

PROJECT MANUAL
SPECIFICATIONS
DRAWINGS

**CULVERT REPLACEMENTS / REPAIR
OUABACHE STATE PARK
DEPARTMENT OF NATURAL RESOURCES**

4930 East State Road 201, Bluffton, IN 46714



Owner:

**Indiana Department of Natural Resources
Division of State Parks**
Indiana Government Center South
402 W. Washington Street, Rm. W273
Indianapolis, IN 46204

Designed and Prepared By:

**Indiana Department of Natural Resources
Division of Facilities, Fleet, Asset Management,
& Engineering**

August 14, 2025

IDNR Project ENG2403734214

DETAIL SPECIFICATIONS FOR:

CULVERT REPLACEMENTS / REPAIR

OUABACHE STATE PARK

WELLC COUNTY, INDIANA

*Owner: State of Indiana, Indiana Department of Natural Resources
402 West Washington Street
Indianapolis, Indiana 46204*

Engineered By:

101 West Ohio Street
Suite 810
Indianapolis, IN 46204

AECOM

Gerard F. Mroczka, P.E.
Sr. Project Manager



Date: August 11, 2025

Project No. 240903
DNR Project No. ENG2403734214

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STATE OF INDIANA

MIKE BRAUN, Governor

DEPARTMENT OF ADMINISTRATION
Public Works Division
402 West Washington Street, Room W462
Indiana Government Center – South
Indianapolis, Indiana 46204-2746
PHONE: (317) 232-3001

NOTICE TO BIDDERS

BY STATE OF INDIANA DEPARTMENT OF ADMINISTRATION, PUBLIC WORKS DIVISION FOR A PUBLIC WORKS CONSTRUCTION PROJECT ESTIMATED AT ONE HUNDRED FIFTY THOUSAND DOLLARS OR ABOVE

SECURED ELECTRONIC BIDS FOR:

Public Works Project No. ENG2403734214
OUABACHE STATE PARK CULVERT REPLACEMENT/REPAIR
Wells County, IN

will be received from Contractors, holding a current Certificate of Qualification, at Department of Administration, Public Works Division Email Bid Box publicworks bids@idoa.in.gov
(Note, do not cc: any other party)

Subject line MUST contain “Bid-Project No. ENG2403734214 (Your firm)”

Bid File (PDF) MUST be named “(Bidding Firm name) Bid Project No; ENG2403734214 - OUABACHE STATE PARK CULVERT REPLACEMENT/REPAIR” and not exceed 9Mb

Until 1:31 P.M (Indianapolis Time), October 16, 2025 after which all bids will be publicly opened and read online in a Microsoft Teams Live Event at 2:00PM – https://teams.microsoft.com/meet/IDNR_ENG2403734214

Minority Contractors are encouraged to submit bids on this project as a prime contractor or through a prime contractor.

Copies of the detailed Instructions to Bidders and Drawings and/or Specifications dated August 14, 2024 may be obtained from: Department of Natural Resources Division of Engineering Website <http://www.in.gov/dnr/engineer/bidding> for a non-refundable fee of \$0.00. Contractors are responsible for checking this website for additional documents or addenda that may be added before the bid opening date.

Bids shall be taken from Prime Contractors pre-qualified by the Public Works Certification Board in the following classification(s): 1611.02 Asphalt Construction of Roads & Parking Lots, 1622.01 General Contractor – Bridges, Viaducts, Elevated Highways, & Railways, 1741.04 Stone Work, 1771.01 Concrete Construction, 1794.01 Earthmoving & Land Clearing, or 1794.02 Excavation.

The Specified construction period is through **June 5, 2026**. The State of Indiana reserves the right to reject any and all bids.

Project goal of 7% MBE, 5% WBE and 3% IVOSB. Link <https://www.in.gov/idoa/mwbe/2494.htm>

Director, Asset Management & Engineering: *Greg Sorrels*
Greg Sorrels, Director, IDNR Division of AM&E

Director of Public Works: *Robert Grossman*
Robert Grossman, Director, IDOA Public Works

Pre-Bid Information: September 29, 2025 at
11:00AM (EST) at Project Site
Ouabache State Park Office
(40.721009°, -85.103333°)
4930 State Rd 316
Bluffton, IN 46714

Project Manager: John D. Spears, PE, PG
jspears@dnr.in.gov

INSTRUCTIONS TO BIDDERS

PROJECT ESTIMATED BY DEPARTMENT OF ADMINISTRATION, PUBLIC WORKS DIVISION
TO BE BID AT ONE HUNDRED FIFTY THOUSAND DOLLARS (\$150,000) AND ABOVE

01 GENERAL

- A. This project is estimated by the Public Works Division, Indiana Department of Administration (the Owner), as stated in the Notice to Bidders, at One Hundred Fifty Thousand Dollars (\$150,000) and above.
- B. QUALIFICATION BY THE CERTIFICATION BOARD IS REQUIRED FOR THIS PROJECT PRIOR TO BID OPENING DATE. For information and procedure contact Executive Secretary, Certification Board, Indiana Department of Administration, 402 W. Washington St., Room W462, Indianapolis, Indiana 46204, E-mail: _____ or phone (317) 232-3005.

02 PROJECT NUMBER, DESCRIPTION AND LOCATION is as stated in the Notice to Bidders.

03 TITLE AND DEFINITIONS

Said building and/or land upon which it stands is the property of the State of Indiana. All references to the title owner of said property hereinafter will be by the term "State" and all references to the person, firm, or corporation awarded the contract for the project will be by the term "Contractor". All references to Designer shall refer to the consulting person or firm employed to contract with the Public Works Division, Indiana Department of Administration to provide architectural, engineering or other consulting services for the project, or to the Public Works Division. The preparation and issuance of contracts for this project are the responsibility of the Commissioner of the Indiana Department of Administration acting with approval of the Governor.

Contract: A written agreement between two or more parties enforceable by law.

Contractor: A person who has entered into or seeks to enter into a contract with Public Works Division.

Prime Contractor: A person or business which is primarily responsible for providing goods and service or performing a specific service, etc. under contract. A prime contractor can also be a Minority Business Enterprise, a Women's Business Enterprise or an Indiana Veteran Owned Small Business Enterprise.

Subcontractor: A person or a business who has a direct contract with a prime contractor who is under contract to provide goods and services or perform a specific service.

Joint Venture: An association of two or more businesses to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge.

Manufacturer: A supplier that produces goods from raw materials or substantially alters them before resale.

Minority Business Enterprise (MBE) and Women's Business Enterprise (WBE): A business concern which is certified as at least fifty-one percent (51%) owned and controlled by one or more of the individuals classified as a minority group which includes: African Americans, Hispanic Americans, Native Americans, Hispanic Americans, Asian Americans, and other racial minority groups as defined by 13 CFR 124.103, or at least fifty-one percent (51%) owned and controlled by a woman or women.

Supplier: Any person or entity engaged to furnish goods, materials and/or equipment, but no on-site labor, is capable of furnishing such goods, materials and/or equipment either directly from its own stock or by ordering materials and/or equipment directly from a manufacturer, and is engaged to furnish such goods, materials and/or equipment directly to a prime contractor or one of its subcontractors.

Indiana Veteran Owned Small Business Enterprise (IVOSB): means an Indiana small business enterprise which is certified as at least fifty-one percent (51%) owned and controlled by a veteran.

04 PRE-BIDDING, BIDDING AND POST BIDDING REQUIREMENTS

- A. The Director, Public Works Division, will authorize the Designer to issue bidding documents, construction documents and addenda to bidders.
- B. It is recommended that all Bidders visit the site prior to submitting bid and become thoroughly familiar with the existing site conditions and work to be performed, as indicated in the bidding documents, construction documents and addenda. Extra compensation or extension of time will not be allowed for failure to examine the site prior to bidding.
- C. During the bidding period, should questions arise as to the meaning of any part of the bidding documents, construction documents or addenda that may affect the Bidder, the Bidder shall contact the Designer and/or Public Works Division and

submit a written request for clarification. The Designer and/or Public Works Division will make such clarification only by written Addendum that will be emailed to each document holder or may be obtained at the office of the Designer and/or Public Works Division. By submitting a bid, the Bidder acknowledges procurement of all Addenda. No written request for clarification will be accepted by the Designer and/or Public Works Division later than fourteen (14) calendar days prior to the scheduled bid date.

- D. Bid as described in Contractor's Bid (DAPW 13) shall include Base Bid (in figures and in words) and Alternates as specified in Section entitled Alternates. In verifying bids, word amounts shall have precedence over figure amounts.
- E. Alternate amount(s) shall be listed where indicated. Add Alternates are not to be included in the Base Bid Scope of Work. Deduct Alternates are to be included in the Base Bid Scope of Work. The bid form must be signed. Note that by signing the bid document, the Bidder is acknowledging the procurement of all addenda and is certifying that the bid recognizes all items in all addenda.
- F. A bid by a corporation shall be in the legal name of the corporation followed by the word "by" and the signature of the president. The secretary of the corporation shall sign indicating his/her authority to sign. A Certificate of Corporate Resolution (DAPW 41) is required with and as a part of the bid if anyone other than the president of the corporation is signing bid documents.
- G. *The Form 96A-Questionnaire and Financial Statement is no longer required to be submitted.* The Director, Public Works Division reserves the right to request additional financial information or contractor experience as a basis for rejection of bid or award of contract.
- H. Each Bidder must file with his bid a Non-Collusion Statement (DAPW-121) signed by the same authorized person(s) who signed the bid.
- I. Each Bidder must file with his bid a completely filled in and executed Bid Bond (DAPW 15A) in accordance with IC 4-13.6-7-5. The bid bond penal sum shall be the minimum amount of ten percent (10%) of the bid including all additive alternates.
- J. Each Bidder must file with his bid a completed MBE/WBE/IVOSB Participation Plan (DAPW 26) and Good Faith Effort Work Sheet (DAPW 26 SUP2). Refer to the Supplement to the General Conditions for MBE/WBE/IVOSB Participation Policy (DAPW 26 SUP1) for specific requirements.
- K. Each Bidder must file with his bid, the completed Contractor's Affidavit of Subcontractors Employed (DAPW 12) only if he proposes to perform any work with a subcontract amount of \$150,000.00 or more.
- L. Each bidder must file with his bid an Employee Drug Testing Plan (DAPW 150A) in accordance with IC 4-13-18 or evidence that the contractor is subject to a collective bargaining agreement containing drug testing requirements that comply with IC 4-13-18.
- M. Each Bidder must include his Federal ID number or Social Security number on page 1 of 3 of the Bid Form (DAPW 13). All required bid documents must contain original handwritten signatures.
- N. All documents required by statute, rule or these instructions to be included in the bid must be submitted together in a single email file, plainly marked on the subject line and in the email file with the Name of Bidder, Project Identification, Project Number, Bid Time and Bid Date. Bids shall be rejected if all required documents are not in the single email file.
- O. A Bidder with proper identification may withdraw his bid at any time prior to the scheduled time for receipt of the bids; however, no bid may be withdrawn without written consent of the Director, Public Works Division for a *period of sixty (60) days after the date of the bid opening*, or unless extended in accordance with IC 4-13.6-6-4. Bids received after the designated due time for any reason, shall be rejected and returned unopened to the Bidder. The Director, Public Works Division, reserves the right to reject any or all bids.
- P. Subcontractors whose work will equal or exceed One Hundred Fifty Thousand Dollars (\$150,000.00) must attain a Certificate of Qualification by the Certification Board before commencing any work on this project. Note paragraph 01. (B) above.
- Q. All Bidders (corporations or other business entities) must be in good standing with the Indiana Secretary of State.

05 SIGNATURE AFFIDAVIT

- A. A Signature Affidavit (DAPW 14) containing the Bidder's authorized signature(s), properly notarized, may be submitted as a signature supplement to all other bid documents, except the bid bond, including:
 - 1. Contractor's Bid (DAPW 13)
 - 2. Non-Collusion Statement (DAPW121)
 - 3. Contractor's Affidavit of Subs Employed (DAPW 12)
 - 4. MBE/WBE/IVOSB Participation Plan and Good Faith Effort Worksheet (DAPW 26 SUP 2)

- B. All documents herein before required with the bid may be unsigned if the signature affidavit is submitted, except for the BID BOND. BIDDER MUST SIGN THE BID BOND.

NOTE: SIGNING THE SIGNATURE AFFIDAVIT OR BID FORM IS ACKNOWLEDGMENT OF PROCUREMENT OF ALL ADDENDA AND CERTIFICATION BY BIDDER THAT THE BID RECOGNIZES ALL ITEMS IN ALL ADDENDA.

06 WORK BY CONTRACTOR

The Contractor shall perform a minimum of 15% of the value of work (measured in dollars of the total contract price) with his own forces, and not more than 85% of the value of work is to be subcontracted.

07 SUBSTITUTIONS

The materials, products, systems and equipment described in the bidding documents, construction documents and addenda establish a standard or required function, dimension, appearance and quality that shall also be met by any proposed substitution. No substitution by manufacturer, or trade name of product named, or of a quality specified will be considered unless written request for approval has been submitted by the Bidder and has been received by the Designer and/or Public Works Division at least fourteen (14) calendar days prior to the date for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the proposer. The Designer and/or Public Works Division decision of approval or disapproval of the proposed substitution shall be final. Products, materials or systems not specified or approved prior to bidding, shall not be accepted for use in this project. All such substitutions accepted shall be acknowledged by addendum. See paragraph. 04 (C).

08 NONDISCRIMINATION

Pursuant to IC 22-9-1-10, the Contractor and subcontractors, if any, shall not discriminate against any employee or applicant for employment, to be employed in the performance of this contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his race, religion, color, sex, disability, national origin, or ancestry. Breach of this covenant may be regarded as a material breach of the contract. Pursuant to IC 5-16-6-1, the contractor agrees:

- A. that in the hiring of employees for the performance of work under this contract or any subcontract hereunder, no contractor, or subcontractor, nor any person acting on behalf of such contractor or subcontractor shall, by reason of race, religion, color, sex, disability, national origin or ancestry, discriminate against any citizen of the State of Indiana who is qualified and available to perform the work to which the employment relates; and
- B. that no contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, religion, color, sex, national origin or ancestry; and
- C. that there may be deducted from the amount payable to the contractor by the State of Indiana or by any municipal corporation thereof, under this contract, a penalty of five dollars (\$5.00) for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the contract; and
- D. that this contract may be canceled or terminated by the State of Indiana or by any municipal corporation thereof, and all money due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this section of the contract.

09 EMPLOYMENT ELIGIBILITY VERIFICATION

The Contractor affirms under the penalties of perjury that he/she/it does not knowingly employ an unauthorized alien.

The Contractor shall enroll in and verify the work eligibility status of all his/her/its newly hired employees through the E-Verify program as defined in IC 22-5-1.7-3. The Contractor is not required to participate should the E-Verify program cease to exist. Additionally, the Contractor is not required to participate if the Contractor is self-employed and does not employ any employees.

The Contractor shall not knowingly employ or contract with an unauthorized alien. The Contractor shall not retain an employee or contract with a person that the Contractor subsequently learns is an unauthorized alien.

The Contractor shall require his/her/its subcontractors, who perform work under this contract, to certify to the Contractor that the subcontractor does not knowingly employ or contract with an unauthorized alien and that the subcontractor has enrolled and is participating in the E-Verify program. The Contractor agrees to maintain this certification throughout the duration of the term of a contract with a subcontractor.

The State may terminate for default if the Contractor fails to cure a breach of this provision no later than thirty (30) days after being notified by the State.

The contractor shall submit, before work begins the E-Verify case verification number for each individual who is required to be verified under IC 22-5-1.7. An individual who is required to be verified under IC 22-5-1.7 whose final case result is final non-confirmation may not be employed on the public works project.

A contractor may not pay cash to any individual employed by the contractor for work done by the individual on the public works project.

A contractor must follow the federal Fair Labor Standards Act of 1938, as amended (29 U.S.C. 201-209) and IC 22-2-2. A contractor must be in compliance with IC 22-3-5-1 and IC 22-3-7-34. A contractor must be in compliance with IC 22-4-1 through IC 22-4-39.5. A contractor must be in compliance with IC 4-13-18.

10 NOTICE OF AWARD

- A. Prior to execution of the Contract, in accordance with IC 4-13.6-5-2, the Director of Public Works may require additional submittals from Bidder/s to clarify contractor's experience and plans for performing the proposed work. Submittals which may be required include a critical path construction schedule which coordinates all significant tasks sequences and durations; schedule of values, and documentation of efforts to include minority, woman, and veteran owned businesses in the proposed work. The Director may require Bidder/s to provide a comprehensive list of subcontractors and suppliers within 24 hours of receipt of bids.
- B. Prior to execution of the Contract, the successful Bidder shall furnish a completed Domestic Steel Affidavit (DAPW 11) to Public Works Division, Indiana Department of Administration as part of the contract. The Domestic Steel Affidavit is included for Bidder's review but need not be submitted at the time of the bid opening. Definition of Steel Products:
- "Steel products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated, or otherwise similarly processed, or processed by a combination of two (2) or more of such operations, from steel made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process.
- C. Prior to execution of the Contract, the successful Bidder shall furnish a completed Contractor's Bond for Construction (DAPW 15) (combined performance and payment bond) to Public Works Division, Department of Administration as part of the contract. The Bond form is included for Bidder's review but need not be submitted at the time of the bid opening.
- D. Prior to execution of the Contract, the successful Bidder shall furnish a completed Contractor's Certificate of Insurance (DAPW 16) to Public Works Division, Department of Administration as part of the contract. The Insurance form is included for Bidder's review but need not be submitted at the time of the bid opening.
- E. Prior to execution of the Contract, the State of Indiana will issue to the successful Bidder an email letter stating that its bid was the lowest responsible and responsive bid and that the attached electronic format contract document is submitted to Contractor for its consideration. If Contractor finds it in accordance with the bid documents, Contractor will electronically sign the contract within ten (10) calendar days after receipt. Further state agency approvals are required, and Contractor is cautioned that a contract is not binding on the State until it is approved by all signatories required. Failure to execute the proper contract and furnish the ancillary documents shall constitute reason to surrender the bid bond.
- F. Concurrent with execution of the Contract, the successful Bidder may be required to furnish executed copies of Contractor-Subcontractor agreements as required in Article 5 of the General Conditions.

11 SUMMARY

All required bid documents must contain original handwritten signatures. Complete documents to be submitted with this bid:

- A. The Bid Bond (DAPW 15A) must be signed by both the Bidder and Bonding Company. The Bonding Company must also attach a Power of Attorney. Bid bond information, may be on the Bonding Company's standard form.
- B. The Contractor's Bid (DAPW 13)
 - Page 1: State the amount of the bid in figures and words.
 - Page 2: State the amount of the alternate(s), indicate add, deduct or no change (READ CAREFULLY).
 - Page 3: Authorized signature of the Company. If the signature affidavit is completed and submitted with the bid, this page must be submitted but need not be signed or notarized.
- C. The Signature Affidavit (DAPW 14) must contain the completed authorized signatures properly notarized and submitted with the bid as a supplement.

This Signature Affidavit shall fulfill all of the signature requirements. NOTE: The Signature Affidavit does not apply to the Bid Bond (DAPW 15A). The Bid Bond document must be fully completed with all required signatures and submitted with the bid.
- D. The Non-Collusion Statement (DAPW 121) must be signed by the same authorized person(s) who signed the bid documents. If the signature affidavit is completed and submitted with bid, this form shall be submitted, but need not be signed.
- E. For corporations, if anyone other than the president of the corporation signs, a Certificate of Corporate Resolution (DAPW 41) giving signature authority for the signer must be included.
- F. MBE/WBE/IVOSB Participation Plan and MBE/WBE/IVOSB Good Faith Effort Worksheet (DAPW 26 SUP2) must be completed and signed by the same authorized person who signed the bid documents.
- G. The completed Contractor's Affidavit of Subcontractors Employed (DAPW 12) whose subcontract amount will be \$150,000.00 or more.
- H. The completed plan for Contractor's Employee Drug Testing Plan (or statement of collective bargaining agreement).
- I. One copy only of the Bid Documents is required. Bidders may remove and use the Documents included in the project specifications or use reproductions of the Documents.

12 INDIVIDUAL BIDS SHALL BE REJECTED BY THE DIRECTOR, PUBLIC WORKS DIVISION, FOR THE FOLLOWING REASONS (IC 4-13.6-5-2; IC 4-13.6-6-1; 25 IAC 2-6-5)

- A. If the bid email subject line and bid form heading does not clearly identify the project number and description; if the name of the Bidder is not clearly indicated in the email and/or if the email is not received and date stamped within the Public Works Division electronic bid receipt mailbox prior to the stated time for receipt of bids.
- B. If the estimated base bid cost exceeds \$150,000.00 and the bidding contractor is not certified by Public Works Certification Board to offer bids in one of the specified categories.
- C. If the bidding contractor is under suspension by the Director of Public Works or by the Public Works Certification Board.
- D. If the bidding contractor is a trust and does not identify all beneficiaries and empowered settlors of the trust.
- E. If the contractor's drug plan is not included in the bid documents pursuant to and complies with IC 4-13-18.

13 INDIVIDUAL BIDS MAY BE REJECTED BY THE DIRECTOR, PUBLIC WORKS DIVISION, FOR THE FOLLOWING REASONS (25 IAC 2-6-5)

- A. If the Contractor's Bid (DAPW 13), Non-Collusion Statement (DAPW 121), and/or Bid Bond (DAPW 15A) are not signed and notarized as required by these instructions, or the Signature Affidavit (DAPW 14) and the Bid Bond (DAPW 15A) are not signed and notarized as allowed as an alternative.
- B. If all required bid or alternate(s) amounts, or unit prices are not submitted with the bid when specifically called for by the specifications issued for the project.

- C. When the Bidder adds any provision reserving the right to accept or reject the award, or if the Bidder adds conditions or alternates to his bid not requested (voluntary alternates), or if there are unauthorized additions or irregularities of any kind which tend to make the proposal incomplete, indefinite or ambiguous as to its meaning or amount.
- D. When no bids received are under or within funds that can be appropriated, or within the Designer's estimate or when situations develop which make it impossible or not practical to proceed with the proposed work.
- E. If, subsequent to the opening of the bids, facts exist which would disqualify the Bidder, or that such Bidder is not deemed by the Director, Public Works Division, to be responsive or responsible.
- F. If an out-of-state contractor is not registered with the Indiana Secretary of State or if any bidding contractor is not in good standing with the Secretary of State.

GENERAL BID FOR PUBLIC WORKS

CONTRACTOR'S BID

For _____
(Insert class of work)

Project Number _____

Project Description (Title) _____

Date _____

To: Department of Administration, Public Works Division
Room W467
402 West Washington Street
Indianapolis, Indiana 46204

Pursuant to notices given, the undersigned proposes to furnish and install work
in accordance with the construction documents prepared by:

(Designer Name, Address, Telephone)

for the sum of _____
(State amount in words)

_____ \$ _____
(State amount in figures)

If required add attachment for all unit prices called for in the Specifications.

_____ Federal I.D. Number or Social Security Number

Contractor's Email address _____
(Contract and Purchase Order will be sent to email address provided)

Bidder ID Number _____

(If you do not have an Indiana Department of Administration Bidder ID Number, please obtain one online at:
<http://www.in.gov/idoa/2464.htm>)

ALTERNATE BIDS

Add Alternates Are Not to be included as part of the Base Bid Scope of Work.

Deduct Alternates are items of work that Are to be included in the Base Bid Scope of Work, and deducted from the project as described herein.

The work shall be as described in Section, ALTERNATES.

Bidder shall provide a response to each alternate specified. Response must indicate the amount to be ADDED to the base bid, DEDUCTED from the base bid, or that there is NO CHANGE.

Failure to respond to all alternates may cause the bid to be rejected.

BIDDER SHALL CHECK APPLICABLE BOX for each listed alternate.

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Alternate No. ___ ADD ___ DEDUCT ___ NO CHANGE ___ AMOUNT \$ _____

Ethics Compliance. The Contractor and its agents shall abide by all ethical requirements that apply to persons who have a business relationship with the State, as set forth in Indiana Code § 4-2-6 et seq., the regulations promulgated there under, and Executive Order 04-08, dated April 27, 2004. If the Contractor is not familiar with these ethical requirements, the Contractor should refer any questions to the Indiana State Ethics Commission, or visit the Indiana State Ethics Commission website at <<<<http://www.in.gov/ethics/>>>>. If the Contractor or its agents violate any applicable ethical standards, the State may, in its sole discretion, terminate this contract immediately upon notice to the Contractor. In addition, the Contractor may be subject to penalties under Indiana Code § 4-2-6-12.

Pursuant to IC 22-9-1-10, the Contractor and subcontractors, if any, shall not discriminate against any employee or applicant for employment, to be employed in the performance of this contract, with respect to his hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his race, religion, color, sex, disability, national origin, or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

IN TESTIMONY WHEREOF, the Bidder (a sole proprietor) has hereunto set his hand
this ___ day of _____, 20__.

Proprietorship (Company Name)

(INDIVIDUAL)

Bidder (Owner)

IN TESTIMONY WHEREOF, the Bidder (a partnership) has hereunto set their hands
this ___ day of _____, 20__.

Company Name

Partner

Partner

IN TESTIMONY WHEREOF, the Bidder (a corporation) has caused this proposal to be signed by its
President or other authorized signatory and Secretary this _____ day of _____, 20__.

Corporation Name

By President or Other Authorized Signatory

Secretary

If the bid is signed by other than the President, a Corporation Resolution designating other authorized signatory shall be submitted with this bid unless already on file with the Certification Board of the Public Works Division.

