
   1. Anchor Reinforced: Percussive Driven Earth Anchor (PDEA) system includes the correct anchor, associated tendon, load plate and top terminations such as a wedge grip as specified by the Engineer of Record (EOR).
   2. Slope Facing: Any surface protection materials that can handle the load generated by the PDEA and perform the function of stabilizing the surface, most protection facing materials will also facilitate a vegetated finished face.
   3. Solution: The Solution is Designed by a Qualified Engineer (EOR) who has looked at all aspects of the design

C. Installer or Applicator:

   1. Installer is the person installing or applying the product in the field at the project site.

1.4 SUBMITTALS

A. Shop Drawings:
   1. See Specification Section 0133000 for requirements for the mechanics and administration of the submittal process.
   2. Product technical data including:
      a. Manufacturer and type of proposed anchor along with proposed anchor corrosion protection.
      b. Proposed sizes and types of anchors, wire tendons, and locking mechanism.
      c. Proposed methods of installing and tensioning of anchors.
      d. Connection details between the anchor and the TRM slope facing material.
      e. PDEA manufacturers recommended tools required to install and load anchors appropriately.

B. Certifications:
   1. Manufacturer shall submit a letter of certification that the product meets or exceeds physical properties, endurance, performance and packaging requirements.
   2. PDEA manufacturer shall provide ISO 9001 compliance certificates.

C. Qualifications:
   1. Submit record of at least one (1) previous successful PDEA installation in similar conditions by same manufacturer.
   2. If the installer has no previous experience with the PDEA manufacturer, a proof of completion of training by the PDEA manufacturer will be required.

1.5 PROJECT CONDITIONS

A. Do not begin anchor installation until the earthwork in the area where PDEAs are to be installed has been completed and TRM has been installed as shown on the Drawings and indicated in this Specification Section.

PART 2 – PRODUCTS

2.1 MANUFACTURES

A. Basis of Design: Provide Turf Reinforcement Mat Anchors by Platipus Anchors, Inc., or a compatible anchoring system.

2.2 ANCHOR PERFORMANCE

A. Required working tension load: [to be determined by E.O.R., typical for erosion control applications is 150-300 lbs. of pullout force]
B. Frequency**:** As determined by the E.O.R., see secondary mat anchor details.

2.3 MATERIALS

A. PDEAs in compliance with Engineer’s design shall be manufactured in accordance with ISO 9001 Standards as manufactured by Platipus Anchors.

   1. Platipus S2 ARGS Anchor
      a. Anchor: S2 Aluminum Alloy Anchor, with minimum dimensions of 3.14” long, 1.10" wide, 0.98” high.
      b. Lower Termination: Stainless Steel Soft Eye including 3mm Copper Ferrule.

c. Wire Tendon: 3.3’ of 3mm wire strand Grade 316 Stainless Steel
d. Top Accessory: 3.5” diameter 14 ga. Stainless Steel Load Plate
e. Top Termination: Recessed Brass Self-Setting Wedge Grip

PART 3 - EXECUTION

3.1 LINES AND LEVELS

A. Complete necessary excavation and grading and furnish all lines and levels necessary for completion of anchor installation.

3.2 ANCHOR INSTALLATION AND DETAIL REQUIREMENTS

A. Equipment:
   1. Driving equipment shall be as recommended and/or provided by the PDEA manufacturer and be adequate to obtain required embedment depth of the anchor in the subgrade encountered.
   2. Anchors shall bedriven using a percussive/demolition style hammer only, vibration or rotary type hammers are not recommended.
   3. Post tensioning of anchors to be accomplished by use of a tensioning device capable of applying the required tension loads and for load tested PDEAs, including appropriate gauges to indicate the load applied.

B. Installation and load locking apparatus
   1. DRIVE RODS: Use only the appropriate hardened power drive rod(s). Electric or air compressed percussive hammer to be provided by the contractor, the recommended hammers are available from most rental yards.
   2. SETTING TOOLS: Use only specific hand tools provided by the anchor manufacturer that will not damage the anchor tendon or the liner. These tools include handheld wire kleins for safely gripping the tendon to initially set the anchor, setting plate and/or bobbin (for properly setting the wedge grip).
   3. STRESSING JACK: It is recommended to only use the anchor manufacturer’s manual or hydraulic stressing jack and load gauge. The manufacturers load gauges shall be made specifically for the stressing jack model being used and calibrated to read pounds (or kN) of tension.