BY SIGNING THIS BID THE BIDDER ACKNOWLEDGES PROCUREMENT OF ALL ADDENDA AND
CERTIFIES THAT THIS BID RECOGNIZES ALL ITEMS IN ALL ADDENDA.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____
(Contractor's Name and Address)

as Principal, hereinafter called the Principal, and the _____
(Bonding Company Name)

a corporation duly organized under the laws of the State of _____
as Surety, hereinafter called the Surety, are held and firmly bound unto Public Works Division/Department of
Administration, State of Indiana, as Obligee, hereinafter called the Obligee,

in the sum of _____
for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves,
our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for: (insert State Project Number, Description and Location)

Project No. _____

Project Description: _____

Project Location: _____

NOW THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a contract
with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the
bidding or contract documents with good and sufficient surety for the faithful performance of such contract and for
the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the
Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference
not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the
Obligee may in good faith contract with another party to perform the work covered by said bid, then this obligation
shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this _____ day of _____, 20____.

(Witness)

(Principal)

By: _____
(Title)

(Surety)

Witness)

(Attorney-in-fact)

Indiana Department of Administration MBE/WBE and IVOSB Participation Policy for Public Works Projects

I. Introduction

The Indiana Department of Administration (“IDOA”) in its commitment to Minority, Women’s and Indiana Veteran Owned Small Business participation in the state’s procurement and contracting process, expects MBE, WBE and IVOSB participation in bids for construction services \$150,000 and over with subcontracting opportunities.

II. Definitions

“Certification for MBE and WBE” means certification by the Indiana Department of Administration, Minority and Women’s Business Enterprises Division. (“MWBED”).

“Certification for IVOSB” means certification by the Indiana Department of Administration.

“Commercially useful function” Determination that an enterprise performs a commercially useful function will be made based on the following considerations:

(1) An MBE or a WBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the MBE or WBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether an MBE or a WBE is performing a commercially useful function, one must evaluate the following:

(A) The amount of work subcontracted.

(B) Industry practices.

(C) Whether the amount the enterprise is to be paid under the contract is commensurate with the work it is actually performing.

(D) The credit claimed for its performance of the work.

(E) Other relevant factors.

(2) An MBE or a WBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of MBE or WBE participation. In determining whether an MBE or a WBE is such an extra participant, one must examine similar transactions, particularly those in which MBEs or WBEs do not participate.

(3) In the case of construction contracts, if:

(A) an MBE or a WBE does not perform or exercise responsibility for at least the agency’s requisite percent of the total cost of its contract with its own workforce; or

(B) the MBE or WBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved;

it is presumed that the enterprise is not performing a commercially useful function.

(4) IVOSB contractors and suppliers must perform a commercially useful function. A commercially useful function is generally deemed to be when an IVOSB contractor or supplier is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially

useful function, an IVOSB contractor or supplier must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. An IVOSB contractor or supplier does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of IVOSB participation.

“Letter of Commitment” means a letter obtained from the MBE, WBE and IVOSB by the Bidders. The Letter of Commitment is a signed letter(s), on company letterhead, from the minority, women’s and/or Indiana Veteran Owned certified business. It must be produced no later than 24 hours after the bid due date and time. This letter(s) shall state and will serve as acknowledgement from the minority, women and/or Indiana Veteran Owned certified business of their level of participation in this solicitation, the dollar amount of the commitment, the scope of service or product to be provided and the anticipated dates of utilization.

“Minority and Women Business Enterprises Division (MWBED)” means the Division which acts on behalf of the State to actively promote, monitor, and enforce the MBE and WBE program. MWBED is the final authority on all matters pertaining to the maintenance and administration of the MBE and WBE program and compliance thereto.

“Minority Business Enterprise (MBE) and Women’s Business Enterprise (WBE)” means a business concern which is certified as at least fifty-one percent (51%) owned and controlled by a woman or women or one or more of the individuals classified as a minority group which includes: African Americans, Hispanic Americans, Asian Americans, American Indians and other racial minorities. The MBE and WBE must meet the eligibility requirements of 25 IAC 5.

“Indiana Veteran Owned Small Business Enterprise (IVOSB)” means an Indiana business which is certified as at least fifty-one percent (51%) owned and controlled by a veteran.

“Participation Plan” means the IDOA prescribed document that sets forth the MBE, WBE and IVOSB subcontractors that will perform work under the contract.

III. Minority and Women Business Enterprise Certification

MBE and WBEs must be listed on the IDOA directory of certified firms at the time the bid is submitted to be eligible to meet the contract goals. The bidder should verify that a firm is certified before the bid is submitted.

Questions regarding Certification should be addressed to the following:

Indiana Department of Administration
Minority and Women's Business Enterprises Division
402 West Washington Street, Room W469
Indianapolis, IN 46204
(317) 232-3061
mwbe@idoa.in.gov

IV. Indiana Veteran Owned Small Business Enterprise

IVOSBs must be listed on the IDOA directory of certified firms at the time the bid is submitted to be eligible to meet the contract goals. The bidder should verify that a firm is certified before the bid is submitted.

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Questions regarding Certification should be addressed to the following:

Indiana Department of Administration
402 W. Washington St., Room W478
Indianapolis, IN 46204
(317) 233-1494
Indianaveteranspreference@idoa.in.gov

V. Bidding Process

IDOA will review projects for viable subcontracting opportunities. All projects will be governed by this policy unless otherwise stated.

A representative from MWBED may attend most pre-bid meetings to discuss and answer questions related to the MBE, WBE and IVOSB participation goals. The MWBED will be available to assist Bidders in locating MBE, WBE or IVOSB firms to engage in the contract.

The 2018-2019 Contract Goals for construction projects are 7% for MBE's, 5% for WBE's and 3% for IVOSBs.

The following procedures will be implemented in the acceptance and evaluation of responsive and responsible bids.

Bidders are expected to submit a Participation Plan on the approved form listing the utilization of MBE, WBE and IVOSB subcontractors who will be providing a commercially useful function on the project and a Letter of Commitment from MBE, WBE and IVOSB firms they plan to engage in the contract, if successful on the bid.

By submission of a bid, a bidder thereby acknowledges and agrees to be bound by the regulatory process set forth in 25 IAC 5.

A bidder who knowingly or intentionally misrepresents the truth about either the status of a firm that is being proposed as an MBE and WBE or who misrepresents the level of the nature of the amount to be subcontracted to the MBE and WBE may suffer penalties pursuant to Indiana Code 5-16-6.5-5.

A Contractor who knowingly or intentionally misrepresents the truth about his/her status as an MBE and WBE or who misrepresents the level or the nature of the amount subcontracted to his/her firm may suffer penalties pursuant to Indiana Code 35-44.1-2-1.

VI. Compliance

Contractors shall contract with all MBE, WBE and IVOSB firms listed on the Participation Plan. The subcontract or purchase order shall be for an amount that is equal to, or greater than, the total dollar amount listed on the form.

Contractors shall notify MWBED immediately if any firm listed on the Participation Plan refuses to enter into a subcontract or fails to perform according to the requirements of the subcontract.

The Contractor's proposed MBE, WBE and IVOSB Contract Goals will become incorporated into and a requirement of the Contract. Contractors shall not substitute, replace or terminate any MBE, WBE and IVOSB firm without prior written authorization from MWBED and the Owner.

Contractors shall cooperate and participate in compliance reviews as determined necessary by MWBED. Contractors shall provide all necessary documentation to show proof of compliance with the requirements as requested by MWBED.

VII. Non Compliance

When a Respondent submits a Minority, Women and Indiana Veteran Owned Business Enterprises Participation Plan in accordance with IC 4-13-16.5, 25 IAC 5 and 25 IAC 9, (the "Plan"), Respondent will be held to those commitments.

After the bid is awarded, and if it is determined by MWBED that the Contractor is not in compliance with its Participation Plan, MWBED will notify the Contractor within ten (10) days after the initial compliance review or the site visit and will identify the deficiencies found and the required corrective action that should be taken to remedy the deficiencies within a specific time period.

If a Contractor is found non-compliant, the Contractor must submit, in writing, a specific commitment, in writing, to correct the deficiencies. The commitment must include the precise action to be taken and the date for completion.

If MWBED determines the Contractor has failed to comply with the provisions of this Participation Program, Contractor's Utilization Statement, 25 IAC 5, or 25 IAC 9, IDOA may impose any or all of the following sanctions:

- a. Withholding payment on the Contract until such time that satisfactory corrective measures are made.
- b. Adjustment to payments due or the permanent withholding of retainages of the Contract.
- c. Suspension or termination of the specific Contract in which the deficiency is known to exist. In the event this sanction is employed, the Contractor will be held liable for any consequential damages arising from the suspension or termination of the Contract, including damages caused as a result of the delay or from increased prices incurred in securing the performance of the balance of the work by other Contractors.
- d. Recommendation to the certification board to revoke the contractor's certification status with the Public Works Division of IDOA. This recommendation may result in the suspension or revocation of the contractor's ability to perform on future state contracts for a period no longer than thirty-six (36) months.
- e. Continued non-compliance may be deemed a material breach of the agreement between MWBED and Contractor, whereupon MWBED shall have all the rights and remedies available to it under the Contract or at law.
- f. Suspension, revocation, or denial of the MBE, WBE or IVOSB certification and eligibility to participate in the MBE, WBE or IVOSB program for a period of not more than thirty-six (36) months.

VIII. Forms and Attachments

Minority, Women's and Indiana Veteran Owned Business Enterprises Participation Plan

I. MINORITY, WOMEN’S AND INDIANA VETERAN OWNED BUSINESS ENTERPRISES PARTICIPATION PLAN

When a Respondent submits a Minority, Women's and Indiana Veteran Owned Business Enterprises Participation Plan in accordance with IC 4-13-16.5, 25 IAC 5 and 25 IAC 9, (the “Plan”), Respondent will be held to those commitments. The Plan must show that there are, participating in the proposed contract, Minority Business Enterprises (MBE), Women’s Business Enterprises (WBE), and Indiana Veteran Owned Small Business Enterprises (IVOSB) listed in the Minority and Women’s Business Enterprises Division (MWBED) directory and the IVOSB directory of certified firms. Respondents must indicate the name of the MBE, WBE and IVOSB with which it will work, the contact name and phone number at the firm(s), the service supplied by the firm(s), the specific dollar amount from this contract that will be directed toward each firm, and the approximate date these products and/or services will be utilized. If participation is met through use of vendors who supply products and/or services, the Respondent must also indicate the vendor’s tax ID number as well as provide a description of products and/or services provided to the Respondent that are directly related to this proposal and the cost of direct supplies for this proposal. All prime contractors, including MBE, WBE and IVOSB prime contractors, are expected to meet the contract goals through use of subcontractors.

The Indiana Department of Administration (“IDOA”) in its commitment to Minority, Women’s and Indiana Veteran Owned Small Business participation in the state’s procurement and contracting process, expects MBE, WBE and IVOSB participation in bids for public works projects with subcontracting opportunities. The Department reserves the right to verify all information included in the Plan.

Respondents may contact MWBED if they have any questions regarding their Participation Plan. A complete list of all currently certified MBE’s and WBE’s is located at this link: <http://www.in.gov/idoa/mwbe/2743.htm>. The complete list of certified IVOSBs can be found at this link http://www.in.gov/idoa/files/ivbe_certification_list.xls.

Minority, Women’s and Indiana Veteran Owned Business Enterprises Participation Letter of Commitment

A signed letter(s), on company letterhead, from the MBE, WBE and/or IVOSB must accompany the Plan. This letter(s) shall state and will serve as acknowledgement from the MBE, WBE and/or IVOSB of its amount of participation, the scope of products and/or services, and approximate date these products and/or services will be utilized.

By submission of the Proposal, the Respondent acknowledges and agrees to be bound by the regulatory processes involving the State’s MBE, WBE and IVOSB Programs. Questions involving the regulations governing the Plan should be directed to MWBED’s Compliance Unit at 317/232-3061 or to IDOA at 317-233-1494.

MBE/WBE and IVOSB PARTICIPATION PLAN

RFP # / Bid # / Quote # _____ DUE DATE _____

(Circle One)

RFP / BID / QUOTE NAME _____

(Circle One)

RESPONDENT _____

ADDRESS _____

CITY/STATE/ZIP _____

PHONE () _____

The following MBEs and/or WBEs listed in the MWBED directory will be participating in the contract:

MBE/WBE PHONE COMPANY NAME SCOPE OF PRODUCTS/SERVICES UTILIZATION DATE AMOUNT

The following IVOSBs listed in the IVOSB directory will be participating in the contract:

IVOSB PHONE COMPANY NAME SCOPE OF PRODUCTS/SERVICES UTILIZATION DATE AMOUNT

***If additional room is necessary, indicate here _____ . Please attach a separate page.**

**Indiana Department of Administration
Public Works and State Office Building Commission
GOOD FAITH EFFORTS WORKSHEET**

BIDDER _____ BID/PROJECT NUMBER _____

CONTRACT GOALS 7% MBE 5% WBE

List the M/WBEs contacted and complete the following information for each. Copies of all communications to and from each vendor should be maintained.

Company Name and Address	MBE	WBE	Type of Contact	Date of Contact	Date Response Due	Goods Or Services Requested	Result (Include Price Quote)

Indicate **Good Faith Efforts** made to utilize MWBEs. Check and explain all that apply or should be considered. Please provide evidence of the efforts that you want to be considered. A complete description of each criteria may be found in the **Indiana Department of Administration Public Works and State Office Building Commission MWBE Participation Policy**.

MBE and WBE Barrier Assistance	Describe
Advertisement	Describe
Agency Assistance	Describe
Other Criteria	Describe

CERTIFICATE OF CORPORATE RESOLUTION

I, _____, do hereby certify that I am the Secretary
Type Name
of _____, a corporation duly organized and
existing under and by virtue of the Laws of the State of Indiana;

I further certify that a regular/special meeting of the members of the Board of Directors of said corporation, duly called held and convened in conformity with the Charter and By Laws of said corporation, on the __day of _____, 20 __, a quorum being present and voting thereon, the following resolution was duly adopted, to-wit:

I further certify that the foregoing resolution is a full, true, and complete copy as the same appears on record in the Minute Record Book of said corporation of which I am the legal custodian; that the same has not been altered, amended or repealed and is now in full force and effect.

In Witness Whereof, I have hereunto set my hand for said corporation this _____ day of _____, 20 _____.

By: _____
(Signature)

(must be signed by principal of organization)
STATE OF }
 } SS:
COUNTY OF }

_____ personally appeared before me, a Notary Public, in and for said County and State, this _____ day of _____, 20 __, after being duly sworn upon his oath, says that the facts alleged in the foregoing affidavit are true.

My Commission Expires:

(SEAL)

NOTARY PUBLIC - SIGNATURE

NOTARY PUBLIC PRINTED NAME

NON-COLLUSION STATEMENT

The undersigned attests, subject to the penalties for perjury, that the undersigned is the Contractor, or that the undersigned is the properly authorized representative, agent, member or officer of the Contractor. Further, to the undersigned's knowledge, neither the undersigned nor any other member, employee, representative, agent or officer of the Contractor, directly or indirectly, has entered into or been offered any sum of money or other consideration for the execution of this Contract other than that which appears upon the face hereof. **Furthermore, if the undersigned has knowledge that a state officer, employee, or special state appointee, as those terms are defined in IC 4-2-6-1, has a financial interest in the Contract, the Contractor attests to compliance with the disclosure requirements in IC 4-2-6-10.5.**

Signature

Printed Name

Title

Company

Date



STATE OF INDIANA DRUG-FREE WORKPLACE CERTIFICATION

State Form 44260 (R2 / 12-22)

Pursuant to Executive Order No. 90-5, April 12, 1990, issued by Governor Evan Bayh, the Indiana Department of Administration requires the inclusion of this certification in all contracts with and grants from the State of Indiana in excess of \$25,000. No award of a contract or grant shall be made, and no contract, purchase order or agreement, the total amount of which exceeds \$25,000, shall be valid unless and until this certification has been fully executed by the Contractor or Grantee and attached to the contract or agreement as part of the contract documents. False certification or violation of the certification may result in sanctions including, but not limited to, suspension of contract payments, termination of the contract or agreement and/or debarment of contracting opportunities with the State for up to three (3) years.

The Contractor/Grantee certifies and agrees that it will provide a drug-free workplace by:

(a) Publishing and providing to all of its employees a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; and

(b) Establishing a drug-free awareness program to inform employees about (1) the dangers of drug abuse in the workplace; (2) the Contractor's policy of maintaining a drug-free workplace; (3) any available drug counseling, rehabilitation, and employee assistance programs; and (4) the penalties that may be imposed upon an employee for drug abuse violations occurring in the workplace;

(c) Notifying all employees in the statement required by subparagraph (a) above that as a condition of continued employment the employee will (1) abide by the terms of the statement; and (2) notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction;

(d) Notifying in writing the contracting State Agency and the Indiana Department of Administration within ten (10) days after receiving notice from an employee under subdivision (c) (2) above, or otherwise receiving actual notice of such conviction;

(e) Within thirty (30) days after receiving notice under subdivision (c) (2) above of a conviction, imposing the following sanctions or remedial measures on any employee who is convicted of drug abuse violations occurring in the workplace: (1) take appropriate personnel action against the employee, up to and including termination; or (2) require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State or local health, law enforcement, or other appropriate agency; and

(f) Making a good faith effort to maintain a drug-free workplace through the implementation of subparagraphs (a) through (e) above.

THE UNDERSIGNED AFFIRMS, UNDER PENALTIES OF PERJURY, THAT HE OR SHE IS AUTHORIZED TO EXECUTE THIS CERTIFICATION ON BEHALF OF THE DESIGNATED ORGANIZATION.

THE UNDERSIGNED ALSO AGREES THAT BY TYPING THEIR NAME ONTO THIS FORM, THEY AGREE TO THE USE OF THEIR DIGITAL NAME AS A LEGAL SIGNATURE

Printed Name of Organization

Contract/Grant ID Number

Authorized Representative

Date

Title

CONTRACTOR'S EMPLOYEE DRUG TESTING

IC 4-13-18 Chapter 18. Drug Testing of Employees of Public Works Contractors

4-13-18-1	Applicability
4-13-18-2	"Bid"
4-13-18-3	"Contractor"
4-13-18-4	"Public works contract"
4-13-18-5	Employee drug testing plan required in bid; collective bargaining agreements
4-13-18-6	Employee drug testing program requirements
4-13-18-7	Contract cancellation for noncompliance

IC 4-13-18-1 Applicability

Sec. 1. This chapter applies only to a public works contract awarded after June 30, 2006.

As added by P.L.160-2006, SEC.2.

IC 4-13-18-2 "Bid"

Sec. 2. As used in this chapter, "bid" includes a quotation.

As added by P.L.160-2006, SEC.2.

IC 4-13-18-3 "Contractor"

Sec. 3. (a) As used in this chapter, "contractor" refers to a person who:

- (1) submits a bid to do work under a public works contract; or
- (2) does any work under a public works contract.

(b) The term includes a subcontractor of a contractor.

As added by P.L.160-2006, SEC.2.

IC 4-13-18-4 "Public works contract"

Sec. 4. As used in this chapter, "public works contract" refers to:

- (1) a public works contract covered by [IC 4-13.6](#);
- (2) a public works contract covered by [IC 5-16](#) and entered into by a state agency; or
- (3) a state highway contract covered by [IC 8-23-9](#);
- (4) a public works contract covered by [IC 36-1-12](#);

when the estimated cost of the public works project is one hundred fifty thousand dollars (\$150,000) or more.

As added by P.L.160-2006, SEC.2. Amended by P.L.72-2018, SEC.10.

**IC 4-13-18-5 Employee drug testing plan required in bid;
collective bargaining agreements**

Sec. 5. (a) A solicitation for a public works contract must require each contractor that submits a bid for the work to submit with the bid a written plan for a program to test the contractor's employees for drugs.

- (b) A public works contract may not be awarded to a contractor whose bid does not include a written plan for an employee drug testing program that complies with this chapter.
- (c) A contractor that is subject to a collective bargaining agreement shall be treated as having an employee drug testing program that complies with this chapter if the collective bargaining agreement establishes an employee drug testing program that includes the following:
 - (1) The program provides for the random testing of the contractor's employees.
 - (2) The program contains a five (5) drug panel that tests for the substances identified in section 6(a)(3) of this chapter.
 - (3) The program imposes disciplinary measures on an employee who fails a drug test. The disciplinary measures must include at a minimum, all the following:
 - (A) The employee is subject to suspension or immediate termination.
 - (B) The employee is not eligible for reinstatement until the employee tests negative on a five (5) drug panel test certified by a medical review officer.
 - (C) The employee is subject to unscheduled sporadic testing for at least one (1) year after reinstatement.
 - (D) The employee successfully completes a rehabilitation program recommended by a substance abuse professional if the employee fails more than one (1) drug test.

A copy of the relevant part of the collective bargaining agreement constitutes a written plan under this section.

As added by P.L.160-2006, SEC.2.

IC 4-13-18-6 Employee drug testing program requirements

Sec. 6. (a) A contractor's employee drug testing program must satisfy all of the following:

- (1) Each of the contractor's employees must be subject to a drug test at least one (1) time each year.
- (2) Subject to subdivision (1), the contractor's employees must be tested randomly. At least two percent (2%) of the contractor's employees must be randomly selected each month for testing.
- (3) The program must contain at least a five (5) drug panel that tests for the following:
 - (A) Amphetamines.
 - (B) Cocaine.
 - (C) Opiates (2000 ng/ml).
 - (D) PCP.
 - (E) THC.
- (4) The program must impose progressive discipline on an employee who fails a drug test.

The discipline must have at least the following progression: (A) After the first positive test, an employee must be:

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- (i) suspended from work for thirty (30) days;
 - (ii) directed to a program of treatment or rehabilitation; and
 - (iii) subject to unannounced drug testing for one (1) year, beginning the day the employee returns to work.
- (B) After a second positive test, an employee must be:
- (i) suspended from work for ninety (90) days;
 - (ii) directed to a program of treatment or rehabilitation; and
 - (iii) subject to unannounced drug testing for one (1) year, beginning the day the employee returns to work.
- (C) After a third or subsequent positive test, an employee must be:
- (i) suspended from work for one (1) year;
 - (ii) directed to a program of treatment or rehabilitation; and
 - (iii) subject to unannounced drug testing for one (1) year, beginning the day the employee returns to work.

The program may require dismissal of the employee after any positive drug test or other discipline more severe than is described in this subdivision.

(b) An employer complies with the requirement of subsection (a) to direct an employee to a program of treatment or rehabilitation if the employer does either of the following:

- (1) Advises the employee of any program of treatment or rehabilitation covered by insurance provided by the employer.
- (2) If the employer does not provide insurance that covers drug treatment or rehabilitation programs, the employer advises the employee of agencies known to the employer that provide drug treatment or rehabilitation programs.

As added by P.L.160-2006, SEC.2.

IC 4-13-18-7 Contract cancellation for noncompliance

Sec. 7. (a) The public works contract must provide for the following:

- (1) That the contractor implement the employee drug testing program described in the contractor's plan.
- (2) Cancellation of the contract by the agency awarding the contract if the contractor:
 - (A) fails to implement its employee drug testing program during the term of the contract;
 - (B) fails to provide information regarding implementation of the contractor's employee drug testing program at the request of the agency; or
 - (C) provides to the agency false information regarding the contractor's employee drug testing program.

(b) The provisions of the public works contract relating to cancellation of the contract by the agency awarding the contract apply to cancellation of the public works contract under this section.

As added by P.L.160-2006, SEC.2.

CONTRACTOR'S BOND FOR CONSTRUCTION

KNOW ALL MEN BY THESE PRESENT, that _____
(Contractor)

_____ of _____
(Address) (City, State)

as principal and _____
(Bonding Company)

(Address) (City, State) (Zip Code)

as surety, are firmly bound unto the State of Indiana in the penal sum of \$ _____ Dollars, for the payment of which, well and truly to be made, we bind ourselves, jointly and severally, and our joint and several heirs, executors, administrators and assigns, firmly by these present, this ____ day of _____, 20____.

THE CONDITIONS OF THE ABOVE OBLIGATION ARE SURE, THAT, WHEREAS the State of Indiana acting by and through the Commissioner, Department of Administration, has entered into a certain written contract dated _____ of _____

(Project Number and Description)

_____ situated in _____
Indiana, in accordance with the construction documents approved and adopted by said Commissioner, Department of Administration, which are made a part of this bond.

NOW THEREFORE, if the said _____
(Contractor)
_____, shall well and faithfully do and perform the same in all respects according to the plans and specifications adopted by said Commissioner, Department of Administration, and according to the time, terms and conditions specified in said contract and incurred by him or any subcontractor in the prosecution of said work, including labor, service and materials furnished, then this obligation shall be void; otherwise to remain in full force, virtue and effect. This bond shall adhere to the requirements of IC 4-13.6-7-6 and IC 4-13.6-7-7.

IN WITNESS WHEREOF, we hereunto set our hands and seals this _____ day
of _____, 20_____.

By: _____ (Seal)
(Contractor)

By: _____ (Seal)
(Bonding Company)

By: _____
(Attorney-in-fact)

CONTRACTOR'S CERTIFICATE OF INSURANCE

This certifies to the addressee shown below that the following described policies, subject to their terms, conditions, and exclusions, have been issued to:

NAME AND ADDRESS OF INSURED: _____

COVERING (show State project number, name and location) _____

ADDRESSEE: **PUBLIC WORKS DIVISION/DEPARTMENT OF ADMINISTRATION**

DATE: _____

TYPE OF INSURANCE	POLICY NUMBER	EFFECTIVE DATE	EXPIRATION DATE	LIMITS	
1. General Liability a. Bodily Injury Including Personal Injury				Each Person - Premises and Operations	\$ _____
				Each Person - Elevators	\$ _____
				Each Person - Independent Contractor	\$ _____
				Each Person - Products Completed Including Operations	\$ _____
				Each Person - Contractual	\$ _____
				Each Occurrence -	\$ _____
				Aggregate - Products Completed Including Operations	\$ _____
b. Property Damage				Each Occurrence - Premises and Operations	\$ _____
				Each Occurrence - Elevators	\$ _____
				Each Occurrence - Independent Contractor	\$ _____
				Each Occurrence - Products Completed Including Operations	\$ _____
				Each Occurrence - Contractual	\$ _____
				Aggregate -	\$ _____
				Aggregate - Operations Protective Products and Contractual	\$ _____
2. Automobile Liability a. Bodily Injury b. Property Damage				Each Person	\$ _____
				Each Occurrence	\$ _____
				Each Accident	\$ _____
3. Excess Liability Umbrella					\$ _____
4. a. Workmen s Compensation b. Employer s Liability				Statutory Workmen s Compensation	\$ _____
				One Accident And Aggregate Disease	\$ _____
5. Builder s Risk					\$ _____

UNDER GENERAL LIABILITY POLICY OR POLICIES

YES NO

1. Does Property Damage Liability Insurance shown include coverage for **XC** and **U** hazards? _____
2. Is Occurrence Basis Coverage provided under Property Damage Liability?.. _____
3. Is Broad Form Property Damage Coverage provided for this Project?..... _____
4. Is Personal Injury Coverage included?..... _____
5. Is coverage provided for Contractual Liability (including indemnification provision) assumed by insured?..... _____

UNDER AUTOMOBILE LIABILITY POLICY OR POLICIES

1. Does coverage shown above apply to non-owned and hired automobiles?..... _____
2. Is Occurrence Basis Coverage provided under Property Damage Liability?.. _____

In the event of cancellation, fifteen (15) days written notice shall be given to the party to whom this certificate is addressed.

NAME OF INSURANCE COMPANY

ADDRESS

SIGNATURE OF AUTHORIZED REPRESENTATIVE



**INDIANA DEPARTMENT OF ADMINISTRATION
PUBLIC WORKS DIVISION**

GENERAL CONDITIONS

Indiana Department of Administration
Public Works Division
402 W. Washington Street, W462
Indianapolis, Indiana 46204

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STATE OF INDIANA
GENERAL CONDITIONS

ARTICLE 1 CONTRACT DOCUMENTS

1.1 Definitions

1.1.1 Contract Documents

The Contract Documents consist of the Contract, the Instructions to Bidders, the Contractor's Proposal (Bid), the Conditions of the Contract (General and Supplementary), Drawings, Specifications, and Addenda issued prior to bidding, Change Orders, any written interpretation issued as a field order by the Designer pursuant to Article 1.2, and all field orders for minor changes in the Work by the Designer pursuant to Article 12.3.

1.1.2 Contract

The Contract Documents form the Contract for construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.

1.1.3 Work

All labor, material, equipment, systems and services necessary to produce the result called for in the Contract Documents.

1.1.4 Project

The Project is the total construction project designed by the Designer of which the Work performed under the Contract Documents may be the whole or a part of the whole Project.

1.2 Execution, Correlation, Intent and Interpretations

1.2.1 The Contract Documents shall be signed by the Owner and the Contractor. The signature process may be done electronically at the discretion of the Owner.

1.2.2 By executing the Contract, the Contractor represents that Contractor has visited the site and correlated its observations with the requirements of the Contract Documents and has no major question pertaining thereto.

1.2.3 The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intention of the Contract Documents is to include all labor, equipment, supervision and materials, for the proper execution and completion of the Work, and also to include those things that may be reasonably inferable from the Contract Documents as being necessary to produce the intended results. Words that have a well-known technical or trade meaning are used herein, in accordance with such recognized meaning.

1.2.4 Written interpretations necessary for the proper execution of the Work, in the form of drawings or otherwise will be issued with reasonable promptness by the Designer. Such interpretations shall be consistent with and reasonably inferable from the Contract Documents, and may be issued by field order subject to Owner's approval.

1.3 Copies Furnished and Ownership

1.3.1 The Contractor will be furnished 5 copies of drawings and specifications and any other information necessary for the execution of the Work.

1.3.2 All drawings, specifications, and copies thereof furnished by the Designer are the Designer's property. They are not to be used on any other Project, and, with the exception of one Contract set for each party to the Contract, are to be returned on request to the Designer at the completion of the Work.

ARTICLE 2 DESIGNER

2.1 Definition

2.1.1 The Designer is the person or organization identified as Designer of the Project and is referred to throughout the Contract Documents as if singular in number and, in some places, masculine in gender. The terms Designer, Engineer, Architect, (and in certain projects Director, Public Works Division, or his/her authorized representative), shall mean the Designer.

2.2 Administration of the Contract

2.2.1 The Designer will provide general administration of the Contract, including the functions hereinafter described.

2.2.2 Unless stated otherwise, the Designer shall be the Owner's representative during the construction phase. Designer shall have authority to act on behalf of the Owner only to the extent expressly provided in the Contract Documents or otherwise in writing, which will be shown to the Contractor. The Designer will advise and consult with the Owner and all of the Owner's instructions to the Contractor shall be issued through the Designer.

2.2.3 The Designer shall have access to the Work at all times wherever it is in storage, preparation and progress. The Contractor shall provide facilities for such access so that the Designer and Owner's Site Representative may perform their functions under the Contract Documents.

2.2.4 The Designer will make no less than weekly visits to the site when work is in progress to familiarize itself generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. Designer will not be required to make exhaustive or continuous on-site inspection to check the quality or quantity of the Work. On the basis of Designer's on-site observations, Designer will keep the Owner informed of the progress of the Work and will endeavor to guard the Owner against defects and deficiencies in the Work of the Contractor.

2.2.5 Based on such observation and the Contractor's applications for payment, the Designer will determine the amount owed to the Contractor and will issue Certificates for Payment in such amounts.

2.2.6 The Designer will be, in the first instance, the interpreter of the requirements of the Contract Documents and the judge of the performance thereunder. Designer will promptly render such interpretations as Designer may deem necessary for the proper execution or progress of the Work.

2.2.7 All interpretations and decisions of the Designer will be consistent with the intent of the Contract Documents. Designer will exercise its best efforts to insure faithful performance by the Contractor.

2.2.8 Claims, disputes and other matters in question relating to the execution or progress of the Work or interpretation of the Contract Documents shall be referred initially to the Designer for decision and be subject to written appeal within fifteen (15) days by the Contractor. The Designer's decision shall be submitted promptly in writing to the Director, Public Works Division, who shall have full authority to render the final and binding decision.

2.2.9 The Designer will have responsibility to recommend to the Owner the rejection of work that does not conform to the Contract Documents. Whenever the Designer considers it necessary or advisable, Designer shall recommend to the Owner the stoppage of the Work or any portion thereof, and to recommend special examination or testing of the Work (whether or not fabricated, installed, or completed).

2.2.10 The Designer will review and approve or take other appropriate action upon the Contractor's submittals such as shop drawings, product data and samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents. Such action shall be taken with reasonable promptness so as to cause no delay. The Designer's approval of a specific item shall not indicate approval of all assembly of which the item is a component.

2.2.11 The Designer will prepare change orders in accordance with Article 12.

2.2.12 The Designer will conduct reviews to determine the dates of Substantial Completion and Final Completion, will receive and forward to the Owner for the Owner's review written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment upon compliance with the requirements of Article 9.7.

2.2.13 The Designer, together with representatives from the Contractor and the Owner will conduct a review of the Work nine (9) months after the date of substantial completion to determine any work not in compliance with the Contract Documents at that time. A list of items to be corrected or completed will be forwarded to the Contractor for corrective action prior to the expiration of the one year warranty period.

2.2.14 The duties, responsibilities and limitations of authority of the Designer as the Owner's representative during construction as set forth in Articles 1 through 14 of these General Conditions shall not be modified or extended without written consent of the Owner.

2.2.15 The Designer will not be responsible for the acts or omissions of the Contractor, Subcontractor, or any of their superintendents, supervisory staffs, agents or employees, or any other persons performing any of the Work.

2.2.16 In case of the termination of the employment of the Designer, the Owner shall appoint a Designer against whom the Contractor makes no reasonable objections, whose status under the Contract shall be that of Designer.

ARTICLE 3 OWNER**3.1 Definition**

3.1.1 The Owner is the State of Indiana, represented by the Commissioner, Department of Administration, acting through the Director, Public Works Division, and the Director's designated project manager.

3.2 Information and Service Required of the Owner

3.2.1 The Owner will furnish, through the Designer, surveys, describing known physical characteristics, legal limits and utility locations for the property on which the Project is to be erected, if in the Owner's possession.

3.2.2 Information or services under the Owner's control shall be furnished by the Owner with promptness to avoid delay in the orderly progress of the Work.

3.2.3 The Owner shall issue all instructions to the Contractor through the Designer unless specified elsewhere in these documents.

3.2.4 If the Contractor fails to correct defective work as required by Article 13 or persistently fails to carry out the Work in accordance with the Contract Documents, the Owner, by a written order may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Article 6.1.

3.3 Owner's Site Representative

3.3.1 Notwithstanding the obligations of the Designer as Owner's representative during construction, the Owner may employ an on-site representative to observe the progress of the Work.

3.3.2 The Owner's Site Representative shall function as an observer only. Owner's Site Representative shall report his/her findings to the Designer for review and any required further action. The Owner's Site Representative is not authorized to make changes in the Work or to interpret the Contract Documents.

3.3.3 The Owner's Site Representative shall have at all times access to the Work wherever it is in storage, preparation and progress. Owner's Site Representative may attend meetings at the site and he/she may review and approve the Contractor payment requests.

ARTICLE 4 CONTRACTOR**4.1 Definition**

4.1.1 The Contractor is the person or organization identified as such in the Contract. The Contractor is referred to throughout the Contract Documents as if singular in number and, in some places, masculine in gender. The term Contractor means the Contractor or its authorized representative.

4.2 Review of Contract Documents

4.2.1 The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Designer and the Owner any error, inconsistency or omission Contractor may discover. The Contractor shall perform no portion of the Work at any time without Contract Documents or, where required, approved shop drawings, product data or samples for such portion of the Work.

4.3 Supervision and Construction Procedures

4.3.1 The Contractor shall supervise and direct the Work, using its best skill and attention. Contractor shall be solely responsible for the quality of the Work and for all construction techniques, sequences, and procedures, and for coordinating all portions of the Work.

4.3.2 The Contractor shall not be relieved from its obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Designer in administration of the Contract, or by inspections, tests or approvals required or performed under Paragraph 7.9 by persons other than the Contractor.

4.4 Labor and Materials

4.4.1 Unless otherwise specified in Division 1, the Contractor shall provide and pay for all labor, material, equipment, tools, construction equipment, machinery, transportation, and other facilities and services necessary for the proper execution of the Work.

4.4.2 Unless otherwise specified in Division 1, the Contractor shall provide and pay for all electric current, water, heat, and

telephone services and shall maintain necessary discipline to prevent waste.

4.4.3 If any item of work shall be the subject of a jurisdictional dispute as to the craft to be used for said work, the Contractor shall aid in such inter-craft resolution and if arbitrated, abide by the decision, holding the Owner free of involvement in the dispute, and if time is lost by the dispute, extra work days will only be considered through the provisions of Article 12.2. Contractor will endeavor to eliminate any embarrassment to the Owner caused by the dispute.

4.4.4 The Contractor shall at all times enforce strict discipline and good order among its employees and shall not employ on the Work any unfit person or any one employee unskilled in the Work assigned or unqualified as a tradesman in the trade involved.

4.5 Warranty and Guarantee

4.5.1 The Contractor warrants and guarantees that all materials and equipment incorporated in the Project shall be new unless otherwise specified, and all work will be of the highest quality, free from faults and defects, and in strict conformance with the Contract Documents for a period of one year from the date of substantial completion. All work not so conforming to the Contract Documents may be considered defective. If required by the Designer, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. The warranties and guarantees provided in this Article and elsewhere in the Contract Documents shall be in addition to and not in limitation of any other warranty or guarantee or remedy called for the Contract Documents or otherwise prescribed by law. The Contractor, together with the Designer and representatives from the Owner, shall review the Work nine (9) months after the date of substantial completion to determine any work not in compliance with the Contract Documents. The Contractor shall correct such non-complying work prior to the expiration of the one year warranty.

4.6 Permits, Fees and Notices

4.6.1 The Contractor shall secure and pay for all permits, fees and licenses necessary for the execution of the Work.

4.6.2 The Contractor and Subcontractors must submit an "Exemption Certificate for Construction Contractors" (Form ST-105) to each supplier in order to obtain exemption from the Indiana Gross Tax (i.e., sales and use tax).

4.6.3 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and orders of any public authority bearing on the conduct of the Work. If Contractor observes that any of the Contract Documents are at variance therewith in any respect, Contractor shall promptly notify the Designer in writing, and any necessary changes shall be adjusted by change order. If Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Designer, Contractor shall bear all cost arising from such non-conformance.

4.7 Cash Allowances

4.7.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. These allowances cover the net cost of the materials and equipment delivered and unloaded at the site which cost shall be determined by the Owner through proper procedures for receiving quotes or bids as required by law. The Contractor's handling costs on the site, labor, installation costs, overhead, profit, and other expenses shall be included in the Contract sum and not in the allowance. The Contractor shall cause the Work required by these allowances to be performed by such persons as the Designer may direct, but Contractor will not be required to employ persons against whom Contractor has a reasonable objection. If the net cost above, when determined, is more than or less than the allowance, the Contract Sum will be adjusted accordingly by change order.

4.8 Superintendent

4.8.1 The Contractor shall keep on the Project, during the entire contract time, a competent superintendent and necessary assistants, all satisfactory to the Designer, and the superintendent shall not be changed, except with the consent of the Owner, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in Contractor's employ. The superintendent shall represent the Contractor and shall have full authority to act on its behalf. All communications given the superintendent shall be as binding as if given by the Contractor. Important communications shall be confirmed in writing.

4.9 Responsibility for Those Performing the Work

4.9.1 The Contractor shall be responsible for the quality of the Work, for acts and omissions of all the Subcontractors, their superintendents, their supervisory staffs, agents, or employees and of all other persons performing any of the Work under a Contract with the Contractor.

4.10 Progress Schedule

4.10.1 Unless otherwise indicated in Division 1, the Contractor, immediately after being awarded the Contract, shall prepare and submit for the Designer's approval a progress schedule for the Work in relation to the entire Project. This schedule in bar graph form, or other form approved by the Owner, shall indicate the dates for the starting and completion of the various stages of construction, and in addition, will state the contractual completion date. The contract completion date, based on the construction period stated in the notice to bidders, shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by change order. A more detailed schedule may be required elsewhere in the documents.

4.11 Record Documents at the Site

4.11.1 The Contractor shall maintain for the Owner as part of the Contract one record copy of all drawings, specifications, addenda, shop drawings, change orders and other modifications at the site in good order, and marked to record all changes made during construction. These shall be available to the Designer and the Owner's Site Representative at all times while Work is in progress. All changes made during construction shall be recorded monthly and reviewed by the Designer before approval of each partial progress payment. The record documents shall be submitted to the Designer prior to the Contractor's final payment.

4.12 Shop Drawings and Samples

4.12.1 Shop drawings are all drawings, diagrams, illustrations, schedules, brochures, and other data, which are prepared by the Contractor, or any Subcontractor, manufacturer, supplier, or distributor, and which illustrate the Work.

4.12.2 The Contractor shall submit all shop drawings and samples required by the Contract or by the Designer in a timely manner, allowing sufficient time for the Designer's review so as not to cause any delay in the Work or in work by any other Contractor.

4.12.3 At the time of such submission, the Contractor shall furnish or verify all field measurements, field construction criteria, materials, catalog numbers, and the like and shall individually check, coordinate and stamp with its approval each submission, and shall in writing call the Designer's attention to any deviations in the shop drawings or samples from the requirements of the Contract Documents.

4.12.4 The Designer will check and approve, with reasonable promptness so as to cause no delay, these shop drawings and samples only for conformance with the design concept of the Project, and with the information given in the Contract Documents. The Designer's approval of a separate item will not indicate approval of the assembly in which the item functions.

4.12.5 The Designer's approval of shop drawings or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has in writing called the Designer's attention to such deviation at the time of submission and the Designer has given written approval to the specific deviation, nor shall this relieve the Contractor from errors or omissions in the shop drawings or samples.

4.12.6 No work requiring a shop drawing or sample submission shall be commenced until the submission has been approved by the Designer. All such work shall be in accordance with approved shop drawings and samples.

4.13 Use of Premises

4.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the premises with any materials or equipment.

4.14 Cutting and Patching

4.14.1 The Contractor shall do all cutting, fitting or patching of its work that may be required to make its several parts come together properly and shall not endanger any work by cutting, excavating, or otherwise altering the Work or any part of it. Costs caused by defective or ill-timed work shall be borne by the party responsible therefore.

4.15 Cleaning Up

4.15.1 The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by its operations. At the completion of the Work, Contractor shall remove all waste material and rubbish from and about the building as well as all its tools, scaffolding and surplus materials. Contractor shall clean all glass surfaces, lights and fixtures, ceilings, walls and shall leave the Work dusted, swept and wet mopped clean, unless more exactly specified.

4.15.2 In case of dispute the Owner may remove the rubbish and charge the cost to the several Contractors as the Designer shall determine to be just.

ARTICLE 5 SUBCONTRACTORS

5.1 Definition

As used in this article "contractor tier" refers collectively to the following classes of contractors on a public works project:

- (1) "Tier 1 contractor" includes each person that has a contract with the public agency to perform some part of the work on, supply some of the materials for, or supply a service for, a public works project. A person included in this tier is also known as a "prime contractor" or a "general contractor".
- (2) "Tier 2 contractor" includes each person that has a contract with a tier 1 contractor to perform some part of the work on, supply some of the materials for, or supply a service for, a public works project. A person included in this tier is also known as a "subcontractor".
- (3) "Tier 3 contractor" includes each person that has a contract with a tier 2 contractor to perform some part of the work on, supply some of the materials for, or supply a service for, a public works project. A person included in this tier is also known as a "sub-subcontractor".
- (4) "Lower tier contractor" includes each person that has a contract with a tier 3 contractor or lower tier contractor to perform some part of the work on, supply some of the materials for, or supply a service for, a public works project. A person included in this tier is also known as a "lower tier subcontractor".

A Subcontractor is a person or entity who has a direct Contract with the Contractor to perform any of the Work at the site. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and, in some places, masculine in gender and means a Subcontractor or its authorized representative. The term Subcontractor does not include any separate Contractor or its Subcontractors.

5.2 Award of Subcontracts and Other Contracts for Portions of the Work

5.2.1 Unless otherwise required by the Contract, the Contractor shall furnish to the Owner, with its bid on the prescribed form, the names of all persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work with an installed value of \$150,000.00 or more. The Designer will promptly reply to the Contractor in writing stating whether or not the Owner or the Designer, after due investigation, has reasonable objection to any such proposed person or entity. Failure of the Owner or Designer to reply within fourteen (14) days shall constitute notice of no reasonable objection.

5.2.2 The Contractor shall not subcontract with any such proposed person or entity to which the Owner or the Designer has made reasonable objection. The Contractor shall not be required to subcontract with anyone to whom Contractor has a reasonable objection.

5.2.3 If the Owner or the Designer has reasonable objection to any such proposed person or entity, the Contractor shall submit a substitute to whom the Owner or the Designer has no reasonable objection.

5.2.4 The Contractor shall make no substitution of any Subcontractor, person or entity previously selected, if the Owner or Designer makes reasonable objection to such substitution.

5.2.5 The Contractor and its subcontractors shall employ only licensed plumbers and shall provide to the Owner the names and license numbers of all plumbers engaged in the Work. The Contractor shall submit this documentation with any monthly progress payment request that includes plumbing labor.

5.3 Sub Contractual Relations

5.3.1 By an appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner. Said agreement shall preserve and protect the rights of the Owner under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Documents, has against the Owner. Provisions of Article 9 for progress payments, retainage and payment for stored material shall be incorporated without modification in all Contractor-Subcontractor agreements. The Contractor shall require each Subcontractor to enter into similar agreements with Subcontractor's Sub-subcontractors. Prior to execution of the Contractor-Subcontractor agreement, the Contractor shall provide all Subcontractors a complete copy of all proposed Contract Documents for the Project to which the Subcontractor will be bound by this Paragraph 5.3. Each Subcontractor shall similarly make available to its Sub-Subcontractors copies of such Documents. Executed copies of all

agreements shall remain on file with the Contractor and be available for review by the Owner at the Owner's discretion.

ARTICLE 6 SEPARATE CONTRACTS

6.1 Owner's Right to Let Separate Contracts

6.1.1 The Owner reserves the right to let other contracts in connection with other portions of the Project under these or similar General Conditions.

6.1.2 When separate contracts are awarded for different portions of the Project, the "Contractor" in the Contract Documents in each case shall be the Contractor who signs each separate contract with the Owner.

6.1.3 When separate contracts are awarded for portions of the Project, the General Construction Contractor shall be responsible for the overall coordination of all separate contracts for the Project.

6.2 Mutual Responsibility of Contractors

6.2.1 The Contractor shall afford each other Contractor reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and each shall properly connect and coordinate its work with all others as coordinated by the General Contractor.

6.2.2 If any part of the Contractor's work depends on proper execution or results upon the work of any other separate Contractor, the Contractor shall inspect and promptly report to the Designer any discrepancies or defects that shall cause its work to fail or be non-conforming. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other Contractor's work as fit and proper for the reception of its work.

6.2.3 Should the Contractor cause damage to any separate Contractor on the Project, the General Contractor agrees, upon due notice, to settle with such other Contractor by agreement, if at all possible, without involving the Owner. The Owner will be involved only after evidence is presented that sureties cannot settle the problem.

6.2.4 Any costs caused by defective or ill-timed work shall be borne by the party responsible.

ARTICLE 7 MISCELLANEOUS PROVISIONS

7.1 Delinquent State Taxes (IC. 4-13-2-14.5). The Public Works Division may allow the Department of State Revenue access to the name of each person who is either:

- (1) Bidding on a Contract to be awarded under this chapter; or
- (2) A Contractor or Subcontractor under this chapter.

If the Public Works Division is notified by the Department of State Revenue that a bidder is on the most recent tax warrant list, a Contract may not be awarded to that bidder until the bidder provides a statement from the Department of State Revenue that the Bidder's delinquent tax liability has been satisfied. The Department of State Revenue may notify:

- (1) The Department of Administration; and
- (2) The Auditor of State;

that a Contractor or Subcontractor under this chapter is on the most recent tax warrant list, including the amount owed in delinquent taxes. The Auditor of State shall deduct from the Contractor's or Subcontractor's payment the amount owed in delinquent taxes. The Auditor of State shall remit this amount to the Department of State Revenue and pay the remaining balance to the Contractor or Subcontractor.

7.2 Choice of Law

7.2.1 The Contract shall be governed by the laws of the State of Indiana.

7.3 Assignment

7.3.1 The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner, nor shall the Contractor assign any monies due or to become due to it hereunder, without the previous written consent of the Owner.

7.4 Written Notice

7.4.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm or to an officer of the corporation for whom it was intended, or sent by electronic mail (email), or by registered or certified mail to the last business address known to the person who gives the notice.

7.5 Claims for Damages

7.5.1 Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the other party or any of its employees, agents or others for whose acts the party is legally liable, claim shall be made in writing to such other party within seven (7) days of the first observance of such injury or damage.

7.6 Performance Bond and Labor and Material Payment Bond

7.6.1 For projects advertised with an estimated base bid amount of One Hundred Fifty Thousand Dollars (\$150,000) or more, the Contractor shall furnish and pay for an approved one hundred percent (100%) combination performance and payment bond (Contractor's Bond for Construction, Public Works Division Form DAPW 15). This bond shall adhere to the requirements of IC. 4-13.6-7-6 and IC. 4-13.6-7-7 as amended and shall cover the faithful performance of the Contract and the payment of all obligations arising thereunder, including reimbursement for any stored materials paid for but returned to materialmen, with such sureties as the Owner may approve. The combination bond shall remain in effect throughout the entire construction period and in addition for a period of one year from the date of final acceptance. The Contractor shall deliver the required bonds to the Owner prior to execution of the Contract by the Owner unless authorized to the contrary in writing by the Owner. All bonds must be issued by bonding companies, which are licensed and approved by the Indiana Insurance Commission.

7.7 Owner's Right to Carry Out the Work

7.7.1 If the Contractor should default or neglect to carry out the Work properly or fail to perform any provision of the Contract, the Owner may, after giving seven (7) days written notice to the Contractor, without prejudice to any other remedy it may have, make good such deficiencies. In such case, an appropriate change order shall be issued deducting the cost thereof including the cost of the Designer's additional service made necessary by such default, neglect, or failure of the Contractor, from the payments then or thereafter due the Contractor, provided, however, that the Designer shall approve both such action and the amount charged to the Contractor. If such payments due to the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

7.8 Royalties and Patents

7.8.1 The Contractor shall pay all royalties and license fees. Contractor shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from liability of any nature or kind including costs and expenses for or on account of any patented or unpatented invention, process, article or appliance manufactured or used in the performance of this Contract, including its use by the Owner.

7.9 Tests & Substitution of Materials

7.9.1 If the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any work to be inspected, tested, or approved, the Contractor will give the Designer timely notice of its readiness and of the date fixed for such inspection, testing, or approval so that the Designer may observe the same. The Contractor shall bear all cost of such inspections, tests, and approvals unless otherwise provided.

7.9.2 If, after the commencement of the Work, the Designer, with approval of the Owner in writing, determines that the Work requires special inspection, testing, or approval for which subparagraph 7.9.1 does not provide, Designer will, upon written authorization from the Owner, order such special inspection, testing or approval. If such special inspection or test reveals a failure of the Work to fulfill the requirements of the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, the Contractor shall bear all costs thereof; otherwise, the Owner shall bear such costs. An appropriate change order shall be issued.

7.9.3 Required certificates of inspection, testing or approval shall be secured by the Contractor and promptly delivered by Contractor to the Designer.

7.9.4 Observations by the Designer of the inspections, tests, or approvals required by Article 7 will be promptly made, and where practicable at the source of supply at no additional cost to the Owner.

7.9.5 Neither the observations of the Designer in its administration of the Contract, nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from its obligations to perform the Work in accordance with the Contract Documents.