C. Anchor Placement:
   1. Do not install any anchors which are bent, cracked, of insufficient length, of reduced cross section due to any reason, or damaged in any way which would decrease the tension load carrying capacity of the anchor.
   2. Install anchors at the indicated locations, to the embedment length as directed by the Engineer and at a right (90°) angle of inclination.
   3. All anchors to be continuous full length without splices.

D. Installation Procedure:

   1. Properly reshape and finish grade the slope removing sticks, roots, rocks or other debris that may inhibit the TRM from making intimate contact with the slope face.

2. Follow the TRM manufacturer's or the State D.O.T's recommendation regarding top and toe anchor trenches and overlaps. At minimum at 12" x 12" top trench is recommended to properly key the TRM in.
3. Once the TRM facing material has been properly deployed and free of wrinkles, begin by measuring and marking anchor positions per engineer's specification.
4. Install PDEA using manufacture-certified tools and as directed by manufacturer.
5. After removing the drive rod from the anchor head, use the manufacturer's appropriate setting tool to load lock the anchor into its full working position by applying a load to the wire tendon.
6. If refusal is encountered prior to achieving specified depth, for < 2' depth, care should be taken to attempt to retrieve the anchor by pulling up on the tendon and drive rod at same time. If anchor is retrieved successfully, reposition anchor 1-2' from original mark and attempt to drive and set anchor, record and report positioning and load to the engineer. If anchor cannot be retrieved, record the depth and attempt to gain specified load and report the resulting load to the engineer.
7. Insert wire through the load plate and bottom of the wedge grip and slide/push tight against the TRM.
8. Thread wire through hole in setting plate and push setting plate against the load plate and wedge grip Using the hand tensioner, grab the wire with the attached klein (wire grips) and pull upward while standing on load plate. If performing a load test using a hydraulic jack, place SJ3 load jack over setting plate and grab wire with attached wire klein. Using hand pump, extend piston on jack until the engineers required load is met, this may require more than one 5" "piston stroke". Once load is achieved, release tension and remove the jack.
9. The tendon should be cut flush with the load plate using appropriate wire cutters and the off-cut tail disposed of properly.
10. If a vegetated face is the desired finished designed slope treatment, follow the TRM manufacturer's or the State's recommendation for establishment of the appropriate grasses. Some TRM manufactures recommend seeding prior to placement of the TRM slope facing material while others are suitable for Hydraulic Mulch infill, which perform particularly well with the ARGS erosion control applications.

END OF SECTION 328100

SECTION 329213 - HYDROSEEDING

PART 1 GENERAL

1.01 WORK INCLUDED

A. Seeding and fertilizing by the hydroseeding method finish-graded slopes and areas disturbed by construction work.

1.02 RELATED WORK

A. Section 312216 - Fine Grading
B. Section 329223 – Sodding

1.03 REFERENCES

A. Federal Specifications (FS):

1. FS-O-F-241 – Fertilizers, Mixed, Commercial.

1.04 QUALITY ASSURANCE

A. Furnish seed labeled in accordance with current rules and regulations of Arkansas Plant board.

1.05 SUBMITTALS

A. Submit results of soil analysis of samples taken from seeding area and/or imported topsoils.
B. Submit labels from seed bags, lime, and fertilizers.
C. Submit sample of mulching material.
D. Submit soil stabilizer information.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver grass seed in original containers showing analysis of seed mixture, percentage or pure seed, year of production, net weight, date of packaging, and location of packaging. Damaged packages are not acceptable.

B. Deliver fertilizer and lime in waterproof bags showing new weight, chemical analysis, and name of manufacturer.

1.07 PRICES

A. Hydroseeding: Hydroseeding in place as specified in this section and shown on the Drawings. Payment will be made at the lump sum bid for “Hydroseeding”, which price shall include subgrade preparation, seed, lime, fertilizer, mulching material, soil stabilizer, water and maintenance.

B. Topsoil: Imported topsoil incorporated into Work as specified in this section and shown on the drawings. Payment will be made at the lump sum price bid for “Topsoil”, which price shall include all costs of purchasing the loading, hauling, dumping, and spreading topsoil at the site.