7.9.6 All building construction and work, alterations, repairs, plumbing, mechanical, and electrical installations and appliances connected therewith, shall comply with the Rules and Regulations of the Indiana Department of Homeland Security, the Indiana Department of Health, local ordinances, Rules for Licensure of Building Trades, and other statutory provisions pertaining to this class of work; such rules and regulations and local ordinances to be considered as a part of these specifications.

7.9.7 Where in these specifications, one or more certain materials, trade names, or articles of certain manufacture are mentioned, it is done for the express purpose of establishing a basis of durability and efficiency and not for the purpose of limiting competition. Approval of other acceptable products for those specified may be obtained by requesting to the Designer no later than fourteen (14) days in advance of bid date with all documentation required for the Designer to evaluate any approval. If approval is granted, the subject product will be added by addendum.

7.9.8 Should there be a reason for change of materials after award of the Contract, the following criteria shall apply:

- a. Original material no longer manufactured,
- b. Delivery not possible within time specified for job, and/or
- c. Unavailability due to causes beyond the control of the Contractor.

7.9.9 After agreement by the Designer and the Owner that a change is necessary, the Contractor shall present a request for substitution to the Designer. The burden of proof of the merit of the proposed substitute is upon the proposing party. The decision of the Designer and the Owner regarding the substitution shall be final.

7.10 Certificate of Qualification

7.10.1 In accordance with IC. 4-13.6-4 as amended, all Contractors and Subcontractors performing work for the State of Indiana on projects estimated to be in excess of one hundred fifty thousand dollars (\$150,000.00), must hold a valid Certificate of Qualification issued by the Public Works Certification Board. The Instructions to Bidders define the procedure for certification and bidding.

7.10.2 The Contractor must perform at least fifteen (15) percent of the total Contract Sum of the Work with its own forces. The Contractor shall submit copies of its payroll records, if requested by the Owner, showing the hours, rates and total costs for all personnel on its payroll detailed to the degree to ensure compliance with this paragraph and any Wage Determination provisions, if required.

7.11 Appropriation

7.11.1 The Contract specifically limits payments to be made in accordance with appropriations made and funds made available under laws of the State of Indiana.

7.12 Federal Wage Determination, if required

7.12.1 If a Davis-Bacon wage determination is included in the Contract Documents, it shall be used as the minimum wage and benefits to be paid for the trades indicated.

7.12.2 Contractor shall submit a schedule of hourly wages to be paid to each employee (including those of its subcontractors) engaged in work on the site. This submittal shall be on Contractor's letterhead stationery and shall be signed by the Contractor and notarized. A copy of this submittal shall be conspicuously posted at the site.

7.12.3 Said rates shall in no case be less than those set out in the Davis-Bacon wage schedule a copy of which is herein bound or is on file with the Owner if it is required.

7.12.4 The Contractor shall provide (and require each Subcontractor to provide) weekly payroll records listing employees engaged in work on the site for the week and the hourly rates for base pay and benefits paid to each employee listed. The payroll record form shall include a statement by the Contractor/Subcontractor certifying the accuracy and completeness of the information provided. Payroll records shall be maintained by the Contractor during the course of the Work until the end of the required warranty period.

7.13 Out-of-State Contractors

7.13.1 Out-of-State business entities must be authorized to do business in the State, pursuant to Indiana Code Title 23, prior to submitting bids. Forms may be obtained by contacting the Secretary of State, State of Indiana, Indianapolis, Indiana.

7.14 Material Delivery

7.14.1 Shipments of material to be used by the Contractor or any Subcontractor under this Contract should be delivered to the job site only during the regular working hours of the Contractor or Subcontractor. If a delivery is made during other than the normal working hours of the Contractor or Subcontractor, its authorized agent must be on duty to receive such material. No employee of the Owner is authorized to receive any shipments designated for the Contractor or Subcontractor.

7.15 Weather

7.15.1 The Contractor shall at all times provide protection against weather, rain, wind, storms, frost or heat, so as to maintain all work, materials, apparatus and fixtures free from injury or damage. At the end of the day's work, all new work likely to be damaged shall be covered.

7.15.2 During cold weather, the Contractor shall protect all work from damage. If low temperature makes it impossible to continue operations safely, in spite of cold weather precaution, the Contractor shall cease work and shall so notify the Owner and Designer.

7.15.3 Any work damaged by failure to provide protection above required, shall be removed and replaced with new work at the Contractor's expense.

7.15.4 The Contractor shall provide and maintain on the premises, where directed, watertight storage shed (or sheds) for storage of all materials, which might be damaged by exposure to weather.

7.16 Fire Hazards

7.16.1 Wherever and whenever any burning, welding, cutting or soldering operation is in progress, or equipment is in use, or any work involving a fire hazard, is performed, the Contractor responsible for such operation shall have at all times acceptable fire extinguisher or protection within five (5) feet of the operation.

7.17 Dismissal

7.17.1 Any foreman or workman employed by the Contractor or by any Subcontractor who, in the opinion of the Director, Public Works Division and/or the Designer, does not perform his/her work in a proper and skillful manner, or is disrespectful, intemperate, disorderly, intoxicated or otherwise objectionable shall at the written request of either of the above, be forthwith discharged by the Contractor or Subcontractor employing such foreman or workman and said employee shall not be employed again on any portion of the Work without the written consent of the Director of the Division of Public Works and the Designer. Should the Contractor fail to furnish suitable and sufficient machinery, equipment or personnel for the proper prosecution of the Work, the Owner or Designer may withhold all payments that are or may become due, or may suspend the Work until such orders are upheld.

ARTICLE 8 TIME

8.1 Definitions

8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Substantial Completion of the Work as defined herein, including authorized adjustments thereto.

8.1.2 The date of commencement of the Work is the date established in a notice to proceed. If there is no notice to proceed, it shall be the date of the approval by the final state approving agency on the Owner-Contractor Contract or such other date as may be established therein.

8.1.3 The Date of Substantial Completion of the Work, or designated portion thereof, is the date certified by the Director, Public Works Division, when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy or utilize the Work, or designated portion thereof, for the use for which it is intended.

8.1.4 The term day as used in the Contract Documents shall mean calendar day unless otherwise specifically designated.

8.2 Progress and Completion

8.2.1 All time limits stated in the Contract Documents are of the essence of the Contract.

8.2.2 The Contractor shall begin the Work on the date of commencement as defined herein. Contractor shall carry the Work forward expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

8.2.3 The Owner fully expects the Contractor to employ any and all means necessary to complete the Work within the Contract Time. Conduct of the Owner's affairs, such as unforeseen site conditions or delay in processing change orders, shall not be viewed as justification for delaying the Project unless the Owner can be shown to have breached the Contract. Contractor must employ all reasonable means to execute the Project in a timely manner and in conformance with the Contract Documents even if the Contractor or Designer seeks legal remedy against the Owner for claim of damage.

8.3 Delays and Extensions of Time

8.3.1 If the Contractor is delayed at any time in the progress of the Work by any act or neglect of the Owner or the Designer, or by any employee of either, or by any separate Contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonable to anticipate, unavoidable casualties, or

any causes beyond the Contractor's control, or by delay authorized by the Owner pending arbitration, or by any other cause which the Designer determines may justify the delay, then the Contract Time shall be extended by a Change Order for such reasonable time as the Designer may determine.

8.3.2 Claims for extension of time shall be made in writing to the Designer. In case of a continuing delay only one claim is necessary. The Contractor shall provide an estimate of the probable effect of such delay on the progress of the Work.

8.3.3 If no agreement is made stating the dates upon which interpretations as provided in Article 2.2 shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretations until fifteen days after written request is made for them, and not unless such claim is reasonable.

8.3.4 This Paragraph 8.3 does not exclude the recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

9.1 Contract Sum

9.1.1 The Contract Sum is the total amount payable by the Owner for the performance of the Work under the Contract Documents.

9.2 Schedule of Values

9.2.1 Before the first application for payment, the Contractor shall submit to the Owner a schedule of various parts of the Work, including quantities if required by the Owner, aggregating the total Contract Sum, divided so as to facilitate payments to Subcontractors in accordance with Article 5.3, made out in such form as the Owner and the Contractor may agree upon, and supported by such data to substantiate its correctness as the Owner may require. Each item in the Schedule of Values shall include its proper share of overhead, profit, and other general charges. This schedule, when approved by the Owner, shall be used as a basis for the Contractor's Applications for Progress and Final Payments.

9.3 Progress Payments

9.3.1 Completed work: The Contractor shall submit to the Designer an itemized Application for Payment, supported by such data substantiating the Contractor's right to payment as the Designer may direct. The Owner shall make payments on account of the Contract, upon issuance of Certificates of Payment certified by the Designer and the Owner's Representative, for labor and materials incorporated into the Work at the rate of ninety-four (94%) percent of such value until fifty (50%) percent of the value of the Work is completed. After that fifty (50%) percent, no further retainage will be deducted. The Director, Public Works Division has the option to require that three (3%) percent of the value of the Work be retained throughout the duration of the entire Contract. The retainage schedule shall be determined prior to award of Contract. Retainage may be paid with final payment at the discretion of the Director, Public Works Division, but shall not be paid in any event until a minimum of sixty-one (61) days after all work is completed.

9.3.2 Materials Stored: Payments may be made on account for materials or equipment not incorporated in the Work, but delivered and suitably stored at the site. With written approval of the Owner, materials may be stored at another location other than the Work site if properly identified as the property of the Owner and properly protected. Storage of material at the place of business of the vendor is not acceptable (25 IAC 2-9-2). Such payments shall be conditional upon the submission by the Contractor of one of the following: 1) receipts marked by the supplier as paid; 2) supplier's final waiver of lien listing specific materials involved; 3) invoice with copy of canceled check showing payment; or 4) such other evidence of payment as the Owner may require in lieu thereof to establish ownership of all items except those listed as miscellaneous materials below. For the aggregate of miscellaneous stored materials for which payment is requested and above proof of payment is not available, a complete list will be provided along with the affidavit of payment. Upon certification by the Owner's representative that the listed materials are suitably stored, payment can be made. Miscellaneous materials are defined as pipe, fittings, wire, conduit, etc., normally stored as stock items in Contractor's warehouse. For materials stored other than at the construction site applicable insurance and transportation to the site shall be provided by the Contractor.

9.3.3 As stored materials are incorporated into the Work, the value shall be removed from the total value of stored materials requested in successive payments. Proof of ownership through one of the above methods will be required for additional materials. When, in the judgment of the Owner, retainage for completed work is not sufficient in relation to excessive amounts requested for stored materials or equipment, the Owner may elect to place the retainage for such materials or equipment in escrow. This retainage shall apply as a credit toward retainage due to be held for completed work on future payments.

9.3.4 The Contractor warrants that title to all work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon the receipt by the Contractor of payment, whichever occurs first, free and clear of all liens, claims, security interest or encumbrances, hereinafter referred to in this Article 9 as "liens"; and that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest

therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

9.3.5 The Contractor shall accompany each application for payment request with a certification that all Subcontractors (fabricators) have been paid within ten (10) days of receipt of payment that pro rata amount of funds Contractor has received from the Owner for the value of work or services (fabricated materials or equipment) performed by the Subcontractor (supplied by fabricator) contained in previous progress payments. The Contractor's inclusion of a value of subcontract work in its progress pay estimate is prima facie evidence of acceptance of work having such a value; therefore, if the Owner receives a certification from a Subcontractor that Subcontractor has not been paid such amounts as were included in the Contractor's partial billing and subsequently paid to the Contractor by the Owner, then the Owner will hold all subsequent partial payment requests until satisfactory evidence is received from the Subcontractor that Subcontractor has been paid such amounts presented to the Owner by the Contractor, paid to the Contractor by the Owner, and not distributed by the Contractor to the Subcontractor. The making of an incorrect certification of either partial payment or final payment may be considered by the Owner to be a breach of contract, and Owner may exercise all of its prerogatives set out in the Contract in addition to the remedies for falsifying an affidavit. Such an action could result in a suspension of qualification with the State Certification Board for a period of up to two (2) years.

9.4 Certificates for Payment

9.4.1 When the Contractor has made application for payment as above, the Designer will issue a Certificate of Payment to the Owner for such amount as Designer determines to be properly due, or state in writing its reasons for withholding a certificate as provided in Articles 9.5.1.

9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Designer to the Owner, based on the Designer's observations at the site as provided in Article 2.2.4 and the data comprising the Application for Payment, that the Work has progressed to the point indicated, and that, to the best of its knowledge, information and belief, the quality of work is in accordance with the Contract Documents subject to an evaluation of the Work as a functioning whole upon substantial completion, to the results of any subsequent tests called for in the Contract documents, to minor deviations correctable prior to the next certificate for payment and to any specific qualifications stated in its certificate, and that the Contractor is entitled to payment in the amount certified.

9.4.3 The Designer's final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in Article 9.7 have been fulfilled. However, by issuing a Certificate, the Designer shall not thereby be deemed to represent that Designer has made any examination to ascertain how or for what purpose the Contractor has used the monies paid on account of the Contract Sum.

9.4.4 The Owner shall make payment as soon as the fiscal procedure of the State can process same after receipt from the Designer of the Certificate for Payment. The fiscal procedure by the State can include, but not be limited to, review by the Owner's using agency, verification of the Certificate by the Owner's Site Representative, review for accuracy of form and calculation by the Owner's accountant, review by the Owner's project management and execution by the Director, Public Works Division, and others.

9.4.5 No certificate for a progress payment or progress payment for partial or entire occupancy of the Project by the Owner shall constitute an acceptance of work not in accordance with the Contract Documents.

9.4.6 Pursuant to IC. 4-13.6-7-2 all Contract awards of One Million Dollars (\$1,000,000) or above, if elected by the Contractor, an escrow agent will be selected by the State with whom the retainage funds for this Contract will be deposited and held until receipt of notice from the Director, Public Works Division (Escrow Form DAPW 32A) and from all other necessary parties as specified in and in accordance with the procedures and provisions of said Act.

9.5 Payments Withheld

9.5.1 The Designer (or Owner) will not approve an application in whole or in part, if in Designer's opinion, Designer is unable to make representations to the Owner as provided in Article 9.4. The Designer (or Owner) will not approve Application for Payment or, because of subsequent inspections, may nullify the whole or any part of the Certificate for Payment previously issued to such extent as may be necessary in Designer's opinion to protect the Owner from loss because of:

- A. defective work not remedied,
- B. claim filed or reasonable evidence indicating probable filing of claims,
- C. failure of the Contractor to make payments properly to Subcontractors or for materials, equipment or labor,
- D. reasonable doubt that the Contract can be completed for the unpaid balance,
- E. damage to another Contractor,
- F. reasonable indication that the Owner may be damaged by delay in receiving use of the Work as scheduled, or,
- G. unsatisfactory prosecution of the Work by the Contractor.

9.5.2 When the above grounds are removed, payment shall be processed for amounts withheld.

9.6 Failure of Payment

9.6.1 If the Designer should fail to issue any Certificate for Payment, through no fault of the Contractor, or if the Owner should fail to pay the Contractor in a reasonable time considering the fiscal procedures of the State for processing same after receipt from the Designer the amount certified by the Designer, then the Contractor may, after seven (7) additional days, give written notice to the Owner and Designer, that work will stop until payment of the amount owing has been received.

9.7 Substantial Completion and Final Payment

9.7.1 When advised by the Contractor that the Work or a designated portion thereof is substantially complete, the Designer; the Director, Public Works Division, and the Contractor shall determine jointly by inspection that the Work is substantially complete. If they determine that the Work is substantially complete, the Contractor shall then prepare a Certificate of Substantial Completion with an accompanying list of incomplete items of work (punch list) and submit it to the Designer for its signature and subsequent forwarding for approval by the Director, Public Works Division. The Certificate shall fix the date of Substantial Completion and shall state the responsibilities of the Owner and the Contractor for maintenance, heat, utilities and insurance.

9.7.2 Upon approval of the above, and notice that the Work is ready for final acceptance, the Designer, the Contractor and Owner will promptly make final review, and when they find the Work acceptable under the Contract and the Contract fully performed, the Contractor shall promptly submit the final Certificate for Payment with all other required documents, showing that the Work has been completed in accordance with the terms and conditions of the Contract, and that the entire balance in said final certificate, is due and payable.

9.7.3 Neither the final payment nor any part of the retained percentage shall become due until the Contractor shall submit to the Designer releases or waivers of all liens arising out of the Contract; an affidavit that the releases and waivers include all the labor, materials, and equipment for which a lien could be filed and that all payrolls, material bills, and other indebtedness connected with the Work for which the Owner or its property might in any way be responsible have been paid or otherwise satisfied; and such other data establishing payment or satisfaction of all such obligations as the Owner may require. If any such lien or claim remains unpaid, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such lien or claim, including all costs.

9.7.4 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor, and the Designer so confirms, the Owner shall, upon certification by the Designer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted, or such portion as may be available from funds not already released to an escrow agent pursuant to IC 4-13.6-7. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

9.7.5 The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:

- A. unsettled liens,
- B. faulty work appearing after Substantial Completion,
- C. failure of the Work to comply with the requirements of the Contract Documents,
- D. terms of any special guarantees required by the Contract Documents.

9.7.6 If upon Substantial Completion of the Work there are any remaining uncompleted minor items, the Owner shall withhold, until those items are completed, an amount equal to two hundred percent (200%) of the value of each item as determined by the Designer or Owner.

9.7.7 The acceptance of final payment shall constitute a waiver of all claims by the Contractor, except those previously made in writing and still unsettled and covered by other agreed arrangements.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 Safety Precautions and Programs

10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.

10.2 Safety of Person and Property

10.2.1 The Contractor shall take all necessary precautions for the safety of, and will provide all necessary protection to prevent damage, injury, or loss to:

- A. all employees on the Project and all other persons who may be affected thereby,
- B. all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, and,
- C. other property at the site or adjacent thereto, including trees, shrubs, lawns, pavements, roadways, structures and

utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss. Contractor shall erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent utilities.

10.2.3 All damage or loss to all property specified herein caused directly or indirectly, in whole or in part, by the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, shall be remedied by the Contractor, except damage or loss attributable solely to faulty Contract Documents or to the acts or omissions of the Owner, or Designer or their employees, or for those whose acts either of them may be liable.

10.2.4 The Contractor shall designate a responsible member of its organization on the Work whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent, unless otherwise designated in writing by the Contractor to the Owner and the Designer.

10.2.5 When the use or storage of explosives or other hazardous materials or equipment is necessary for the prosecution of the Work, the Contractor shall carry on such activities under the supervision of properly qualified personnel.

10.2.6 The Contractor shall not overload, or permit any part of the Work to be loaded so as to endanger its safety.

10.2.7 All excavations creating a trench of five (5) or more feet in depth shall strictly adhere to the shoring and other safety requirements called for and described under Indiana OSHA Regulation 29 C.F.R. 1926, Subpart "P", for trench safety systems.

10.3 Emergencies

10.3.1 In an emergency affecting the safety of persons or property, the Contractor shall act, at its discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor because of emergency work shall be determined as provided for in Article 12, Changes in the Work, and Contractor shall notify the Owner of such a decision within seven (7) days of the event giving rise to such claim.

ARTICLE 11 INSURANCE

11.1 General Requirements for Insurance

11.1.1 The Contractor will be required to furnish to the Owner, evidence of its compliance with all items of insurance listed herein and in the Contract. All insurance policies/certificates shall be on file with the Owner prior to release of the signed Contract and commencement of work.

11.1.2 The Contractor shall purchase and maintain, with a company or companies licensed to do business in Indiana, such insurance as will protect Contractor from claims set forth below, arising out of or resulting from the Contractor's operations under the Contract, whether such operations be by the Contractor or by any Subcontractor or by anyone directly or indirectly employed by any of them:

- A. claims under Workmen's Compensation Acts and other employee benefit acts;
- B. claims for damages because of bodily injury, personal injury, occupational sickness or disease, or death of its employees;
- C. claims for damages because of bodily injury, personal injury, sickness, disease or death of any person other than its employees;
- D. claims for damages to tangible property, including loss of use thereof.

11.1.3 This insurance shall be written for not less than any limits of liability specified herein, or required by law, whichever is greater. Policies or certificates of insurance, acceptable to the Owner, shall be filed with the Owner prior to execution of the Contract. These Certificates shall contain a provision that coverages afforded under the policies will be for the life of the Work.

11.1.4 Policies (certificates) shall show name and complete address of the Company, expiration date or dates, and policy number or numbers. Policies shall not be canceled until at least thirty (30) days prior written notice has been given to the Owner and acknowledged by the Owner in writing.

11.2 Property Insurance

11.2.1 The Contractor shall furnish and maintain, at the Contractor's expense, Fire, Extended Coverage, Vandalism, and Malicious Mischief Insurance (Builder's Risk), in the sum of 100% of the Contract amount. Builder's Risk insurance shall cover the structure on/in which the Work of this Contract is to be done including items of labor and material connected therewith, whether in or adjacent to the structure insured; material in place or to be used as part of the permanent construction, including surplus materials; shanties, protective fences, bridges, or temporary structures; miscellaneous materials and supplies incident to the Work; scaffolding, staging, towers, forms, and equipment, if included in the cost of the Work. This insurance need not cover any tools owned by mechanics, or any tools, equipment, scaffolding, staging, towers, and forms owned or rented by the Contractor, the capital value of which is not included in the cost of the Work.

11.2.3 Any loss under this Article 11.2 is to be adjusted with the Owner and made payable to the Owner as trustee for the insured, as their interests may appear.

11.3 Liability Insurance

11.3.1 The Contractor and their subcontractors (if any) shall secure and keep in force during the term of this Contract the following insurance coverages (if applicable) covering the Contractor for any and all claims of any nature which may in any manner arise out of or result from Contractor's performance under this Contract:

- A. Commercial general liability, including contractual coverage, and products or completed operations coverage (if applicable), with minimum liability limits not less than \$700,000 per person and \$5,000,000 per occurrence unless additional coverage is required by the State. The State is to be named as an additional insured on a primary, non-contributory basis for any liability arising directly or indirectly under or in connection with this Contract.
- B. Automobile liability for owned, non-owned and hired autos with minimum liability limits of \$700,000 per person and \$5,000,000 per occurrence. The State is to be named as an additional insured on a primary, non-contributory basis.
- C. The Contractor shall provide proof of such insurance coverage by tendering to the undersigned State representative a certificate of insurance prior to the commencement of this Contract and proof of workers' compensation coverage meeting all statutory requirements of IC §22-3-2. In addition, proof of an "all states endorsement" covering claims occurring outside the State is required if any of the services provided under this Contract involve work outside of Indiana.
- D. The Contractor's insurance coverage must meet the following additional requirements:
 1. The insurer must have a certificate of authority or other appropriate authorization to operate in the state in which the policy was issued.
 2. Any deductible or self-insured retention amount or other similar obligation under the insurance policies shall be the sole obligation of the Contractor.
 3. The State will be defended, indemnified and held harmless to the full extent of any coverage actually secured by the Contractor in excess of the minimum requirements set forth above. The duty to indemnify the State under this Contract shall not be limited by the insurance required in this Contract.
 4. The insurance required in this Contract, through a policy or endorsement(s), shall include a provision that the policy and endorsements may not be canceled or modified without thirty (30) days' prior written notice to the undersigned State agency.
 5. The Contractor waives and agrees to require their insurer to waive their rights of subrogation against the State of Indiana.
- E. Failure to provide insurance as required in this Contract may be deemed a material breach of contract entitling the State to immediately terminate this Contract. The Contractor shall furnish a certificate of insurance and all endorsements to the State before the commencement of this Contract.
- F. Boiler and Machinery Explosion Insurance shall be required when the Work includes boiler, other pressure

vessels or steam piping installation or repair.

- G. After June 30, 2015, this entire Article will apply to **any** contractor that will be on the construction site pursuant to IC 5-16-13 and an acceptable certificate of insurance will be provided by each and every contractor.

ARTICLE 12 CHANGES IN THE WORK

12.1 Change Orders

12.1.1 The Owner, without invalidating the Contract, may order changes in the Work consisting of additions, deletions, or modifications, with the Contract Sum and the Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be executed under the applicable conditions of the Contract Documents.

12.1.2 A Change Order is a written order to the Contractor compiled and reviewed by the Designer, prepared by the Owner and then signed by the Owner and the Contractor. The order is issued after the execution of the Contract authorizing a change in the Work, and documenting any adjustment in the Contract Sum and/or the Contract Time. The Contract Sum may be changed only by change order.

12.1.3 The value of any work involved in a change in the Work shall be determined in one or more of the following ways, in order of priority listed:

- A. by mutual acceptance of a lump sum. For all amounts over \$500, the Contractor shall provide a complete listing of quantities and unit prices of materials, hours of labor with cost per hour, and separate agreed percentages for any overhead and profit. The maximum aggregate increase for overhead and profit (including all home office and field office overhead) for any Subcontractor or for the Contractor performing its own work is fifteen (15%) percent; the maximum increase for a Contractor on work performed by a Subcontractor is five (5%) percent. If the cost of performance and payment bond(s) is shown as a separate line item in the Contractor's schedule of values for the project, then an increase will be permitted to provide for the additional cost of the bond(s). If the cost of the bond(s) is not indicated on the Contractor's schedule of values for the Project, any increase in cost for bond(s) shall be included in the Contractor's allowed overhead. For listings under \$500, list lump sum for each item, or,
- B. by unit prices named in the Contract or subsequently agreed upon, or,
- C. by cost plus a mutually acceptable fixed or percentage fee.

12.1.4 Should conditions be encountered below the surface of the ground that are:

- A. at variance with the conditions indicated by the Contract Documents, and
- B. different than could be expected after a reasonable viewing of the site by the bidders, and
- C. not evident from available soil samples,

then the Contract sum may be equitably adjusted by Change Order upon claim by Contractor made within a reasonable time after the first observance of the conditions.

12.1.5 If the Contractor claims that a written interpretation issued pursuant to Article 1.2 or a written order for a minor change issued pursuant to Article 12.3 involves additional cost or time, the Contractor shall make such claim as provided in Article 12.2.

12.2 Claims for Additional Cost or Time

12.2.1 If the Contractor wishes to make a claim under the provisions of the Contract Documents for an increase in the Contract Sum or an extension in the Contract Time, Contractor shall give the Designer written notice thereof within fifteen (15) days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor and authority received in writing from the Owner before proceeding to execute the Work, except in an emergency endangering life or property. No such claim shall be valid unless so made. Any approved change in the Contract Sum or Contract Time resulting from such claim shall be incorporated in a Change Order, initiated by the Designer and executed by the Owner. If the Designer does not initiate or the Owner execute a Change Order within a reasonable time in response to the request, such lack of action shall be construed as prima facie evidence of rejection of the request. For the purpose of this section "reasonable time" is expected not to exceed 30 days after receipt by the Owner.

12.3 Minor Changes in the Work

12.3.1 The Designer shall have authority, with Owner's approval, to order minor changes in the Work not involving an increase in the Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such change may be affected by written field order, with copy transmitted to the Owner. Such minor changes need not be approved in writing by the Owner; however, the Owner may provide written approval of any substitution of significant materials or equipment.

12.4 Field Orders

12.4.1 The Designer may issue written field orders, which interpret the Contract Documents in accordance with Article 1.2.4 without change in Contract Sum or Contract Time. The Contractor shall carry out such field orders promptly. The Designer shall

transmit copies of field orders to the Owner.

ARTICLE 13 EXAMINATION AND CORRECTION OF WORK

13.1 Examination of Work

13.1.1 If any portion of the Work should be covered contrary to the request of the Designer or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Designer, be uncovered for Designer's observation and shall be replaced at the Contractor's expense.

13.1.2 Examination of questioned work may be ordered by the Designer with the approval of the Owner, and if so ordered the Work must be uncovered by the Contractor. If such work were found in accordance with the Contract Documents, the cost of re-examination and replacement shall, by appropriate change order, be charged to the Owner. If such work be found not in accordance with the Contract Documents, the Contractor shall pay such costs, unless it is found that the defect in the Work was caused by a separate Contractor employed as provided in Article 6 and in that event, the separate Contractor shall pay such costs.

13.2 Correction of Work before Substantial Completion

13.2.1 The Contractor shall promptly remove from the site all work rejected by the Designer as failing to conform to the Contract Documents, whether or not incorporated in the Project, and the Contractor shall promptly replace and re-execute its own work in accordance with the Contract Documents and without cost to the Owner and shall bear the cost of repair to or replacement of all work of separate Contractors destroyed or damaged by such removal or replacement.

13.2.2 If the Contractor does not remove such rejected work within a reasonable time, fixed by written notice from the Designer, the Owner may remove and store the material at the expense of the Contractor. If the Contractor does not agree to pay or credit the Contract with the cost of such removal within ten days thereafter, the Owner may acquire a lien upon such property and materials. If proceeds of lien foreclosure do not cover all costs, which the Owner has then borne, the difference shall be deducted from the amount to be paid to the Contractor.

13.3 Correction of Work after Substantial Completion

13.3.1 The Contractor shall correct all faults and deficiencies in the Work which appear within one year of the date of substantial completion or such longer period of time as may be prescribed by the terms of any special guarantees called for by the Contract Documents, and Contractor shall pay for all damage to other work caused thereby. The Contractor shall remove all defective work where necessary.

13.3.2 If the Contractor does not correct such faulty or defective work and remove defective work where necessary, within a reasonable time fixed by the Designer in writing, the Owner may do the corrective work and remove the defective work, as described in Article 13.2 above.

13.3.3 All costs attributable to correcting and removing faulty or defective work shall be borne by the Contractor.

13.3.4 The obligations of the Contractor under this Article 13.3 shall be in addition to and not a limitation of any obligations imposed upon Contractor by special guarantees called for by the Contract Documents or otherwise prescribed by law.

ARTICLE 14 TERMINATION OF THE CONTRACT

14.1 Termination by the Contractor

14.1.1 If the Work is stopped for a period of thirty days under an order of any court or other public authority through no act of fault of the Contractor or of anyone employed by the Contractor, or if the Work should be stopped for a period of thirty days by the Contractor for the Designer's failure to issue a Certificate for payment as provided in Article 9.6, or for the Owner's failure to make payment thereon as provided in said Article, then the Contractor may, upon seven days' written notice to the Owner and the Designer, terminate the Contract and recover from the Owner, in satisfaction of all claims of the Contractor, payment for all work executed, except those items involved in Designer's failure to issue Certificate, or Owner's failure to make payment.

14.2 Termination by the Owner

14.2.1 If the Contractor should be adjudged bankrupt, or if Contractor should make a general assignment for the benefit of its creditors, or if a receiver should be appointed on account of Contractor's insolvency, or if Contractor should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if Contractor should fail to make prompt payment to Subcontractors for materials or labor, or persistently disregard laws, ordinances, rules, regulations or orders of any public authority or otherwise be guilty of a substantial violation of a provision of the Contract Documents, then the Owner, upon certification by the Designer that sufficient cause exists to justify such action, may without prejudice to any right or remedy against the Contractor or its surety and after giving the Contractor and its surety seven days written

notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and finish the Work by whatever method the Owner deems expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is completed, and an accounting made as set out below.

14.2.2 If the unpaid balance of the Contract sum exceeds the cost of finishing the Work, including compensation for the Designer's additional services such excess shall be paid to the Contractor. If such cost exceeds such unpaid balance, the Contractor shall pay the difference to the Owner. The Designer shall certify the cost incurred by the Owner as hereinprovided.

END

**STATE OF INDIANA'S
STANDARD CONTRACT FOR PUBLIC WORKS CONSTRUCTION PROJECT
(For projects estimated more than \$150,000)**

Contract # _____

THIS PUBLIC WORKS CONSTRUCTION CONTRACT (“Contract”), entered into by and between the Indiana Department of Administration’s Public Works Division (“State”) and **XXXXXXXXXXXX** (“Contractor”), is executed pursuant to the terms and conditions set forth herein and is governed by Indiana Code 4-13.6, *et seq.* In consideration of those mutual undertakings and covenants, the parties agree as follows for the following Public Works Project:

Project Number: **XXXXXXXXXX**
Project Name: **XXXXXXXXXX**
Designer (if applicable): **XXXXXXXXXX**
Purchase Order Number: **XXXXXXXXXX**
Institution/Department: **XXXXXXXXXX**
Req. No: **XXXXXXXXXX**

1. Definitions. The following definition of “Contract Documents” applies throughout this Contract for the State’s Public Works Project Number **XXXXXX** (“Project”).

The term “Contract Documents” shall mean and include the following: this Contract and the Project Bid Package, which includes but is not limited to the Contractor’s Application for Pre-Qualification, the Public Work’s Solicitation for Quotation (DAPW 30), Bid Documentation, Pre-Contract Document, General Conditions (DAPW 26), Supplementary Conditions, Instructions to Bidders, Drawings, Specifications, and Addenda issued by the State in connection with the Project and prior to the submission of the Contractor’s Proposal.

Subject to Section 39, *Order of Precedence, Incorporation by Reference*, of this Contract, Contract Documents shall also consist of the Contractor’s Proposal and Response, as well as any other documentation submitted by it in response to the Project (hereinafter collectively referred to as “Contractor’s Proposal”).

Additionally, Contract Documents shall include any subsequent amendments, change orders and any written interpretations issued as field orders by the Designer pursuant to General Conditions, Article 1.2 (DAPW 26) and all field orders for minor changes by the Designer pursuant to General Conditions, Article 12.3 (DAPW 26). Change orders and amendments shall be executed in the manner authorized by Section 35, *Merger and Modification*, of this Contract.

When applicable, Contract Documents shall include the Performance Bond and/or the Labor and Materials Payment Bond, as required by IC 4-13.6-7-6 and IC 4-13.6-7-7, and fully described and captured in the General Conditions (DAPW 26).

The Contract Documents are specifically and collectively incorporated herein by reference.

2. Duties of Contractor. The Contractor shall furnish all labor and materials, perform all of the work, and otherwise fulfill all of its obligations in conformance with the Contract Documents. These duties are described and captured in the Contract Documents. The Contractor agrees that not less than fifteen percent (15%) of the work, measured in dollar volume, will be performed by its own forces. Any subcontractor

employed for any part of this Contract awarded in excess of One Hundred Fifty Thousand Dollars (\$150,000.00) shall be qualified with the State of Indiana's Public Works Division Certification Board and shall have a valid Certificate of Qualification in the prime classification of work for this Contract.

3. Consideration. All payments provided herein are subject to appropriations made and funds allocated as provided by laws of the State of Indiana. The State shall pay the Contractor for performance of this Contract in current funds as follows:

BASE BID: **\$XXXXXX.XX**

ALTERNATE(S):

TOTAL CONTRACT PRICE: **\$XXXXXX.XX**

4. Term. The term of this Contract is **[X year(s) and/or xx month(s)]** commencing on the date of the last state signatory to this Contract.

5. Licensing Standards. The Contractor and its employees and subcontractors shall comply with all applicable licensing standards, certification standards, accrediting standards and any other laws, rules or regulations governing services to be provided by the Contractor pursuant to this Contract. The State shall not be required to pay the Contractor for any services performed when the Contractor, its employees or subcontractors are not in compliance with such applicable standards, laws, rules or regulations. If licensure, certification or accreditation expires or is revoked, or if disciplinary action is taken against the applicable licensure, certification or accreditation, the Contractor shall notify the State immediately and the State, at its option, may immediately terminate this Contract.

6. Escrow Agreement. Contemporaneously with the execution of this Contract, the parties may provide for the escrow of retained portions of payments to the Contractor by entering into a separate Escrow Agreement, pursuant to IC 4-13.6-7, with an escrow agent described in IC 4-13.6-7-2(b). Should the Contractor elect to escrow retainage, the Escrow Agreement will become a part of this contract as if fully contained herein.

7. Contractor's Certification. The Contractor certifies that it has been pre-qualified by the State of Indiana's Public Works Division Certification Board to perform the work and furnish the services required by this Project. The Contractor further certifies that all information and documentation submitted by it in its Application for Prequalification Certification, the Contractor's Proposal and submitted in response to the Project, is true, accurate and complete as of the date of this Contract's effectiveness. The Contractor shall immediately notify the State of any material change to such information. The Contractor shall immediately notify the State if, during the course of performance of this Contract, it or any of its principals are proposed for debarment or ineligibility, or become debarred or declared ineligible, from entering into contracts with the federal government or any department, agency or political subdivision of the State.

8. Contractor Employee Drug Testing. Pursuant to IC 4-13-18, the Contractor shall implement the employee drug testing program submitted as part of its Contractor's Proposal. The State may cancel this Contract if it determines that the Contractor:

- A. Has failed to implement its employee drug testing program during the term of this Contract;
- B. Has failed to provide information regarding implementation of the Contractor's employee drug testing program at the request of the State; or

- C. Has provided to the State false information regarding the Contractor's employee drug testing program.

9. Access to Records. The Contractor and its subcontractors, if any, shall maintain all books, documents, papers, accounting records, and other evidence pertaining to all costs incurred under this Contract. They shall make such materials available at their respective offices at all reasonable times during this Contract, and for three (3) years from the date of final payment under this Contract, for inspection by the State or its authorized designees. Copies shall be furnished at no cost to the State if requested.

10. Assignment; Successors.

A. The Contractor binds its successors and assignees to all the terms and conditions of this Contract. The Contractor may assign its right to receive payments to such third parties as the Contractor may desire without the prior written consent of the State, provided that the Contractor gives written notice (including evidence of such assignment) to the State thirty (30) days in advance of any payment so assigned. The assignment shall cover all unpaid amounts under this Contract and shall not be made to more than one party.

B. The Contractor shall not assign or subcontract the whole or any part of this Contract without the State's prior written consent. Additionally, the Contractor shall provide prompt written notice to the State of any change in the Contractor's legal name or legal status so that the changes may be documented and payments to the successor entity may be made.

11. Assignment of Antitrust Claims. As part of the consideration for the award of this Contract, the Contractor assigns to the State all right, title and interest in and to any claims the Contractor now has, or may acquire, under state or federal antitrust laws relating to the products or services which are the subject of this Contract.

12. Audits. The Contractor acknowledges that it may be required to submit to an audit of funds paid through this Contract. Any such audit shall be conducted in accordance with IC § 5-11-1, *et seq.*, and audit guidelines specified by the State.

The State considers the Contractor to be a "Contractor" under 2 C.F.R. 200.331 for purposes of this Contract. However, if it is determined that the Contractor is a "subrecipient" and if required by applicable provisions of 2 C.F.R. 200 (Uniform Administrative Requirements, Cost Principles, and Audit Requirements), Contractor shall arrange for a financial and compliance audit, which complies with 2 C.F.R. 200.500 *et seq.*

13. Authority to Bind Contractor. The signatory for the Contractor represents that he/she has been duly authorized to execute this Contract on behalf of the Contractor and has obtained all necessary or applicable approvals to make this Contract fully binding upon the Contractor when his/her signature is affixed, and accepted by the State.

14. Changes in Work. The Contractor shall not commence any additional work or change the scope of the work until authorized in writing by the State. The Contractor shall make no claim for additional compensation in the absence of a prior written approval and amendment executed by all signatories hereto. This Contract may only be amended, supplemented or modified by a written document executed in the same manner as this Contract.

15. Compliance with Laws.

A. The Contractor shall comply with all applicable federal, state, and local laws, rules, regulations, and ordinances, and all provisions required thereby to be included herein are hereby incorporated by reference. The enactment or modification of any applicable state or federal statute or the promulgation of rules or regulations thereunder after execution of this Contract shall be reviewed by the State and the Contractor to determine whether the provisions of this Contract require formal modification.

B. The Contractor and its agents shall abide by all ethical requirements that apply to persons who have a business relationship with the State as set forth in IC § 4-2-6, *et seq.*, IC § 4-2-7, *et seq.* and the regulations promulgated thereunder. **If the Contractor has knowledge, or would have acquired knowledge with reasonable inquiry, that a state officer, employee, or special state appointee, as those terms are defined in IC § 4-2-6-1, has a financial interest in the Contract, the Contractor shall ensure compliance with the disclosure requirements in IC § 4-2-6-10.5 prior to the execution of this Contract.** If the Contractor is not familiar with these ethical requirements, the Contractor should refer any questions to the Indiana State Ethics Commission, or visit the Inspector General's website at <http://www.in.gov/ig/>. If the Contractor or its agents violate any applicable ethical standards, the State may, in its sole discretion, terminate this Contract immediately upon notice to the Contractor. In addition, the Contractor may be subject to penalties under IC §§ 4-2-6, 4-2-7, 35-44.1-1-4, and under any other applicable laws.

C. The Contractor certifies by entering into this Contract that neither it nor its principal(s) is presently in arrears in payment of taxes, permit fees or other statutory, regulatory or judicially required payments to the State of Indiana. The Contractor agrees that any payments currently due to the State of Indiana may be withheld from payments due to the Contractor. Additionally, further work or payments may be withheld, delayed, or denied and/or this Contract suspended until the Contractor is current in its payments and has submitted proof of such payment to the State.

D. The Contractor warrants that it has no current, pending or outstanding criminal, civil, or enforcement actions initiated by the State, and agrees that it will immediately notify the State of any such actions. During the term of such actions, the Contractor agrees that the State may delay, withhold, or deny work under any supplement, amendment, change order or other contractual device issued pursuant to this Contract.

E. If a valid dispute exists as to the Contractor's liability or guilt in any action initiated by the State or its agencies, and the State decides to delay, withhold, or deny work to the Contractor, the Contractor may request that it be allowed to continue, or receive work, without delay. The Contractor must submit, in writing, a request for review to the Indiana Department of Administration (IDOA) following the procedures for disputes outlined herein. A determination by IDOA shall be binding on the parties. Any payments that the State may delay, withhold, deny, or apply under this section shall not be subject to penalty or interest, except as permitted by IC § 5-17-5.

F. The Contractor warrants that the Contractor and its subcontractors, if any, shall obtain and maintain all required permits, licenses, registrations, and approvals, and shall comply with all health, safety, and environmental statutes, rules, or regulations in the performance of work activities for the State. Failure to do so may be deemed a material breach of this Contract and grounds for immediate termination and denial of further work with the State.

G. The Contractor affirms that, if it is an entity described in IC Title 23, it is properly registered and owes no outstanding reports to the Indiana Secretary of State.

H. As required by IC § 5-22-3-7:

- (1) The Contractor and any principals of the Contractor certify that:
 - (A) the Contractor, except for de minimis and nonsystematic violations, has not violated the terms of:
 - (i) IC §24-4.7 [Telephone Solicitation Of Consumers];
 - (ii) IC §24-5-12 [Telephone Solicitations]; or
 - (iii) IC §24-5-14 [Regulation of Automatic Dialing Machines];in the previous three hundred sixty-five (365) days, even if IC § 24-4.7 is preempted by federal law; and
 - (B) the Contractor will not violate the terms of IC § 24-4.7 for the duration of the Contract, even if IC §24-4.7 is preempted by federal law.
- (2) The Contractor and any principals of the Contractor certify that an affiliate or principal of the Contractor and any agent acting on behalf of the Contractor or on behalf of an affiliate or principal of the Contractor, except for de minimis and nonsystematic violations,
 - (A) has not violated the terms of IC § 24-4.7 in the previous three hundred sixty-five (365) days, even if IC §24-4.7 is preempted by federal law; and
 - (B) will not violate the terms of IC § 24-4.7 for the duration of the Contract, even if IC §24-4.7 is preempted by federal law.

16. Condition of Payment. All services provided by the Contractor under this Contract must be performed to the State's reasonable satisfaction, as determined at the discretion of the undersigned State representative and in accordance with all applicable federal, state, local laws, ordinances, rules and regulations. The State shall not be required to pay for work found to be unsatisfactory, inconsistent with this Contract or performed in violation of and federal, state or local statute, ordinance, rule or regulation.

17. Confidentiality of State Information. The Contractor understands and agrees that data, materials, and information disclosed to the Contractor may contain confidential and protected information. The Contractor covenants that data, material, and information gathered, based upon or disclosed to the Contractor for the purpose of this Contract will not be disclosed to or discussed with third parties without the prior written consent of the State.

The parties acknowledge that the services to be performed by Contractor for the State under this Contract may require or allow access to data, materials, and information containing Social Security numbers maintained by the State in its computer system or other records. In addition to the covenant made above in this section and pursuant to 10 IAC 5-3-1(4), the Contractor and the State agree to comply with the provisions of IC § 4-1-10 and IC § 4-1-11. If any Social Security number(s) is/are disclosed by Contractor, Contractor agrees to pay the cost of the notice of disclosure of a breach of the security of the system in addition to any other claims and expenses for which it is liable under the terms of this contract.

18. Continuity of Services.

A. The Contractor recognizes that the service(s) to be performed under this Contract are vital to the State and must be continued without interruption and that, upon Contract expiration, a successor, either the State or another contractor, may continue them. The Contractor agrees to:

1. Furnish phase-in training; and
2. Exercise its best efforts and cooperation to effect an orderly and efficient transition to a successor.

B. The Contractor shall, upon the State's written notice:

1. Furnish phase-in, phase-out services for up to sixty (60) days after this Contract expires; and
2. Negotiate in good faith a plan with a successor to determine the nature and extent of phase-in, phase-out services required. The plan shall specify a training program and a date for transferring responsibilities for each division of work described in the plan, and shall be subject to the State's approval. The Contractor shall provide sufficient experienced personnel during the phase-in, phase-out period to ensure that the services called for by this Contract are maintained at the required level of proficiency.

C. The Contractor shall allow as many personnel as practicable to remain on the job to help the successor maintain the continuity and consistency of the services required by this Contract. The Contractor also shall disclose necessary personnel records and allow the successor to conduct on-site interviews with these employees. If selected employees are agreeable to the change, the Contractor shall release them at a mutually agreeable date and negotiate transfer of their earned fringe benefits to the successor.

D. The Contractor shall be reimbursed for all reasonable phase-in, phase-out costs (i.e., costs incurred within the agreed period after contract expiration that result from phase-in, phase-out operations).

19. Debarment and Suspension.

A. The Contractor certifies by entering into this Contract that neither it nor its principals nor any of its subcontractors are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from entering into this Contract by any federal agency or by any department, agency or political subdivision of the State of Indiana. The term "principal" for purposes of this Contract means an officer, director, owner, partner, key employee or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of the Contractor.

B. The Contractor certifies that it has verified the state and federal suspension and debarment status for all subcontractors receiving funds under this Contract and shall be solely responsible for any recoupment, penalties or costs that might arise from use of a suspended or debarred subcontractor. The Contractor shall immediately notify the State if any subcontractor becomes debarred or suspended, and shall, at the State's request, take all steps required by the State to terminate its contractual relationship with the subcontractor for work to be performed under this Contract.

20. Default by State. If the State, sixty (60) days after receipt of written notice, fails to correct or cure any material breach of this Contract, the Contractor may cancel and terminate this Contract and institute measures to collect monies due up to and including the date of termination.

21. Disputes.

A. Should any disputes arise with respect to this Contract, the Contractor and the State agree to act immediately to resolve such disputes. Time is of the essence in the resolution of disputes.

B. The Contractor agrees that, the existence of a dispute notwithstanding, it will continue without delay to carry out all of its responsibilities under this Contract that are not affected by the dispute. Should the Contractor fail to continue to perform its responsibilities regarding all non-disputed work, without delay,

any additional costs incurred by the State or the Contractor as a result of such failure to proceed shall be borne by the Contractor, and the Contractor shall make no claim against the State for such costs.

C. If the parties are unable to resolve a contract dispute between them after good faith attempts to do so, a dissatisfied party shall submit the dispute to the Commissioner of the Indiana Department of Administration for resolution. The dissatisfied party shall give written notice to the Commissioner and the other party. The notice shall include: (1) a description of the disputed issues, (2) the efforts made to resolve the dispute, and (3) a proposed resolution. The Commissioner shall promptly issue a Notice setting out documents and materials to be submitted to the Commissioner in order to resolve the dispute; the Notice may also afford the parties the opportunity to make presentations and enter into further negotiations. Within thirty (30) business days of the conclusion of the final presentations, the Commissioner shall issue a written decision and furnish it to both parties. The Commissioner's decision shall be the final and conclusive administrative decision unless either party serves on the Commissioner and the other party, within ten (10) business days after receipt of the Commissioner's decision, a written request for reconsideration and modification of the written decision. If the Commissioner does not modify the written decision within thirty (30) business days, either party may take such other action helpful to resolving the dispute, including submitting the dispute to an Indiana court of competent jurisdiction. If the parties accept the Commissioner's decision, it may be memorialized as a written Amendment to this Contract if appropriate.

D. The State may withhold payments on disputed items pending resolution of the dispute. The unintentional nonpayment by the State to the Contractor of one or more invoices not in dispute in accordance with the terms of this Contract will not be cause for the Contractor to terminate this Contract, and the Contractor may bring suit to collect these amounts without following the disputes procedure contained herein.

E. With the written approval of the Commissioner of the Indiana Department of Administration, the parties may agree to forego the process described in subdivision C. relating to submission of the dispute to the Commissioner.

F. This paragraph shall not be construed to abrogate provisions of IC § 4-6-2-11 in situations where dispute resolution efforts lead to a compromise of claims in favor of the State as described in that statute. In particular, releases or settlement agreements involving releases of legal claims or potential legal claims of the state should be processed consistent with IC § 4-6-2-11, which requires approval of the Governor and Attorney General.

22. Drug-Free Workplace Certification. As required by Executive Order No. 90-5 dated April 12, 1990, issued by the Governor of Indiana, the Contractor hereby covenants and agrees to make a good faith effort to provide and maintain a drug-free workplace. The Contractor will give written notice to the State within ten (10) days after receiving actual notice that the Contractor, or an employee of the Contractor in the State of Indiana, has been convicted of a criminal drug violation occurring in the workplace. False certification or violation of this certification may result in sanctions including, but not limited to, suspension of contract payments, termination of this Contract and/or debarment of contracting opportunities with the State for up to three (3) years.

In addition to the provisions of the above paragraph, if the total amount set forth in this Contract is in excess of \$25,000.00, the Contractor certifies and agrees that it will provide a drug-free workplace by:

- A. Publishing and providing to all of its employees a statement notifying them that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance

is prohibited in the Contractor's workplace, and specifying the actions that will be taken against employees for violations of such prohibition;

- B. Establishing a drug-free awareness program to inform its employees of (1) the dangers of drug abuse in the workplace; (2) the Contractor's policy of maintaining a drug-free workplace; (3) any available drug counseling, rehabilitation and employee assistance programs; and (4) the penalties that may be imposed upon an employee for drug abuse violations occurring in the workplace;
- C. Notifying all employees in the statement required by subparagraph (A) above that as a condition of continued employment, the employee will (1) abide by the terms of the statement; and (2) notify the Contractor of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction;
- D. Notifying the State in writing within ten (10) days after receiving notice from an employee under subdivision (C)(2) above, or otherwise receiving actual notice of such conviction;
- E. Within thirty (30) days after receiving notice under subdivision (C)(2) above of a conviction, imposing the following sanctions or remedial measures on any employee who is convicted of drug abuse violations occurring in the workplace: (1) taking appropriate personnel action against the employee, up to and including termination; or (2) requiring such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a federal, state or local health, law enforcement, or other appropriate agency; and
- F. Making a good faith effort to maintain a drug-free workplace through the implementation of subparagraphs (A) through (E) above.

23. Employment Eligibility Verification As required by IC § 22-5-1.7, the Contractor swears or affirms under the penalties of perjury that the Contractor does not knowingly employ an unauthorized alien. The Contractor further agrees that:

A. The Contractor shall enroll in and verify the work eligibility status of all his/her/its newly hired employees through the E-Verify program as defined in IC § 22-5-1.7-3. The Contractor is not required to participate should the E-Verify program cease to exist. Additionally, the Contractor is not required to participate if the Contractor is self-employed and does not employ any employees.