PART 2 PRODUCTS

2.01 MATERIALS

A. Topsoil: Use topsoil excavated from the site only if conforming to the specified requirements.

1. Existing Topsoil: Natural, fertile agricultural soil capable of sustaining vigorous plant growth, not frozen or muddy condition, containing not less than 3% organic matter, and corrected to PH valve of 5.9 to 7.0. Free from sub-soil, slag, clay, stone, lumps, live plants, roots, sticks, crabgrass, coughgrass, noxious weeds, and foreign matter.
2. Imported Topsoil: Natural, fertile agricultural soil typical of locality, capable of sustaining vigorous plant growth, from well-drained site free of flooding, not frozen or muddy condition, not less than 3% organic matter, and PH value of 5.9 to 7.0. Free from subsoil, slag, clay, stones, lumps, live plants, roots, sticks, crabgrass, coughgrass, noxious weeds, and foreign matter.
3. Have topsoils analyzed and submit written analysis stating the nitrogen, phosphorous, and potassium requirements, organic matter content, and ph value of the soil for proposed turf grasses.
4. Testing Agency: Wallace Laboratories, 365 Coral circle, EL Segundo, CA 80245. Tel 310-615-0116, Attn: Mr. Garn Wallace, Ph D.
5. Very fine sandy loams and silt loams are not allowed.

B. Incorporate 15% compost by volume into existing and/or imported topsoil prior to planting or backfill mix preparation.

C. Fertilizers: FS O-F-241 commercial type:

1. Proportions: 10N-20P-10K

D. Lime: Lime if required, shall be agricultural grade ground limestone ground to pass an 8-meshed sieve with 25 percent passing a 100-meshing sieve. Calcareous limestone shall contain not less than 50 percent calcium oxide, and dolomitic limestone shall contain not less than 40 percent magnesium oxide. Coarser materials will be accepted provided the specified rates of application are increased proportionality; on the basis of quantities passing the 8 and 100 mesh sieves, but no additional payment will be made for the increase quantity.

E. Seed, General:

1. Labeled in accordance with current rules and regulations of Arkansas State Plant Board.
2. Minimum 98% pure seed and 85% germination by weight.
3. Allowable noxious weed seeds: 50 per pound of seed with no Johnson grass, wild onion, wild garlic, field bindweed, or nut grass seed allowed in any amount whatsoever.
4. Furnish seed in sealed, standard containers.

F. Seed Varieties: Refer to seed mix schedule in subsection H of this section.

G. Mulching material/soil stabilizer:

1. Flexterra HP-FGM (Flexible Growth Medium) for mulch and tackifier by Profile Products, LLC, or approved equal.

H. Seed Mix: Seed shall be composed of the varieties and amount by weight as shown below.

1. Erosion Control Seed Mixture – Cool Season 150 lbs./Acre
    a. Pennington Slopemaster Coastal Winter Mix or approved equal.

2. Erosion Control Seed Mixture – Warm Season 100 lbs./Acre
    a. Pennington Slopemaster Coastal Summer Mix or approved equal.

I. Hydroseeding Mixture:
1. 3500 lbs. of mulching material per acre.
2. Fertilizer: Minimum 600 lbs. per acre.
3. Seed: As specified for type of seed or seed mixture, rate per acre, and time of application.
4. Water.

PART 3 EXECUTION

3.01 PREPARATION

A. Have existing and/or imported topsoil tested for lime and fertilizer requirements at Contractor's expense. At least three soil samples shall be taken from each area. Submit a report of the soil analysis and recommendation of amendments to the Architect/Engineer.

B. Testing Agency: Wallace Laboratories, 365 Coral circle, EL Segundo, CA 80245. Tel 310-615-0116, Attn: Mr. Garn Wallace, Ph D.

C. Verify that seeding area has been cleaned up and dressed to final shape.

3.02 INSTALLATION

A. Subgrade Preparation:

1. Fine grade sub-grade, eliminating uneven areas and low spots. Maintain lines, levels, profiles, and contours. Make changes in grade gradual. Blend slopes into level areas and rake until smooth.
2. Remove foreign materials, undesirable plants and their roots, stones and debris. Do not bury foreign material beneath areas to be hydromulched.
3. Remove subsoil which has been contaminated with petroleum products.
4. Scarify and pulverizing sub-soil to a depth of 3 inches where topsoil is to be placed. Repeat pulverizing in areas where equipment used for hauling and spreading topsoil has compacted subsoil.
5. If lime is required, apply at rate determined by soil analysis, uniformly spreading on areas prior to their being scarified. Thoroughly mix lime with subsoil to the scarified depth.