B. The Contractor shall not knowingly employ or contract with an unauthorized alien. The Contractor shall not retain an employee or contract with a person that the Contractor subsequently learns is an unauthorized alien.

C. The Contractor shall require his/her/its subcontractors, who perform work under this Contract, to certify to the Contractor that the subcontractor does not knowingly employ or contract with an unauthorized alien and that the subcontractor has enrolled and is participating in the E-Verify program. The Contractor agrees to maintain this certification throughout the duration of the term of a contract with a subcontractor.

The State may terminate for default if the Contractor fails to cure a breach of this provision no later than thirty (30) days after being notified by the State.

24. Employment Option. If the State determines that it would be in the State's best interest to hire an employee of the Contractor, the Contractor will release the selected employee from any non-competition agreements that may be in effect. This release will be at no cost to the State or the employee.

25. Force Majeure. In the event that either party is unable to perform any of its obligations under this Contract or to enjoy any of its benefits because of natural disaster or decrees of governmental bodies not the fault of the affected party (hereinafter referred to as a "Force Majeure Event"), the party who has been so affected shall immediately give notice to the other party and shall do everything possible to resume performance. Upon receipt of such notice, all obligations under this Contract shall be immediately suspended. If the period of nonperformance exceeds thirty (30) days from the receipt of notice of the Force Majeure Event, the party whose ability to perform has not been so affected may, by giving written notice, terminate this Contract.

26. Funding Cancellation. As required by Financial Management Circular 3.3 and IC § 5-22-17-5, when the Director of the State Budget Agency makes a written determination that funds are not appropriated or otherwise available to support continuation of performance of this Contract, this Contract shall be canceled. A determination by the Director of State Budget Agency that funds are not appropriated or otherwise available to support continuation of performance shall be final and conclusive.

27. Governing Law. This Contract shall be governed, construed, and enforced in accordance with the laws of the State of Indiana, without regard to its conflict of laws rules. Suit, if any, must be brought in the State of Indiana.

28. HIPAA Compliance. If this Contract involves services, activities or products subject to the Health Insurance Portability and Accountability Act of 1996 (HIPAA), the Contractor covenants that it will appropriately safeguard Protected Health Information (defined in 45 CFR 160.103), and agrees that it is subject to, and shall comply with, the provisions of 45 CFR 164 Subpart E regarding use and disclosure of Protected Health Information.

29. Indemnification. The Contractor agrees to indemnify, defend, and hold harmless the State, its agents, officials, and employees from all claims and suits including court costs, attorney's fees, and other expenses caused by any act or omission of the Contractor and/or its subcontractors, if any, in the performance of this Contract. The State shall **not** provide such indemnification to the Contractor.

30. Independent Contractor; Workers' Compensation Insurance. The Contractor is performing as an independent entity under this Contract. No part of this Contract shall be construed to represent the creation of an employment, agency, partnership or joint venture agreement between the parties. Neither party will assume liability for any injury (including death) to any persons, or damage to any property, arising out of the acts or omissions of the agents, employees or subcontractors of the other party. The Contractor shall provide all necessary unemployment and workers' compensation insurance for the Contractor's employees, and Contractor shall provide the State with a Certificate of Insurance evidencing such coverage prior to starting work under this Contract.

31. Indiana Veteran Owned Small Business Enterprise Compliance. Award of this Contract was based, in part, on the Indiana Veteran Owned Small Business Enterprise ("IVOSB") participation plan, as detailed in the IVOSB Subcontractor Commitment Form, commonly referred to as "Attachment A-1" in the procurement documentation and incorporated by reference herein. Therefore, any changes to this information during the Contract term must be approved by IDOA's Division of Supplier Diversity and may require an amendment. It is the State's expectation that the Contractor will meet the subcontractor

commitments during the Contract term. The following certified IVOSB subcontractor(s) will be participating in this Contract: **[Add additional IVOSBs using the same format.]**

IVOSB	COMPANY NAME	PHONE	EMAIL OF CONTACT PERSON	PERCENT
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Briefly describe the IVOSB service(s)/product(s) to be provided under this Contract and include the estimated date(s) for utilization during the Contract term:

A copy of each subcontractor agreement must be submitted to the Division of Supplier Diversity within thirty (30) days of the effective date of this Contract. The subcontractor agreements may be uploaded into Pay Audit (Indiana’s subcontractor payment auditing system), emailed to IndianaVeteransPreference@idoa.IN.gov, or mailed to IDOA, 402 W. Washington Street, Room W-462, Indianapolis, IN 46204. Failure to provide a copy of any subcontractor agreement may be deemed a violation of the rules governing IVOSB procurement and may result in sanctions allowable under 25 IAC 9-5-2. Requests for changes must be submitted to IndianaVeteransPreference@idoa.IN.gov for review and approval before changing the participation plan submitted in connection with this Contract.

The Contractor shall report payments made to certified IVOSB subcontractors under this Contract on a monthly basis using Pay Audit. The Contractor shall notify subcontractors that they must confirm payments received from the Contractor in Pay Audit. The Pay Audit system can be accessed on the IDOA webpage at: www.in.gov/idoa/mwbe/payaudit.htm. The Contractor may also be required to report IVOSB certified subcontractor payments directly to the Division of Supplier Diversity, as reasonably requested and in the format required by the Division of Supplier Diversity.

The Contractor’s failure to comply with the provisions in this clause may be considered a material breach of the Contract.

32. Information Technology Enterprise Architecture Requirements. If this Contract involves information technology-related products or services, the Contractor agrees that all such products or services are compatible with any of the technology standards found at <https://www.in.gov/iot/2394.htm> that are applicable, including the assistive technology standard. The State may terminate this Contract for default if the terms of this paragraph are breached.

33. Insurance

- A. The Contractor and their subcontractors (if any) shall secure and keep in force during the term of this Contract the following insurance coverages (if applicable) covering the Contractor for any and all claims of any nature which may in any manner arise out of or result from Contractor’s performance under this Contract. The required limits of liability can be obtained with a combination of primary and excess liability policies.
 - 1. Commercial general liability, including contractual coverage, and products or completed operations coverage (if applicable), with minimum liability limits not less than \$700,000 per person and \$5,000,000 per occurrence unless additional

coverage is required by the State. The State is to be named as an additional insured on a primary, non-contributory basis for any liability arising directly or indirectly under or in connection with this Contract.

2. Automobile liability for owned, non-owned and hired autos with minimum liability limits of \$700,000 per person and \$5,000,000 per occurrence. The State is to be named as an additional insured on a primary, non-contributory basis.
3. The Contractor shall secure the appropriate Surety or Fidelity Bond(s) as required by the state department served or by applicable statute.
4. The Contractor and their subcontractors shall provide proof of such insurance coverage by tendering to the undersigned State representative a certificate of insurance prior to the commencement of this Contract and proof of workers' compensation coverage meeting all statutory requirements of IC §22-3-2. In addition, proof of an "all states endorsement" covering claims occurring outside the State is required if any of the services provided under this Contract involve work outside of Indiana.

B. The Contractor's insurance coverage must meet the following additional requirements:

1. The insurer must have a certificate of authority or other appropriate authorization to operate in the state in which the policy was issued.
2. Any deductible or self-insured retention amount or other similar obligation under the insurance policies shall be the sole obligation of the Contractor.
3. The State will be defended, indemnified and held harmless to the full extent of any coverage actually secured by the Contractor in excess of the minimum requirements set forth above. The duty to indemnify the State under this Contract shall not be limited by the insurance required in this Contract.
4. The insurance required in this Contract, through a policy or endorsement(s), shall include a provision that the policy and endorsements may not be canceled or modified without thirty (30) days' prior written notice to the undersigned State agency.
5. The Contractor waives and agrees to require their insurer to waive their rights of subrogation against the State of Indiana.

C. Failure to provide insurance as required in this Contract may be deemed a material breach of contract entitling the State to immediately terminate this Contract. The Contractor shall furnish a certificate of insurance and all endorsements to the State before the commencement of this Contract.

34. Key Person(s).

A. If both parties have designated that certain individual(s) are essential to the services offered, the parties agree that should such individual(s) leave their employment during the term of this Contract for whatever reason, the State shall have the right to terminate this Contract upon thirty (30) days' prior written notice.

- B. In the event that the Contractor is an individual, that individual shall be considered a key person and, as such, essential to this Contract. Substitution of another for the Contractor shall not be permitted without express written consent of the State.

Nothing in Sections A and B, above shall be construed to prevent the Contractor from using the services of others to perform tasks ancillary to those tasks which directly require the expertise of the key person. Examples of such ancillary tasks include secretarial, clerical, and common labor duties. The Contractor shall, at all times, remain responsible for the performance of all necessary tasks, whether performed by a key person or others.

Key person(s) to this Contract is/are:

35. Merger & Modification. This Contract constitutes the entire agreement between the parties. No understandings, agreements, or representations, oral or written, not specified within this Contract will be valid provisions of this Contract. This Contract may not be modified, supplemented, or amended, except by written agreement signed by all necessary parties.

36. Minority and Women’s Business Enterprises Compliance. Award of this Contract was based, in part, on the Minority and/or Women’s Business Enterprise (“MBE” and/or “WBE”) participation plan as detailed in the Minority and Women’s Business Enterprises Subcontractor Commitment Form, commonly referred to as “Attachment A” in the procurement documentation and incorporated by reference herein. Therefore, any changes to this information during the Contract term must be approved by the Division of Supplier Diversity and may require an amendment. It is the State’s expectation that the Contractor will meet the subcontractor commitments during the Contract term.

The following Division of Supplier Diversity certified MBE and/or WBE subcontractors will be participating in this Contract: **[Add additional MBEs and WBEs using the same format.]**

MBE or WBE	COMPANY NAME	PHONE	EMAIL OF CONTACT PERSON	PERCENT
------------	--------------	-------	-------------------------	---------

Briefly describe the MBE and/or WBE service(s)/product(s) to be provided under this Contract and include the estimated date(s) for utilization during the Contract term:

A copy of each subcontractor agreement must be submitted to the Division of Supplier Diversity within thirty (30) days of the effective date of this Contract. The subcontractor agreements may be uploaded into Pay Audit (Indiana’s subcontractor payment auditing system), emailed to MWBECompliance@idoa.IN.gov, or mailed to Division of Supplier Diversity, 402 W. Washington Street, Indianapolis IN 46204. Failure to provide a copy of any subcontractor agreement may be deemed a violation of the rules governing MBE/WBE procurement and may result in sanctions allowable under 25 IAC 5-7-8. Requests for changes must be submitted to MWBECompliance@idoa.IN.gov for review and approval before changing the participation plan submitted in connection with this Contract.

The Contractor shall report payments made to Division of Supplier Diversity certified subcontractors under this Contract on a monthly basis using Pay Audit. The Contractor shall notify subcontractors that

they must confirm payments received from the Contractor in Pay Audit. The Pay Audit system can be accessed on the IDOA webpage at: www.in.gov/idoa/mwbe/payaudit.htm. The Contractor may also be required to report Division of Supplier Diversity certified subcontractor payments directly to the Division of Supplier Diversity, as reasonably requested and in the format required by the Division of Supplier Diversity.

The Contractor's failure to comply with the provisions in this clause may be considered a material breach of the Contract.

37. Nondiscrimination. Pursuant to the Indiana Civil Rights Law, specifically including IC § 22-9-1-10, and in keeping with the purposes of the federal Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act, the Contractor covenants that it shall not discriminate against any employee or applicant for employment relating to this Contract with respect to the hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment, because of the employee's or applicant's race, color, national origin, religion, sex, age, disability, ancestry, status as a veteran, or any other characteristic protected by federal, state, or local law ("Protected Characteristics"). Contractor certifies compliance with applicable federal laws, regulations, and executive orders prohibiting discrimination based on the Protected Characteristics in the provision of services. Breach of this paragraph may be regarded as a material breach of this Contract, but nothing in this paragraph shall be construed to imply or establish an employment relationship between the State and any applicant or employee of the Contractor or any subcontractor.

The State is a recipient of federal funds, and therefore, where applicable, Contractor and any subcontractors shall comply with requisite affirmative action requirements, including reporting, pursuant to 41 CFR Chapter 60, as amended, and Section 202 of Executive Order 11246 as amended by Executive Order 13672.

38. Notice to Parties. Whenever any notice, statement or other communication is required under this Contract, it will be sent by E-mail or first-class U.S. mail service to the following addresses, unless otherwise specifically advised. Such notice, statement or other communication shall include the Public Works Project Number in the subject line of the E-mail and the body of the notice or other communication.

A. Notices to the State shall be sent to:

Public Works Division, Director
Indiana Department of Administration
402 W Washington St Room W462
Indianapolis, IN 46204
E-mail: rgrossman@idoa.IN.gov

B. Notices to the Contractor shall be sent to:

[INSERT CONTRACTOR NAME]
[INSERT CONTRACTOR'S ADDRESS]
E-mail: _____

As required by IC § 4-13-2-14.8, payments to the Contractor shall be made via electronic funds transfer in accordance with instructions filed by the Contractor with the Indiana Auditor of State.

39. Order of Precedence; Incorporation by Reference. Any inconsistency or ambiguity in this Contract shall be resolved by giving precedence in the following order: (1) this Contract, (2) the Project Bid Package, (3) attachments prepared by the State; (4) Contractor's Proposal; and (5) attachments prepared by the

Contractor. All of the foregoing are incorporated fully by reference. All attachments, and all documents referred to in this paragraph are hereby incorporated fully by reference.

40. Ownership of Documents and Materials.

A. All documents, records, programs, applications, data, algorithms, film, tape, articles, memoranda, and other materials (the "Materials") not developed or licensed by the Contractor prior to execution of this Contract, but specifically developed under this Contract shall be considered "work for hire" and the Contractor hereby transfers and assigns any ownership claims to the State so that all Materials will be the property of the State. If ownership interest in the Materials cannot be assigned to the State, the Contractor grants the State a non-exclusive, non-cancelable, perpetual, worldwide royalty-free license to use the Materials and to use, modify, copy and create derivative works of the Materials.

B. Use of the Materials, other than related to contract performance by the Contractor, without the prior written consent of the State, is prohibited. During the performance of this Contract, the Contractor shall be responsible for any loss of or damage to the Materials developed for or supplied by the State and used to develop or assist in the services provided while the Materials are in the possession of the Contractor. Any loss or damage thereto shall be restored at the Contractor's expense. The Contractor shall provide the State full, immediate, and unrestricted access to the Materials and to Contractor's work product during the term of this Contract.

41. Payments.

A. All payments shall be made thirty five (35) days in arrears in conformance with State fiscal policies and procedures and, as required by IC §4-13-2-14.8, the direct deposit by electronic funds transfer to the financial institution designated by the Contractor in writing unless a specific waiver has been obtained from the Indiana Auditor of State. No payments will be made in advance of receipt of the goods or services that are the subject of this Contract except as permitted by IC § 4-13-2-20.

B. If the Contractor is being paid in advance for the maintenance of equipment, software or a service as a subscription, then pursuant to IC § 4-13-2-20(b)(14), the Contractor agrees that if it fails to fully provide or perform under this Contract, upon receipt of written notice from the State, it shall promptly refund the consideration paid, pro-rated through the date of non-performance.

42. Penalties/Interest/Attorney's Fees. The State will in good faith perform its required obligations hereunder and does not agree to pay any penalties, liquidated damages, interest or attorney's fees, except as permitted by Indiana law, in part, IC § 5-17-5, IC § 34-54-8, IC § 34-13-1 and IC § 34-52-2.

Notwithstanding the provisions contained in IC § 5-17-5, any liability resulting from the State's failure to make prompt payment shall be based solely on the amount of funding originating from the State and shall not be based on funding from federal or other sources.

43. Progress Reports. The Contractor shall submit progress reports to the State upon request. The report shall be oral, unless the State, upon receipt of the oral report, should deem it necessary to have it in written form. The progress reports shall serve the purpose of assuring the State that work is progressing in line with the schedule, and that completion can be reasonably assured on the scheduled date.

44. Public Record.

The Contractor acknowledges that the State will not treat this Contract as containing confidential information, and the State will post this Contract on the transparency portal as required by Executive

Order 05-07 and IC § 5-14-3.5-2. Use by the public of the information contained in this Contract shall not be considered an act of the State.

45. Renewal Option. This Contract may be renewed under the same terms and conditions, subject to the approval of the Commissioner of the Department of Administration and the State Budget Director in compliance with IC § 5-22-17-4. The term of the renewed contract may not be longer than the term of the original contract.

46. Severability. The invalidity of any section, subsection, clause or provision of this Contract shall not affect the validity of the remaining sections, subsections, clauses or provisions of this Contract.

47. Substantial Performance. This Contract shall be deemed to be substantially performed only when fully performed according to its terms and conditions and any written amendments or supplements.

48. Taxes. The State is exempt from most state and local taxes and many federal taxes. The State will not be responsible for any taxes levied on the Contractor as a result of this Contract.

49. Termination for Convenience. This Contract may be terminated, in whole or in part, by the State, which shall include and is not limited to the Indiana Department of Administration and the State Budget Agency whenever, for any reason, the State determines that such termination is in its best interest. Termination of services shall be effected by delivery to the Contractor of a Termination Notice at least thirty (30) days prior to the termination effective date, specifying the extent to which performance of services under such termination becomes effective. The Contractor shall be compensated for services properly rendered prior to the effective date of termination. The State will not be liable for services performed after the effective date of termination. The Contractor shall be compensated for services herein provided but in no case shall total payment made to the Contractor exceed the original contract price or shall any price increase be allowed on individual line items if canceled only in part prior to the original termination date. For the purposes of this paragraph, the parties stipulate and agree that the Indiana Department of Administration shall be deemed to be a party to this agreement with authority to terminate the same for convenience when such termination is determined by the Commissioner of IDOA to be in the best interests of the State.

50. Termination for Default.

- A. With the provision of thirty (30) days' notice to the Contractor, the State may terminate this Contract in whole or in part if the Contractor fails to:
1. Correct or cure any breach of this Contract; the time to correct or cure the breach may be extended beyond thirty (30) days if the State determines progress is being made and the extension is agreed to by the parties;
 2. Deliver the supplies or perform the services within the time specified in this Contract or any extension;
 3. Make progress so as to endanger performance of this Contract; or
 4. Perform any of the other provisions of this Contract.
- B. If the State terminates this Contract in whole or in part, it may acquire, under the terms and in the manner the State considers appropriate, supplies or services similar to those terminated, and the Contractor will be liable to the State for any excess costs for those supplies or services. However, the Contractor shall continue the work not terminated.

- C. The State shall pay the contract price for completed supplies delivered and services accepted. The Contractor and the State shall agree on the amount of payment for manufacturing materials delivered and accepted and for the protection and preservation of the property. Failure to agree will be a dispute under the Disputes clause. The State may withhold from these amounts any sum the State determines to be necessary to protect the State against loss because of outstanding liens or claims of former lien holders.
- D. The rights and remedies of the State in this clause are in addition to any other rights and remedies provided by law or equity or under this Contract.

51. Travel. No expenses for travel will be reimbursed unless specifically authorized by this Contract. Permitted expenses will be reimbursed at the rate paid by the State and in accordance with the *Indiana Department of Administration's Travel Policies and Procedures* in effect at the time the expenditure is made. Out-of-state travel requests must be reviewed by the State for availability of funds and for conformance with *Travel Policy* guidelines.

52. Waiver of Rights. No right conferred on either party under this Contract shall be deemed waived, and no breach of this Contract excused, unless such waiver is in writing and signed by the party claimed to have waived such right. Neither the State's review, approval or acceptance of, nor payment for, the services required under this Contract shall be construed to operate as a waiver of any rights under this Contract or of any cause of action arising out of the performance of this Contract, and the Contractor shall be and remain liable to the State in accordance with applicable law for all damages to the State caused by the Contractor's negligent performance of any of the services furnished under this Contract.

53. Work Standards. The Contractor shall execute its responsibilities by following and applying at all times the highest professional and technical guidelines and standards. If the State becomes dissatisfied with the work product of or the working relationship with those individuals assigned to work on this Contract, the State may request in writing the replacement of any or all such individuals, and the Contractor shall grant such request.

THE REMAINDER OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

Non-Collusion and Acceptance

The undersigned attests, subject to the penalties for perjury, that the undersigned is the Contractor, or that the undersigned is the properly authorized representative, agent, member or officer of the Contractor. Further, to the undersigned’s knowledge, neither the undersigned nor any other member, employee, representative, agent or officer of the Contractor, directly or indirectly, has entered into or been offered any sum of money or other consideration for the execution of this Contract other than that which appears upon the face hereof. **Furthermore, if the undersigned has knowledge that a state officer, employee, or special state appointee, as those terms are defined in IC 4-2-6-1, has a financial interest in the Contract, the Contractor attests to compliance with the disclosure requirements in IC 4-2-6-10.5.**

Agreement to Use Electronic Signatures

I agree, and it is my intent, to sign this Contract by accessing State of Indiana Supplier Portal using the secure password assigned to me and by electronically submitting this Contract to the State of Indiana. I understand that my signing and submitting this Contract in this fashion is the legal equivalent of having placed my handwritten signature on the submitted Contract and this affirmation. I understand and agree that by electronically signing and submitting this Contract in this fashion I am affirming to the truth of the information contained herein. I understand that this Contract will not become binding on the State until it has been approved by the Department of Administration, the State Budget Agency, and the Office of the Attorney General, which approvals will be posted on the Active Contracts Database:
<https://secure.in.gov/apps/idoa/contractsearch/>

IN WITNESS WHEREOF, the Contractor and the State have, through their duly authorized representatives, entered into this Contract for Public Works Project Number XXXXX. The parties, having read and understood the foregoing terms of this Contract, do by their respective signatures dated below agree to the terms thereof.

Contractor: XXXXXXXXXXXX

**Department of Administration
Public Works Division**

By: _____
Printed Name: _____
Title: _____

Date: _____

By: _____
Robert Grossman, Director
For IDOA Commissioner if less than \$10,000,000

Date: _____

Approved by:
Department of Administration

Approved by:
State Budget Agency

By: _____ (for)
Rebecca Holwerda, Commissioner

By: _____ (for)
Zachary Q. Jackson, Director

Date: _____

Date: _____

Approved as to Form and Legality:
*Form approval has been granted by the
Office of the Attorney General pursuant to
IC 4-13-2-14.3(e) on October 5, 2022.
FA 22-49*

This document prepared and reviewed by:

Counsel, Indiana Department of Administration

TEMPLATE

**STATE OF INDIANA'S
PUBLIC WORKS CONSTRUCTION CONTRACT
CHANGE ORDER/AMENDMENT #_**
Contract # _____

THIS IS AMENDMENT # [] **to the Public Works Construction Contract (“Contract”) entered into by and between the Indiana Department of Administration’s Public Works Division (“State”) and XXXXXXXXXX (“Contractor”), executed pursuant to the terms and conditions set forth herein, governed by Indiana Code 4-13.6, et seq. and approved by the last State signatory on [] .**

In consideration of the mutual undertakings and covenants hereinafter set forth, the parties agree to amend the Contract as follows:

1. A written change has been requested by the Contractor, as detailed in **Amendment #** [] **Exhibit A**, attached hereto and incorporated herein, in connection with the following Public Works Project:

Project Number: **XXXXXXXXXX**
 Project Name: **XXXXXXXXXX**
 Designer (if applicable): **XXXXXXXXXX**
 Purchase Order Number: **XXXXXXXXXX**
 Institution Department: **XXXXXXXXXX**
 Req. No: **XXXXXXXXXX**
 Change Order No: **XXXXXXXXXX**

2. [] The Designer has recommended the Contractor’s change in writing, as evidenced by **Amendment #** [] **Exhibit** [] , attached hereto and incorporated herein.
 [] No Designer has been contracted for this Project.

3. The State has approved the change request, as detailed in **Amendment #** [] **Exhibit B**, attached hereto and incorporated herein.

4. The consideration for this Amendment # [] is as follows:

ORIGINAL CONTRACT VALUE	\$ _____
TOTAL PREVIOUS AMENDMENT VALUE	\$ _____
PRE-AMENDMENT CONTRACT TOTAL	\$ _____
[] INCREASE/[] DECREASE THIS AMENDMENT	\$ _____
[] INCREASE/[] DECREASE REMEDIATION ALLOWANCE	\$ _____
NEW CONTRACT TOTAL REMUNERATION	\$ _____

This change represents a **\$XX,XXX** [] increase/[] decrease in the original contract and a **\$XX,XXX** [] increase/[] decrease in remediation allowance, for a total [] increase/[] decrease of **\$XX,XXX**. Retainage [] will/[] will not be withheld on this change order amount.

5. The term of this Contract is hereby [] extended for an additional **XXX** days.
 [] decreased by **XXX** days.
 [] remains the same.

Therefore, the Contract shall terminate on [] .

6. A. Minority and Women’s Business Enterprises Compliance. Include one of the options, as applicable; delete the inapplicable option.

OPTION 1-to be used if the MBE and/or WBE subcontractor(s) will continue to be utilized during the extension period.

As required by 25 IAC 5-6-2(b), the following Division of Supplier Diversity certified MBE or WBE subcontractor(s) will be participating in this Contract under this Change Order/Amendment. This participation represents [] the same percentage or [] an increase of [] % above the original MBE and/or WBE commitment. **[Add additional MBEs and WBEs using the same format.]**

MBE or WBE	COMPANY NAME	PHONE	EMAIL OF CONTACT PERSON	PERCENT

Briefly describe the MBE and/or WBE service(s)/product(s) to be provided under this Amendment and include the estimated date(s) for utilization during the extension period:

A copy of each subcontractor agreement must be submitted to the Division of Supplier Diversity within thirty (30) days of the effective date of this Amendment. The subcontractor agreements may be uploaded into Pay Audit (Indiana’s subcontractor payment auditing system), emailed to MWBECompliance@idoa.IN.gov, or mailed to Division of Supplier Diversity, 402 W. Washington Street, RoomW-462, Indianapolis IN 46204. Failure to provide a copy of any subcontractor agreement may be deemed a violation of the rules governing MBE/WBE procurement and may result in sanctions allowable under 25 IAC 5-7-8. Requests for changes must be submitted to MWBECompliance@idoa.IN.gov for review and approval before changing the participation plan submitted in connection with this Amendment.

The Contractor shall report payments made to Division of Supplier Diversity certified subcontractors under this Contract on a monthly basis using Pay Audit. The Contractor shall notify subcontractors that they must confirm payments received from Contractor in Pay Audit. The Pay Audit system can be accessed on the IDOA webpage at: www.in.gov/idoa/mwbe/payaudit.htm. Contractor may also be required to report Division of Supplier Diversity certified subcontractor payments directly to the Division of Supplier Diversity, as reasonably requested and in the format required by the Division of Supplier Diversity.

Contractor’s failure to comply with the provisions in this clause may be considered a material breach of the Contract.

OPTION 2 – to be used if the original Contract identified subcontractors in this clause, but the Contractor will not be utilizing the MBE and WBE subcontractors during the extension period.

No certified MBE or WBE subcontractors will be participating in this Contract under this Change Order/Amendment.

B. Indiana Veteran Owned Small Business Enterprises Compliance. *Include one of the options, as applicable; delete the inapplicable option.*

OPTION 1-to be used if the IVOSB subcontractor(s) will continue to be utilized during the extension period.

As required by 25 IAC 9-4-1(b), the following certified IVOSB subcontractors will be participating in this Contract under this Change Order/Amendment. This participation represents [] the same percentage or [] an increase of [] % above the original IVOSB commitment. **[Add additional IVOSBs using the same format.]**

IVOSB	COMPANY NAME	PHONE	EMAIL OF CONTACT PERSON	PERCENT

Briefly describe the IVOSB service(s)/product(s) to be provided under this Amendment and include the estimated date(s) for utilization during the extension period:

A copy of each subcontractor agreement must be submitted to IDOA's Division of Supplier Diversity within thirty (30) days of the effective date of this Amendment. The subcontractor agreements may be uploaded into Pay Audit (Indiana's subcontractor payment auditing system), emailed to IndianaVeteransPreference@idoa.IN.gov, or mailed to IDOA, 402 W. Washington Street, Room W-462, Indianapolis, IN 46204. Failure to provide a copy of any subcontractor agreement may be deemed a violation of the rules governing IVOSB procurement and may result in sanctions allowable under 25 IAC 9-5-2. Requests for changes must be submitted to IndianaVeteransPreference@idoa.IN.gov for review and approval before changing the participation plan submitted in connection with this Amendment.

The Contractor shall report payments made to certified IVOSB subcontractors under this Contract on a monthly basis using Pay Audit. The Contractor shall notify subcontractors that they must confirm payments received from Contractor in Pay Audit. The Pay Audit system can be accessed on the IDOA webpage at: www.in.gov/idoa/mwbe/payaudit.htm. The Contractor may also be required to report IVOSB certified subcontractor payments directly to the Division of Supplier Diversity, as reasonably requested and in the format required by the Division of Supplier Diversity.

The Contractor's failure to comply with the provisions in this clause may be considered a material breach of the Contract.

OPTION 2 – to be used if the original Contract identified subcontractors in this clause, but the Contractor will not be utilizing the IVOSB subcontractors during the extension period.

No certified IVOSB subcontractors will be participating in this Contract under this Change Order/Amendment.

All matters set forth in the original Contract and not affected by this Amendment shall remain in full force and effect.

Non-Collusion and Acceptance

The undersigned attests, subject to the penalties for perjury, that the undersigned is the Contractor, or that the undersigned is the properly authorized representative, agent, member or officer of the Contractor. Further, to the undersigned’s knowledge, neither the undersigned nor any other member, employee, representative, agent or officer of the Contractor, directly or indirectly, has entered into or been offered any sum of money or other consideration for the execution of this Amendment other than that which appears upon the face hereof. **Furthermore, if the undersigned has knowledge that a state officer, employee, or special state appointee, as those terms are defined in IC 4-2-6-1, has a financial interest in the Contract, the Contractor attests to compliance with the disclosure requirements in IC 4-2-6-10.5.**

Agreement to Use Electronic Signatures

I agree, and it is my intent, to sign this Contract by accessing State of Indiana Supplier Portal using the secure password assigned to me and by electronically submitting this Contract to the State of Indiana. I understand that my signing and submitting this Contract in this fashion is the legal equivalent of having placed my handwritten signature on the submitted Contract and this affirmation. I understand and agree that by electronically signing and submitting this Contract in this fashion I am affirming to the truth of the information contained therein. I understand that this Contract will not become binding on the State until it has been approved by the Department of Administration, the State Budget Agency, and the Office of the Attorney General, which approvals will be posted on the Active Contracts Database: <https://secure.in.gov/apps/idoa/contractsearch/>

In Witness Whereof, the Contractor and the State have, through their duly authorized representatives, entered into this Amendment for Public Works Project Number **XXXXXX**. The parties, having read and understood the foregoing terms of this Amendment, do by their respective signatures dated below agree to the terms thereof.

Contractor: XXXXXXXXXXX

**Department of Administration
Public Works Division**

By: _____

Printed Name: _____

Title: _____

Date: _____

By: _____

Robert Grossman, Director

For IDOA Commissioner if less than \$10,000,000

Date: _____

Approved by:
Department of Administration

Approved by:
State Budget Agency *PURSUANT TO IC 4-13-2-14.1*
APPROVAL OF THE BUDGET AGENCY
IS NOT REQUIRED FOR CONTRACTS
UNDER \$100,000.00

By: _____ (for)
Rebecca Holwerda, Commissioner

By: _____ (for)
Zachary Q. Jackson, Director

Date: _____

Date: _____

Approved as to Form and Legality:
Form approval has been granted by the
Office of the Attorney General pursuant to
IC 4-13-2-14.3(e) on October 5, 2022.
FA 22-48

This document prepared and reviewed by:

Counsel, Indiana Department of Administration

TEMPLATE

CONSTRUCTION CONTRACT CHANGE ORDER/AMENDMENT #

AMENDMENT # EXHIBIT A

See Documents to Follow for Exhibit

TEMPLATE

CONSTRUCTION CONTRACT CHANGE ORDER/AMENDMENT #

AMENDMENT # EXHIBIT B

See Documents to Follow for Exhibit

TEMPLATE



CERTIFICATE OF SUBSTANTIAL COMPLETION

State Form 1084 (R / 10-22) / DAPW 5

INDIANA PUBLIC WORKS PROJECT NUMBER: _____

PROJECT NAME: _____

TO: Department of Administration
State of Indiana

THROUGH: Director Public Works

DESIGNER: _____

CONTRACTOR: _____

CONTRACT FOR: _____
(GENERAL, MECHANICAL, ELECTRICAL, OTHER)

CONTRACT DATE: _____ CONTRACTOR P.O.NO: _____

PROJECT OR DESIGNATED AREA SHALL INCLUDE: _____

The contractor hereby certifies the Work of this project to be in complete conformance to the Contract Documents and to be substantially complete, enabling the Owner to make use of the Work as intended.

By his signature below the Contractor further requests Designer and Owner to inspect the Work and to concur in the Work's substantial completion by their signature and/or to provide in a timely manner to Contractor a listing of work items adjudged by them as remaining to be completed or corrected. Contractor agrees to complete and correct all work items representative of such listing within ___ days from date of receipt from designer.

Contractor Company Name _____
By (written) (typed or printed) _____ Date _____
(Shall be signed by same representative who signed Contract)

A list of items to be completed or corrected, verified by the Designer and Owner, is (is not) appended hereto. Failure to include any incomplete items on such list does not alter the responsibility of the Contractor to provide all Work in complete conformance with the Contract Documents.

Designer Company Name _____
By (written) (typed or printed) _____ Date _____
(Shall be signed by Designer of Record with Certification Responsibility to the State of Indiana)

The Work performed under this Contract has been reviewed and found to be substantially complete by the Director of Public Works who has hereby established the Date of Substantial Completion as _____ which is also the date of commencement of all warranties and guarantees required by the Contract Documents. The Date of Substantial Completion of the Work or designated portion thereof is the date established by the Director of Public Works when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy the Work, or designated portion thereof, for the use for which it is intended.

The Owner accepts the Work or designated portion thereof as substantially complete and assumes full possession thereof, in accordance with the contract documents.

STATE OF INDIANA
Owner _____
By: Director Public Works _____ Date _____
(Shall be signed by Director of Public Works as Owner's representative)

The responsibilities of the Owner and the Contractor for maintenance, heat, utilities, and insurance shall be as set out in the Contract Documents.



101 West Ohio Street
Suite 810
Indianapolis, IN 46204
www.aecom.com

TECHNICAL SPECIFICATIONS
FOUR CULVERT REPLACEMENTS
LOCATED AT OUABACHE STATE PARK
WELLS COUNTY, INDIANA

PUBLIC WORKS PROJECT NUMBER: ENG#2403734214

FOR

DEPARTMENT OF NATURAL RESOURCES

BIDDING DOCUMENTS ISSUE DATE: August XX, 2025

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101 West Ohio Street
Suite 810
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**INDOT Standard Specifications Dated 2024
and all amendments thereto
are hereby made a part of the plans**



101 West Ohio Street
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DIVISION 1
PROCUREMENT AND CONTRACTING REQUIREMENTS

SECTION 01010 SUMMARY OF WORK

PART 1 - GENERAL

1.01 SCOPE OF WORK COVERED BY THE CONTRACT

- A. These specifications and accompanying drawings describe the work to be done and the materials to be furnished for the four culvert replacements within Ouabache State Park, Wells County, Indiana.

- B. This is a LUMP SUM project - where INDOT specifications are referenced in these project specifications, they are referenced for material identification and for means of execution, installation and construction. The Method of Measurement and Basis of Payment listed in the INDOT Specifications do not apply. The Project generally consists of the construction of the following:

1.02 BASE BID

All work is on previously disturbed ground or has been cleared from an archaeological review. The proposed work has been reviewed and cleared by the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology (DHPA).

- A. This Project generally includes but is not limited to the construction of the following:
 - 1. Temporary Park Access:
 - a. Excavate to grade for temporary park access. Provide excavation or fill as needed to meet subgrade elevations as required.
 - b. Install geotextile and aggregate in areas for pavement for temporary park access. Compact and roll aggregate subgrade prior to HMA paving.
 - c. Place base over aggregate temporary park access (Alternate).
 - d. Prep tie in and new base for surface paving temporary park access (Alternate).
 - e. Place surface and resurface paving temporary park access (Alternate).
 - f. Grade earthen shoulders or place existing aggregate to within 1 vertical inch of edge of pavement. Add fill or take excess spoil material to permitted spoil site. Stabilize disturbed areas with mulched seeding.
 - g. Install detour signage as per plan and cover until access road is open.

2. Culvert #1:

- a. Culverts #1 and #2 may not be installed concurrently.
- b. Submit shop drawings to DESIGNER of Record for review and approval.
- c. Install barricades and traffic signage, erosion control measures, locate utilities (pothole utilities as necessary), etc.
- d. Remove Culvert and dispose material to permitted site.
- e. Prepare structural foundation for Culvert #1. Install Culvert. Place structural backfill and borrow as needed per plan.
- f. Install geotextile and aggregate in areas for pavement over Culvert. Compact and roll aggregate subgrade prior to HMA paving.
- g. Place base and intermediate over Culvert.
- h. Prep tie in and new base for surface paving.
- i. Place surface and resurface paving over Culvert.
- j. Install scour protection.
- k. Grade earthen shoulders or place existing aggregate to within 1 vertical inch of edge of pavement. Add fill or take excess spoil material to permitted spoil site. Stabilize disturbed areas with mulched seeding.
- l. Clean up, restore site, and removal of erosion control measures.

3. Culvert #2:

- a. Culverts #1 and #2 may not be installed concurrently.
- b. Submit shop drawings to DESIGNER of Record for review and approval.
- c. Install barricades and traffic signage, erosion control measures, locate utilities (pothole utilities as necessary), etc.
- d. Cut and remove existing fiber optic line as per plans.
- e. Install vaults and conduit as per plans. Install fiber optic cable and splice to existing cable at each end. Test for functionality.
- f. Cover with excavated material to rough finish grade.
- g. Remove Culvert and dispose material to permitted site.
- h. Prepare structural foundation for Culvert #2. Install Culvert. Place structural backfill and borrow as needed per plan.
- i. Install geotextile and aggregate in areas for pavement over Culvert. Compact and roll aggregate subgrade prior to HMA paving.
- j. Place base and intermediate over Culvert.
- k. Prep tie in and new base for surface paving.

- l. Place surface and resurface paving over Culvert.
 - m. Install scour protection.
 - n. Grade earthen shoulders or place existing aggregate to within 1 vertical inch of edge of pavement. Add fill or take excess spoil material to permitted spoil site. Stabilize disturbed areas with mulched seeding.
 - o. Clean up, restore site, and removal of erosion control measures.
4. Culvert #3:
- a. Install barricades and traffic signage, erosion control measures, locate utilities (pothole utilities as necessary), etc.
 - b. Cut and remove existing fiber optic cable as per plans.
 - c. Install vaults and conduit as per plans. Install fiber optic cable and splice to existing cable at each end. Test for functionality. Cover with excavated material to rough finish grade.
 - d. Remove parapet, wingwall and spandrel wall stones with hand tools. If power tools, such as grinders, will be used to remove the stones, the CONTRACTOR shall demonstrate the ability to use the tools without damaging the masonry as a test panel before starting work on the entire structure.
 - e. Remove and clean old grout and set aside on site. Masonry cleaning must follow the guidance provided in Preservation Brief #1, which is published by the National Park Service and available at <https://www.nps.gov/orgs/1739/preservation-briefs.htm>.
 - f. Remove partial Culvert as per plans and dispose material to permitted site.
 - g. Install partial structure. Place structural backfill and borrow as needed per plan.
 - h. Place base and intermediate over Culvert.
 - i. Prep tie in and new base for surface paving.
 - j. Install geotextile and aggregate in areas for pavement over Culvert. Compact and roll aggregate subgrade prior to HMA paving.
 - k. Place surface and resurface paving over Culvert.
 - l. Adhere stones to concrete with grout or adhesive to headwall and wingwall faces.
 - m. Install scour protection.
 - n. Grade earthen shoulders or place existing aggregate to within 1 vertical inch of edge of pavement. Add fill or take excess spoil material to permitted spoil site. Stabilize disturbed areas with mulched seeding.
 - o. Clean up, restore site, and removal of erosion control measures.

5. Culvert #4:

- a. Install barricades and traffic signage, erosion control measures, locate utilities, etc.
- b. Clean inside of culvert.
- c. Install liner as per plans.
- d. Install scour protection.
- e. Clean-up and restore site.
- f. Remove all Maintenance of Traffic Items.
- g. Perform all punch list items.

- B. CONTRACTOR shall be expected to commit all resources, equipment, manpower, and overtime needed to complete the project on time. No extra compensation will be made to the CONTRACTOR for schedule implications. Substantial completion for this project is defined as having all paving in place. Minor grading, seeding and restoration items, and any punch list items may be completed within the period following substantial completion.

1.03 THIS SECTION NOT USED

1.04 SITE

- A. The work shall be performed at various locations as shown on the plans for Culvert Replacements Project to be constructed in Ouabache State Park, Wells County, Indiana.

1.05 ALTERNATE BIDS

- A. Alternate Bid No. 1 – Add HMA Intermediate and Surface to Temporary Park Access.
1. The BASE BID includes placement of 8" Compacted Aggregate No. 53 on Geogrid Type IB as shown and detailed in the plans.
 2. The ALTERNATE NO. 1 includes the placement of 165 lbs/syd HMA Surface Type B on 275 lbs HMA Intermediate Type B on 6" Compacted Aggregate No. 53 on Geogrid Type IB as shown and detailed in the plans.

1.06 SALES TAX

- A. Sales tax shall not be charged on the bid price of this project.

1.07 ANTICIPATED SCHEDULE / COMPLETION OF WORK

- A. Work is anticipated to start by 11/15/2025.

- B. Tree Clearing may occur between 12/1/2025 to 3/31/2026.
- C. Construction activities which close the Main Park Entrance Road (Old State Route 201) at Culverts #1 or #2 may not start until after the Temporary Access Road is open to traffic.
- D. Culverts #1 and #2 shall be installed between 1/1/2026 and 4/1/2026.
- E. Work shall be substantially completed on Culverts #1 and #2 and the Park Entrance Road (Old State Route 201) open to traffic by 4/11/2026. Culverts #1 and #2 shall not be constructed concurrently.
- F. Project completion by 6/5/2026.
- G. All work required by the Contract Documents shall be completed within the timeframe specified in the Contract.

1.08 CODE REQUIREMENTS AND MANUFACTURER'S INSTRUCTIONS

- A. In the case of conflicts between state and local codes or regulations, State Codes or State regulations shall prevail. All required approvals for compliance with Fire and Building Services Division of Homeland Security, health regulations, historic preservation or archaeological clearances, floodway construction or state highway crossing may have been obtained by the OWNER unless stated otherwise in the contract documents.

The following permits have been obtained:

- 1. IDNR Construction in Floodway Permit for Culvert #1 (Application #: FW-33065, Issued 4/4/2025, Exp. 3/17/2027).
 - 2. USACE 404 Nationwide Permit #14 for Culvert #1.
 - 3. IDEM 401 Nationwide Permit for Culvert #1 (IDEM #2023-888-90-JWR-X, Exp. 3/16/2026).
 - 4. USACE 404 Nationwide Permit #14 for Culvert #2.
 - 5. IDEM Section 401 General Water Quality Certification for Culvert #2 (IDEM ID#2024-1033-90-ENH-NWP, Exp. 3/16/2026).
 - 6. USACE Nationwide Permit #14 for Culvert #3.
 - 7. IDEM Section 401 General Water Quality Certification for Culvert #3 (Exp. 3/16/2026).
 - 8. USACE Nationwide Permit #14 for Culvert #4.
 - 9. IDEM Section 401 General Water Quality Certification for Culvert #4 (IDEM # 2025-23-90-LDC-NWP, Exp. 3/16/2026).
- B. The DESIGNER shall provide an electronic copy of all permits to the CONTRACTOR at the Preconstruction Meeting.

- C. If any archaeological artifacts, features, or human remains are uncovered during construction, state law (Indiana Code 14-21-1-27 & 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646.
- D. The CONTRACTOR shall be required to comply with all OSHA or IOSHA regulations as may be applicable to this project and obtain all permits that may be required for compliance.
- E. If the CONTRACTOR observes that any of the contract documents are at variance with the printed application instructions of any Manufacturer in any respect, he/she shall promptly notify the DESIGNER in writing.
- F. If the CONTRACTOR performs any work contrary to State Building and other Codes, Regulations, Ordinances, or Manufacturer's printed instructions without notice to the DESIGNER, the CONTRACTOR shall bear the cost arising from such non-conformance.

1.09 NOTIFICATIONS

- A. Upon notice of bid award, the CONTRACTOR shall notify the DESIGNER to establish communications for the above project(s). The notification may be by mail or email to the DESIGNER's following mail or e-mail address:

DESIGNER: Gerard (Gary) Mroczka, P.E., AECOM
Phone: 317-479-6057
101 West Ohio Street, Suite 810, Indianapolis, IN 46204
Email: gary.mroczka@aecom.com

PROJECT MANAGER: John Spears, PE, PG, IDNR
Phone: 317-232-4156
Address: 402 W Washington Street, Indianapolis, IN 46204
Email: jspears@dnr.in.gov

PROPERTY MANAGER: Jon Winne
Phone: 260-824-0926
Address: 4930 East State Road 201, Bluffton, IN 46714
Email: jwinne@dnr.in.gov

1.10 WORKING HOURS

- A. The CONTRACTOR shall perform all related activities on Monday through Friday excluding State holidays, between the hours of 7:00 a.m. and 6:00 p.m. local time, unless alternate arrangements are made and approved by the Property Manager or their representative.
- B. All work performed at other times shall only be by the approval of the Property Manager or their representative, confirmed in writing, and shall not constitute a change in the

contract amount.

- C. The CONTRACTOR shall plan all material deliveries during normal working hours, shall be responsible for receiving and deliveries, and shall properly protect delivered materials while being stored on the property. The Property Manager or their representative will not sign for any deliveries.

1.11 PRE-CONSTRUCTION / SERVICE MEETING:

- A. The CONTRACTOR and their Subcontractor (if any) shall attend a pre-construction/pre-service meeting with the Property Manager and/or their representative at the work site. The date for this meeting shall be scheduled by the Property Manager within 14 days after the contract is awarded unless Property Manager has approved alternate arrangements.

1.12 SITE CONDITIONS

- A. Preliminary to the bidding, bidders are strongly encouraged to visit the site of the proposed work and thoroughly familiarize themselves as to the nature and location of the work, general conditions, and the kind of equipment needed during the execution of the work. Failure to visit the site before bidding does not relieve the CONTRACTOR of responsibilities for anything that they would have been made aware had they visited.

1.13 PROTECTION OF FACILITIES AND PREMISES

- A. The CONTRACTOR SHALL be responsible for the protection of all facilities during the entire period of service. Any damages to the existing facilities, roads, lawns, driveways, utilities, or other State-owned property caused by the CONTRACTOR SHALL be repaired by the CONTRACTOR at their expense and in a manner and schedule approved by the Property Manager.
- B. The CONTRACTOR SHALL confine their operations and the storage of materials and equipment within an area approved by the Property Manager or his representative.
- C. The CONTRACTOR SHALL, at all times, keep the premises free from accumulation of waste materials or rubbish caused by their employees or work and prevent the spread of this debris during windy conditions. At the completion of the work, the CONTRACTOR SHALL leave the premises in a neat, clean, and orderly fashion.
- D. The CONTRACTOR SHALL power wash any mechanical equipment or vehicle to be used on the job site to remove all mud and debris prior to unloading on the site. This is necessary to prevent contamination by invasive species seeds that may be attached to the equipment. The CONTRACTOR SHALL NOT unload the equipment on site without prior visual inspection by the Property Manager. No other vehicles/machines shall be permitted in the project area. All other equipment or project related vehicles must be

parked in specified parking areas.

1.14 SALVAGE RIGHTS

- A. Unless stated otherwise in these specifications or on the plans, all equipment and materials removed as part of this project and not being reused shall become the property of the Contractor and removed from the site.

1.15 SAFETY, REGULATORY REQUIREMENTS, and SPECIAL PROVISIONS

- A. All work including site safety, equipment, materials, property, and fabricated items provided under the Contract shall comply with the provisions of OSHA or IOSHA and other applicable laws and regulations to prevent damage, injury, or loss to people, equipment, materials, and property.
- B. The CONTRACTOR SHALL prepare a safety and health plan that identifies the safety requirements of the project, procedures to follow in case of an emergency, accident, injury, or illness and make this plan available to all employees, and subcontractors complete with persons and/or phone numbers to call for all who are working at this site. This plan SHALL be given to the Project Manager or their representative prior to the start of work and posted at the job site.
- C. The CONTRACTOR SHALL understand that the Property, DNR Engineering, nor the State of Indiana DOES NOT bare any responsibility for the cost of injuries to CONTRACTOR or Subcontractor, or their employees injured during the course of the contract. The CONTRACTOR SHALL be responsible for the transport of injured employees needing medical or other attention.
- D. Contractors shall comply with roadway weight restrictions including seasonal weight restrictions.
- E. The Contractor shall adhere to all conditions of approved permits.

1.16 UTILITY COORDINATION

- A. The contractor shall coordinate with utilities as needed to determine and resolve any conflicts with proposed construction. Utility locations have been provided showing the approximate location where utilities are believed to be located. There is no guarantee or warranty as to the accuracy or completeness of said locations. No direct evidence of other utilities was discovered, however there is no guarantee that others do not exist. Public and/or private utility locates may be necessary and their cost shall be included in the Contractor's bid. All existing utilities which shall cross new structures and piping that is to be installed as part of this contract shall be field verified for proper clearance prior to ordering new structures and the start of the installation of the new structures or piping. The Contractor shall notify the Owner/Project Manager in writing as soon as possible after the investigation of any conflicts which are identified

and will require resolution.

1.17 SUBSTITUTIONS

- A. Materials and methods specified herein are known to meet the requirements of the project. Anyone wanting to use substitute materials or methods shall submit a written request, accompanied by necessary supporting information at least 10 days prior to the bid. If the Designer determines that the proposed substitution is acceptable, an addendum to the specifications will be issued to all prospective bidders.

1.18 RELATED REQUIREMENTS

- A. Refer to the Agreement for an enumeration of the Contract Documents.
- B. The CONTRACTOR is responsible for coordination with other CONTRACTORS and subcontractors, and coordination with park personnel for the operation of existing facilities.

1.19 WORK SEQUENCE

- A. This Project involves work within a State Property owned by the Indiana Department of Natural Resources. Work activities of the CONTRACTOR shall be properly sequenced and coordinated to allow the OWNER to operate the existing facilities as required and to provide access to the public per the directives of the management. Unscheduled closure of roadways will not be permitted.
- B. The Project involves preconstruction activities prior
- C. Interruption of Existing Facilities
 - 1. The CONTRACTOR shall plan, schedule and accomplish the work of this Contract to minimize interruption of operation and traffic flow for the park. All road closures shall be scheduled well in advance and only with the approval of the OWNER. The CONTRACTOR shall notify the ENGINEER in writing of such need as far ahead of the interruption as possible, but in no case less than one (1) week prior to the closure. Items to be included in the notification are as follows:
 - a. Construction sequence to minimize existing park traffic flow interruption time, and proposed time of day that work would be accomplished.
 - b. Expected length of time of the interruption.
 - c. Alternate procedures in the event the expected time is exceeded.
 - d. List of all equipment and material that must be on hand to complete the work.
 - 2. The ENGINEER shall review the CONTRACTOR's written notification, and the ENGINEER and OWNER will determine that the proposed interruption is acceptable.