B. Placing Topsoil:

1. Spread topsoil to the minimum depth stated on the drawings over all areas to be seeded.
2. Place topsoil during dry weather and on dry, unfrozen subgrade.
3. Remove stones, roots, grass weeds, debris, and other foreign non-organic material while spreading.
4. If lime is required, apply at rate determined by soil analysis, uniformly spreading on topsoiled areas. Thoroughly mix lime with topsoil layer.

C. Hydroseeding:

1. Prior to hydroseeding, lightly firm seeding areas with a cultipacker.
2. Verify that seeding area is ready to receive hydroseeding and notify architect/engineer of schedule for application.
3. Apply mixture of mulch, seed, fertilizer, soil stabilizer, and water with the proper equipment to achieve complete coverage at the specified rate.
4. Where applying mixture over Turf Reinforcement Mats, mix must be applied by hose from withing 2-3 feet for penetration into the mat, through to toto the soil surface.

3.03 MAINTENANCE

A. Maintain hydroseeding areas by watering, fertilizing, reseeding, and repairing as necessary for a period of 30 days after germination, to provide a healthly, growing stand of grass. Water seeded areas to maintain adequate moisture levels for vigorous germination and growth. Apply additional granular or liquid fertilizer 30 days after germination.

B. Mow turf grass areas to a height of 3 to 4 inches when height of grass reaches 6 inches. Mowing is not required in areas designated for erosion control seeding.

C. Repair and reseed damaged ground surfaces outside of normal work areas due to negligence of the Contractor.

D. It is intended that an established live and growing stand of grass be provided with no bare Spots. The contractor shall re-seed areas as necessary to obtain this result.

E. The time required for maintenance after the Contract Time ends will not be assessed as liquidated damages provided all other work under the contract has been completed.

END OF SECTION 329213

SECTION 329223 - SODDING

PART 1 GENERAL

1.1 WORK INCLUDED

A. Provide solid sodding for erosion control where shown on Drawings.

1.2 RELATED WORK

A. Section 312000 - Earth Moving

B. Section 312216 – Fine Grading

1.3 REFERENCES

A. Federal Specifications (FS):

1. FS-O-F-241 – Fertilizers, Mixed, Commercial.

1.4 QUALITY ASSURANCE

A. American Sod Producers Association (ASPA) – Guideline Specifications to Sodding.

1.5 SUBMITTALS

A. Submit results of soil analysis of samples taken from existing and/or imported topsoils.

B. Submit certification of sod type from grower and delivery receipt to contractor at the project address.

C. Submit samples of sod to Architect/Engineer for approval prior to installation.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver fertilizer in waterproof bags showing new weight, chemical analysis, and name of manufacturer.

1.7 PRICES

A. Solid Sodding: Sodding in place as specified in this section and shown on the Drawings. Payment will be made at the lump sum bid for “Solid Sodding”, which price shall be full compensation for subgrade preparation, sod, lime, fertilizer, and water, including all labor, tools, equipment and incidental necessary to complete the work.

B. Topsoil: Imported topsoil incorporated into Work as specified in this section and shown on the drawings. Payment will be made at the lump sum price bid for “Topsoil”, which price shall include all costs of purchasing the loading, hauling, dumping, and spreading topsoil at the site.

PART 2 PRODUCTS

2.1 MATERIALS

A. Topsoil:

1. Existing Topsoil: Natural, fertile agricultural soil capable of sustaining vigorous plant growth, not frozen or muddy condition, containing not less than 3% organic matter, and corrected to PH valve of 5.9 to 7.0. Free from sub-soil, slag, clay, stone, lumps, live plants, roots, sticks, crabgrass, coughgrass, noxious weeds, and foreign matter.

2. Imported Topsoil: Natural, fertile agricultural soil typical of locality, capable of sustaining vigorous plant growth, from well-drained site free of flooding, not frozen or muddy condition, not less than 3% organic matter, and PH value of 5.9 to 7.0. Free from subsoil, slag, clay, stones, lumps, live plants, roots, sticks, crabgrass, coughgrass, noxious weeds, and foreign matter.

3. Have topsoils analyzed and submit written analysis stating the nitrogen, phosphorous, and potassium requirements, organic matter content, and ph value of the soil. Provide soil amendments as recommended by soils analysis for proposed turf grasses.

4. Testing Agency: Wallace Laboratories, 365 Coral circle, EL Segundo, CA 80245. Tel 310-615-0116, Attn: Mr. Garn Wallace, Ph D.

5. Very fine sandy loams and silt loams are not allowed.

6. Incorporate 15% compost by volume into existing and/or imported topsoil prior to planting or backfill mix preparation.

B. Fertilizers: FS O-F-241 commercial type:

1. Proportions: 10N-20P-10K, or as recommended by soils analysis. Provide fertilizer application as recommended by soils analysis.

C. Lime: Lime if required, shall be agricultural grade ground limestone ground to pass an 8-meshed sieve with 25 percent passing a 100-meshing sieve. Calcareous limestone shall contain not less than 50 percent calcium oxide, and dolomitic limestone shall contain not less than 40 percent magnesium oxide. Coarser materials will be accepted provided the specified rates of application are increased proportionality; on the basis of quantities passing the 8 and 100 mesh sieves, but no additional payment will be made for the increase quantity. Provide line application as required by soils analysis.

D. Sod: Conforming to ASPA Guideline.

1. Type: As specified in the Turf Materials list on the drawings.

2. Use certified nursery grade cultivated grass sod, 98% weed free.

3. Content: Strong fibrous root system and free from stones and burned or bare spots.

E. Water: Water shall be of irrigation quality and free of impurities that would be detrimental to plant growth.

PART 3 EXECUTION

3.1 PREPARATION OF SUBGRADE

A. Fine grade subgrade, eliminating uneven areas and low spots. Maintain lines, levels, profiles and contours, allowing for thickness of topsoil and sod. Make changes in grade gradual. Blend slopes into level areas. Allow for positive drainage.

B. Remove foreign materials, undesirable plants, and their roots, stones, and debris. Do not bury foreign material beneath areas to be sodded. Remove subsoil which has been contaminated with petroleum or chemical products.

C. Cultivate subsoil to a depth of 3 inches where topsoil is to be placed. Repeat cultivation in areas where equipment used for hauling and spreading topsoil has compacted topsoil for proposed plant materials.

D. Prepare subgrades and bedding areas to receive plant materials.

3.2 PLACING TOPSOIL

A. Spread topsoil to the minimum depth stated on the drawings over all areas to be sodded.

B. Place topsoil during dry weather and on dry, unfrozen subgrade.

C. Rake until surface is smooth.

D. Remove stones, roots, grass weeds, debris, and other foreign non-organic material while spreading.

E. Lightly compact area after application of lime and fertilizer.

3.3 LIME APPLICATION

A. Spread lime at the rate recommended by soil analysis-lime requirement testing.

B. Mix lime thoroughly into topsoil layer.

3.4 FERTILIZING

A. Apply fertilizer at a rate of 800 pounds per acre or as recommended by soils analysis. Apply after fine grading and prior to compaction. Mix thoroughly into upper two inches of topsoil.

B. Lightly water to aid the breakdown of fertilizer.

C. Apply fertilizer within 48 hours before laying sod.

3.5 LAYING SOD

A. Lay sod within 24 hours after delivery to prevent deterioration.

B. Lay sod closely knit together with no open joints visible, and pieces not overlapped. Lay smooth and flush with adjoining grass areas, paving and top surfaces of curbs.

C. On slopes steeper than 3:1, lay sod perpendicular to slope and secure every row with 6-inch long metal staples at maximum 2 feet on center. Dive metal staples flush with soil portion of sod.

D. Immediately water sodded areas after installation. Water in sufficient amounts to saturate sod and upper 4 inches of soil.

E. After sod and soil has dried sufficiently to prevent damage, roll sodded areas to ensure good bond between sod and soil and to remove minor depressions and irregularities. Ensure rolling equipment weight is not over 250lbs. or less than 150lbs.

3.6 MAINTENANCE SERVICE

A. Begin maintenance services of sodded areas immediately after installation and continue throughout construction period until final acceptance of work.

B. Establish and maintain turf in a vigorous healthy growing condition. Include the following items:

1. Mowing turf as necessary to maintain a height of grass above ground between 2 and 4 inches.

2. Water sufficient to saturate root system.

3. Weed control applications.

4. Disease and insect control.

5. Fertilize every 30 days following initial application and installation.

END OF SECTION 329223