Additional requirements for Road Closures are listed in SECTION 02500 - PARK UTILITY & TRAFFIC COORDINATION of these specifications.

PART 2 – PRODUCTS

Not used

PART 3 – EXECUTION

Not used

-END OF SECTION-

SECTION 01200 PROJECT MEETINGS

PART 1 - GENERAL

1.01 PRECONSTRUCTION CONFERENCES

- A. Prior to commencing the work, a preconstruction conference will be held at the job site and the following organizations shall have at least one representative in attendance: OWNER, DESIGNER, CONTRACTOR, Indiana Department of Natural Resources Division Project Manager, major Subcontractors, and Utility representatives (as needed).
- B. The preconstruction conference will be for the purpose of reviewing procedures to be followed concerning the orderly flow of required paperwork, coordination of the various parties involved with the project, park access requirements, review of shop drawing submittals, contract time, liquidated damages, payment estimates, change orders, regulatory requirements, labor requirements and other items of interest to the parties involved.

1.02 PROGRESS MEETINGS

- A. A progress meeting will be held at least twice each month or as specified by OWNER to review progress of the work, discuss problems encountered or foreseen, coordinate the work and answer any questions as they arise, and administer changes.
- B. The organizations listed under 1.01 above shall be given advance notification, and shall have at least one representative in attendance at each meeting.
- C. Minutes of each progress meeting will be kept by the DESIGNER and a typed copy shall be distributed to all parties after the progress meeting. All parties shall review these minutes and shall in writing, within seven days of receipt, inform the DESIGNER if there are errors or changes to be made. If no response is received within this time period it shall be assumed that there are no corrections and the record of the minutes shall become a part of the construction documents as are change orders, work directives, etc.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

-END OF SECTION-

SECTION 01300 SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. This section specifies the general methods and requirements of submissions applicable to, the following work-related submittals: (a) construction schedule, (b) schedule of submittals, (c) shop drawings, product data, and samples, (d) mock-ups, (e) construction photographs, and (f) CONTRACTOR's record drawings.

1.02 CONSTRUCTION SCHEDULE

- A. The CONTRACTOR shall submit to the ENGINEER the construction schedule. The schedule shall account for all work of the CONTRACTOR and their subcontractors.
- B. The CONTRACTOR schedule shall incorporate the following dates:
1. Project Start: 9/15/2025 (Est.)
 2. Tree Clearing may occur between: 10/1/2025 to 3/31/2026
 3. Tree Mitigation Site Complete: 11/1/2025
 4. Temporary Access Road Complete: 11/15/2025
 5. Culverts #1 or #2 Construction Start: 1/1/2026
 6. Culverts #1 and #2 Substantially Complete and Park Entrance (Old State Road 201) Open to Traffic: 4/1/2026
 7. Final Completion: 6/1/2026
- C. The CONTRACTOR shall not work on Culverts #1 and #2 at the same time.
- D. The CONTRACTOR shall update the construction schedule information monthly and submit the update information to the ENGINEER at the same time the pay estimate is prepared. The schedule shall contain all of the items of the periodic estimate and pay schedule.
- E. The CONTRACTOR bears full responsibility for scheduling all phases and stages of the work including their subcontractors work to insure its successful prosecution and completion within the time specified in accordance with all provisions of the Contract

Documents.

1.03 SHOP DRAWINGS, PRODUCT DATA, SAMPLES, O&M INSTRUCTIONS

A. Shop Drawings

1. Shop drawings include, but are not necessarily limited to, custom prepared data such as fabrication and erection/installation drawings, schedule information, setting diagrams, actual shop work manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system of equipment inspection and test reports including performance curves and certifications, as applicable to the work.
2. All details on shop drawings submitted for review shall show clearly the relation of the various parts to the main members and lines of the Culvert, and where correct fabrication of the work depends upon field measurements; such measurements shall be made and noted on the shop drawings before being submitted for review.

B. Product Data

1. Product data as specified in individual sections, include, but are not necessarily limited to, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare parts listing, and printed product warranties, as applicable to the Work. The CONTRACTOR shall ensure that the product data submitted has adequate cross reference information that relates to how the specifications identify the product so that the ENGINEER will be able to make the determination that the product is "equal" to what is specified.

C. Samples

1. Samples specified in individual sections, include, but are not necessarily limited to, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols, and units-of work that can be used by the ENGINEER or OWNER for independent inspection and testing and to determine their applicability to the project work.

D. Operation and Maintenance (O&M) Instructions

1. O&M instructions shall conform to the particular requirements of the individual sections.

1.04 CONTRACTOR'S RESPONSIBILITY

- A. The CONTRACTOR shall provide a submittal schedule for shop drawings.
- B. The CONTRACTOR shall review shop drawings, product data and samples prior to submission to determine and verify the following:
1. Field measurements
 2. Field construction criteria
 3. Catalog numbers and similar data
 4. Conformance with the Specifications
- C. All shop drawings submitted by the subcontractors for review shall be sent directly to the CONTRACTOR for preliminary checking. The CONTRACTOR shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
- D. The CONTRACTOR shall check all shop drawings including subcontractor's shop drawings regarding measurements, size of members, materials, and details to satisfy himself that they conform to the intent of the Drawings and Specifications. Drawings found to be inaccurate or otherwise in error shall be corrected before submission thereof.
- E. Each shop drawing, working drawing, sample and catalog data submitted by the CONTRACTOR shall have affixed to it the following certification statement, signed by the CONTRACTOR: "Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable reviewed shop drawings and all Contract requirements."
- F. The CONTRACTOR shall notify the OWNER in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.
- G. The CONTRACTOR should include the notation "Critical Path" on critical path submittals.
- H. The review of shop drawings, samples or, catalog data by the ENGINEER shall not relieve the CONTRACTOR from his responsibility with regard to the fulfillment of the terms of the Contract.
- I. No portion of the work requiring a shop drawing, working drawing, sample, or

catalog data shall be started nor shall any materials be fabricated or installed prior to the review or qualified review of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to reviewed shop drawings and data shall be at the CONTRACTOR's risk. The OWNER will not be liable for any expense or delay due to the corrections or remedies required to accomplish conformity.

- J. Project work, materials, fabrication, and installation shall conform with reviewed shop drawings, working drawings, applicable samples, and catalog data.

1.05 SUBMISSION REQUIREMENTS

- A. The CONTRACTOR shall make submittals promptly in accordance with the accepted shop drawing submittal schedule, and in such sequence as to cause no delay in the work or in the Work of any other CONTRACTOR.
- B. Number of submittals required for initial review:
 - 1. Shop Drawings: Submit one (1) copies.
 - 2. Product Data: Submit one (1) copies.
 - 3. Samples: Submit number stated in the respective specification sections.
 - 4. O&M Instructions: Submit one (1) copies in accordance with the respective Specifications to which they apply.

After final approval, five sets shall be submitted, three will be returned to the CONTRACTOR. If more than three sets are needed for return then the CONTRACTOR shall submit additional sets as needed. The CONTRACTOR shall also include a transmittal that includes the project information and their standard certification for the item.

- C. Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The project title, contract number, and submittal number.
 - 3. CONTRACTOR identification.
 - 4. The names of:
 - a. CONTRACTOR
 - b. Supplier
 - c. Manufacturer
 - 5. Identification of the product, with the specification section number.
 - 6. Field dimensions, clearly identified as such.
 - 7. Relation to adjacent or critical features of the work or materials.
 - 8. Applicable standards, such as ASTM or Federal Specification numbers.
 - 9. Identification of deviations from contract documents.
 - 10. Identification of revisions on resubmittals.
 - 11. An 8 in. x 3 in. blank space for CONTRACTOR's and ENGINEER's stamps.

12. Critical path notation as required.

D. ALTERNATE PROCEDURE:

Electronic, paperless submission and return is an acceptable alternative. Items shall be presented only in searchable pdf format. The CONTRACTOR shall also include a transmittal that includes the project information and their standard certification for the item. The ENGINEER has the option to electronically mark the submission or only respond with a written transmittal and comments.

If CONTRACTOR elects to submit by the alternate electronic procedure, then he shall notify the ENGINEER at the pre-construction conference prior to any submission. If elected then every effort shall be made to submit all items in this manner, and only to mix and match the systems when items are not available electronically.

1.06 RESUBMISSION REQUIREMENTS

A. The CONTRACTOR shall make any corrections or changes in the submittals required by the ENGINEER and resubmit until accepted, in accordance with the following:

1. Shop drawings and product data:

- a. Revise initial drawings or data and resubmit as specified for the initial submittal.
- b. Indicate any changes which have been made other than those requested by the ENGINEER.

2. Samples: Submit new samples as required for initial submittal.

B. The CONTRACTOR shall bear the cost for all review and processing of initial and any subsequent resubmittals.

1.07 DISTRIBUTION

A. The CONTRACTOR shall distribute reproductions of reviewed shop drawings and copies of reviewed product data and samples, where required, to the job site file and elsewhere/as directed by the ENGINEER. Number of copies shall be as directed by the ENGINEER but shall not exceed five (5) unless the CONTRACTOR requires extra sets or copies.

1.08 MOCK-UPS

A. Mock-up units as specified in individual sections include but are not necessarily limited to, complete units of the standard of acceptance for that type of work to be used on the project. They shall be removed by CONTRACTOR at the completion of the Work or when directed.

1.09 CONSTRUCTION PHOTOGRAPHS

- A. The CONTRACTOR shall be responsible for digital video of all alignments, roadways to be used by construction vehicles, and site locations over the entire project and shall provide a copy of this videotape prior to beginning any work. This shall include a complete digital video of the roadway routes to be used for equipment access and materials hauling within the park. This videotape will be used in the instance of any dispute over restoration, or damage to public or private property. The videotape shall be standard color with "voice-over" commentary on stations, locations, existing features, and proposed improvement locations. Each alignment will be filmed in order from the lowest station to the highest station with pauses at the proposed location of each Culvert and provides a 360 degree look at the area to be disturbed. It is recommended but not required that the CONTRACTOR utilize a subcontractor for this operation that specializes in such services.

- B. The CONTRACTOR shall provide photographs and / or digital photographs, and / or digital videos of site and construction during the progress of work. The photographs shall be taken monthly on the cutoff date for each Application for Payment and routinely throughout the project to document work status, problems, and potential changes. Two sets shall be produced; one for the site, and one for the OWNER. Identify each print on front or digital folders and filenames. List name of project, date and name of photographer in the submittal.

1.10 GENERAL PROCEDURES FOR SUBMITTALS

- A. Coordination of Submittal Times: The CONTRACTOR shall prepare and transmit each submittal sufficiently in advance of performing the related Work or other applicable activities, or within the time specified in the individual Work section of the Specifications, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery and similar sequenced activities. No extension of time will be authorized because of the CONTRACTOR's failure to transmit submittals sufficiently in advance of the Work.

1.11 SCHEDULE OF VALUES AND PAYMENTS

- A. Within ten (10) days after award of the Contract, the CONTRACTOR shall submit to the OWNER in triplicate, a breakdown of the lump sum items, including a schedule of values and an estimated schedule of payments. This breakdown shall be subject to approval by the OWNER, and when so approved shall become the basis for determining progress payments and for negotiation of change orders, if required.

- B. The schedule of values submitted by the CONTRACTOR to the OWNER for approval must include a cost for providing approved O&M manuals for all equipment. The cost finally used in the schedule of values will be established by mutual agreement between the OWNER and the CONTRACTOR on a per item basis. Regardless of the cost in the schedule of values for O&M manuals, payments in excess of 75% of the equipment cost will not be made until receipt of approved O&M Manuals.

1.12 CONTRACTOR'S RECORD DRAWINGS

- A. The format of these drawings shall be similar to the Contract Drawings.
- B. Within 60 days after the Notice to Proceed is issued, the CONTRACTOR shall submit to the OWNER a written description of their procedure and format for record drawings. The CONTRACTOR, OWNER, ENGINEER shall meet to assure mutual acceptance of the procedure.
- C. The CONTRACTOR shall keep their record drawings up to date at the job site, and shall make them available for review by the ENGINEER or their representatives when requested.
- D. The CONTRACTOR shall submit electronic version (.pdf) of their construction record drawings to the ENGINEER upon completion of the work, and prior to final payment.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

-END OF SECTION-

SECTION 01400 QUALITY CONTROL

PART 1 - GENERAL

1.01 QUALITY CONTROL - GENERAL

- A. Work of all crafts and trades shall be laid out to lines and elevations as established by the CONTRACTOR from the Drawings or from instructions by the ENGINEER.
- B. Unless otherwise shown, all work shall be plumb and level, in straight lines and true planes, parallel or square to the established lines and levels. The Work shall be accurately measured and fitted to tolerance as established by the best practices of the crafts and trades involved, and shall be as required to fit all parts of the Work carefully and neatly together.
- C. All equipment, materials and articles incorporated into the work shall be new and of comparable quality as specified. All workmanship shall be first-class and shall be performed by mechanics skilled and regularly employed in their respective trades.
- D. The CONTRACTOR shall determine that the equipment he proposes to furnish can be brought into the site and installed in the space available. Equipment shall be installed so that all parts are readily accessible for inspection and maintenance as applicable.

1.02 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

1.03 MANUFACTURERS INSTRUCTIONS

- A. Comply with instructions in full detail.

1.04 MANUFACTURERS' FIELD SERVICES

- A. The CONTRACTOR shall arrange for the services of qualified service representatives from the company's manufacturing or supplying each type of equipment described in the specification sections.

- B. The manufacturer or supplier shall provide sufficient engineering and technician man-hours to satisfactorily complete supervision of installation, equipment check-out, and field acceptance tests.

1.05 TESTING SERVICES

- A. Tests, inspections and certifications of materials, equipment, subcontractors or completed work, as required by the various sections of the Specifications shall be obtained by the CONTRACTOR and all costs shall be included in the Contract Price.
- B. The CONTRACTOR shall submit to the ENGINEER the name of testing laboratory(s) to be used.
- C. CONTRACTOR shall deliver written notice to the ENGINEER at least 48 hours in advance of any inspections or tests to be made at the Project site. All inspections or tests to be conducted in the field shall be done in the presence of the ENGINEER or their representative.
- D. Certifications by independent testing laboratories may be by copy of the attestation(s) and shall give scientific procedures and results of tests. Certifications by persons having interest in the matter shall be by original attest properly sworn to and notarized.

-END OF SECTION-

SECTION 01500 CONSTRUCTION FACILITIES AND SITE MAINTENANCE

PART 1 - GENERAL

1.01 TEMPORARY SANITARY FACILITIES

- A. The CONTRACTOR shall construct and/or maintain, in a sanitary condition, temporary sanitary facilities for their employees and also employees of the subcontractors. The CONTRACTOR shall, at completion of the Work, properly dispose of these sanitary facilities.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

- A. Obtain and pay for all permits required by governing authorities that are not enclosed as part of these documents.
- B. Obtain and pay for any required temporary easements, etc. required across property (other than easements or lands furnished by OWNER).
- C. Comply with applicable codes.
- D. On a continuous basis, maintain premises free from accumulations of waste, debris, and rubbish, caused by operations.
- E. Comply with the conditions set forth in the attached permits.

1.03 NOT USED

1.04 NOT USED

1.05 NOT USED

1.06 PROPERTY PROTECTION

- A. Care is to be exercised by the CONTRACTOR in all phases of construction, to prevent damage and/or injury to the OWNER's and/or other property. Payments for the repair and restoration are limited as set forth in General Conditions.

- B. All exposed existing piping must be immediately supported to prevent damage. Prior to completion of each day's work, such piping must be adequately covered by the CONTRACTOR and approved by the OWNER'S representative.
- C. The CONTRACTOR shall avoid unnecessary injury to trees and shall remove only those authorized to be removed as detailed on the plans and otherwise by written consent of the OWNER. Fences, gates and terrain damaged or disarranged by the CONTRACTOR's forces shall be immediately restored in their original condition or better.

1.07 CONSTRUCTION WARNING SIGNS

- A. If required by the work, the CONTRACTOR shall provide construction warning signs for each location where he is working. He will further provide flagmen as required and shall abide by all applicable safety rules, including size, type and placement of construction signs. All signs shall be of professional quality. SECTION 02500 provides additional information.
- B. Provide barricades, barrier fences, lanterns and other such signs and signals as may be necessary to warn of the dangers in connection with open excavation and obstructions.
- C. Provide an adequate and approved system to secure the project area at all times, especially during non-construction periods; CONTRACTOR shall be solely responsible for taking proper security measures.
- D. CONTRACTOR shall pay all costs for protection and security systems.

1.08 NOT USED

1.09 NOT USED

1.10 NOT USED

1.11 NOT USED

1.12 NOT USED

1.13 NOT USED

1.14 CONTRACTOR STAGING AREA

- A. The CONTRACTOR and their subcontractors shall provide site offices(s), tool trailers and storage as needed by each trade during the duration of this project. Off-site staging is the responsibility of the CONTRACTOR. It shall be of sufficient size to accommodate all trades involved and include room for field office(s), storage and tool trailers and materials.
- B. Limited on-site storage for materials on Park property shall be coordinated between the CONTRACTOR and the OWNER. If any park areas are agreed upon and used by the CONTRACTOR, then he shall be responsible for erecting and installing an eight-foot tall chain link fence completely surrounding each facility. Fence shall be gated and locked at all times except when CONTRACTOR is directly within the fencing. The fence shall be removed and the area restored to a pre- construction condition upon completion of the work.
- C. Sufficient temporary stone drives, parking, etc. shall be provided to minimize mud tracking.
- D. If offsite staging area land disturbance exceeds 0.5-acre, CONTRACTOR shall be responsible for (CSGP) Construction Stormwater General Permit.
- E. Security of the staging area shall be the responsibility of the CONTRACTOR.
- F. Temporary utilities shall be the responsibility of the CONTRACTOR.
- G. The cost of this item shall be considered incidental to the project.

1.15 MAINTENANCE OF OPERATIONS

- A. During the course of the work, streets and roads will remain open to the public per the project phasing requirements. The CONTRACTOR, through his operations, will in no manner hinder the operation of the facility except in those instances which are approved by the OWNER.

The CONTRACTOR shall endeavor to assist the staff in the maintenance of operations affected by the work. The CONTRACTOR shall in no way:

1. Permit excavation adjacent to roadways which could jeopardize the road's stability.
2. Construct culverts, temporary, or permanent, which place the public at risk, or prevent personnel from completing job functions.

3. Introduce any substance into the Park's ditches and streams which are not authorized in the applicable permits.
4. Cause any unscheduled interruption of the Park's traffic flow or access.
5. Place excavated, stored, or purchased materials on or near park roadways when these roadways remain open to traffic in such a manner as to present a hazard to motorists.
6. Excavate, pour concrete or flowable fill, provide crane operations, truck hauling operations or headwall or wingwall or other plan related work installation in such a manner as to endanger the integrity of any culvert or road that is to remain in place.

1.16 SCHEDULED ROAD CLOSURES

- A. Due to the nature of the work to be completed, interruptions to public roads are expected. The following full closures are expected and allowed:
 1. Full road closures are allowed for the replacements of Culverts #1, #2 and #3.
 2. The CONTRACTOR shall not close the Main Entrance Service Road for the construction of Culverts #1 or #2 prior to the completion and opening of the temporary entrance.
 3. The CONTRACTOR shall coordinate and notify all closings at least one week in advance with the OWNER.
- B. The CONTRACTOR shall not construct Culverts #1 and #2 at the same time.

1.17 NOT USED

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 SEQUENCE OF CONSTRUCTION

Prior to beginning construction, the CONTRACTOR shall develop and submit a phasing plan to the ENGINEER for review and approval. The approved phasing plan

shall allow for continuous traffic as much as possible.

Phasing must comply with project plans and the Anticipated Schedule in Section 1010, Item 1.02.

-END OF SECTION-

SECTION 01535 PROTECTION OF INSTALLED WORK

PART 1 - GENERAL

1.01 DESCRIPTION

Related Requirements Specified Elsewhere:

- A. Project Closeout: Section 01700.
- B. Cleaning for Specific Products or Work: Specification Section for that work.

On a continuous basis, maintain premises free from accumulations of waste, debris, and rubbish, caused by operations.

At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave Project clean and ready for occupancy.

1.01 SAFETY REQUIREMENTS

- A. Hazards Control:
 - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions. Provide adequate ventilation during use of volatile or noxious substances.
 - 3. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 4. Do not burn or bury rubbish and waste materials on Project site without written permission from the OWNER.
 - 5. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 6. Do not dispose of wastes into streams or waterways.

1.02 REQUIREMENTS INCLUDED

- A. Protection for products, including OWNER-provided products, after installation.

1.03 RELATED REQUIREMENTS

- A. Division 1 – Procurement and Contracting Requirements.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 PROTECTION AFTER INSTALLATION

- A. Protect installed products and control traffic in immediate area to prevent damage from subsequent operations.
- B. Provide protective coverings at all culverts and headwalls as required.
- C. Restrict traffic of any kind across planted and landscaped areas. Water and maintain as needed.
- D. Protect installed products and control traffic in immediate area to prevent damage from subsequent operations.

3.01 DURING CONSTRUCTION

- A. Execute cleaning to ensure that building, grounds and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. At reasonable intervals during progress of Work, clean site and public properties, and dispose of waste of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish.
- E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off OWNER's property.

- F. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- G. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted areas or interfere with the operations of the park except as allowed by these plans and specifications.
- H. The CONTRACTOR shall thoroughly clean all materials and equipment installed.

3.02 FINAL CLEANING

- A. Employ experienced workmen, or professional cleaners, for final cleaning. In preparation for substantial completion, conduct final inspection of site. remove all debris and silt from culverts.
- B. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- C. Broom clean paved surfaces; rake clean other surfaces of grounds. Maintain cleaning until Project, or portion thereof, is occupied by OWNER.
- D. The CONTRACTOR shall restore or replace existing property or culverts as promptly and practicable as work progresses.

-END OF SECTION-

SECTION 01700
PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. All Contract documents, and GENERAL CONDITIONS.
- B. Final Cleaning of Culverts.
- C. Contractor's Record Documents.

1.02 SUBSTANTIAL COMPLETION

A. CONTRACTOR:

- 1. Submit written certification to ENGINEER that project is substantially complete.
- 2. Submit list of major items to be completed or corrected.

B. ENGINEER will make an inspection within seven days after receipt of certification.

C. Should ENGINEER consider that work is substantially complete:

- 1. CONTRACTOR shall prepare, and submit to ENGINEER, a list of items to be completed or corrected, as determined by the inspection.
- 2. ENGINEER will prepare and issue a Certificate of Substantial Completion, containing:
 - a. Date of Substantial Completion.
 - b. CONTRACTOR's list of items to be completed or corrected verified and amended by ENGINEER.
 - c. The time within which CONTRACTOR shall complete or correct work of listed items.
 - d. Time and date OWNER will assume possession of work or designated portion thereof.

e. Signatures of:

(1) ENGINEER.

(2) CONTRACTOR.

(3) OWNER.

3. CONTRACTOR: Complete work listed for completion or correction, within designated time.

D. Should ENGINEER consider that work is not substantially complete:

1. He shall notify CONTRACTOR, in writing, stating reasons.

2. CONTRACTOR: Complete work, and send second written notice to ENGINEER, certifying that Project or designated portion of Project is substantially complete.

3. ENGINEER will re-inspect work.

1.03 FINAL INSPECTION

A. CONTRACTOR shall submit written certification that:

1. Contract Documents have been reviewed.

2. Project has been inspected for compliance with Contract Documents.

3. Work has been completed in accordance with Contract documents.

4. Project is completed and ready for final inspection.

B. ENGINEER will make final inspection within seven (7) days after receipt of certification.

C. Should ENGINEER consider that work is finally complete in accordance with requirements of Contract Documents, they shall request CONTRACTOR to make Project Close-out submittals.

D. Should ENGINEER consider that work is not finally complete:

1. He shall notify CONTRACTOR, in writing, stating reasons.
2. CONTRACTOR shall take immediate steps to remedy the stated deficiencies, and send second written notice to ENGINEER certifying that work is complete.
3. ENGINEER will re-inspect work.

1.02 FINAL CLEANING UP

The work will not be considered as completed and final payment made until all final cleaning has been completed by the CONTRACTOR in a manner satisfactory to the ENGINEER. See Section 3.02 for detailed requirements.

1.07 FINAL APPLICATION FOR PAYMENT

CONTRACTOR shall submit final applications in accordance with requirements of General Conditions.

1.08 FINAL CERTIFICATE FOR PAYMENT

ENGINEER will issue final certificate in accordance with provisions of General Conditions.

Should final completion be materially delayed through no fault of CONTRACTOR, ENGINEER may issue a Semi-Final Certificate for Payment.

PART 2 - PRODUCTS

2.01 MATERIALS

Not Applicable

2.02 SAFETY REQUIREMENTS

A. Hazards Control:

1. Store volatile wastes in covered metal containers and remove from premises daily.
2. Prevent accumulation of wastes which create hazardous conditions.

3. Provide adequate ventilation during use of volatile or noxious substances.
4. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
5. Do not burn or bury rubbish and waste materials on Project site without written permission from the OWNER and only after obtaining any required permits to conduct such work.
6. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains, ditches, or anywhere else on the park grounds.
7. Do not dispose of wastes into streams or waterways.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute cleaning to ensure that culverts, grounds and park properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. At reasonable intervals during progress of Work, clean site and public properties, and dispose of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish.
- E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off of the OWNER's property.
- F. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- G. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall into any waterways or ditch lines.
- H. The CONTRACTOR shall thoroughly clean all materials and equipment installed.
- I. Provide necessary containment to prevent the inadvertent discharge of any materials into ditchlines or any other waterways. All spills regardless of location shall also be properly contained and cleaned up in accordance with all

local, state and federal requirements.

3.02 FINAL CLEANING

- A. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave Project clean and ready for occupancy.
- B. In preparation for substantial use of the culverts, conduct final inspection of sight- exposed interior and exterior surface, and of any accessible culvert interiors.
- C. Remove grease, dust, dirt, stains, labels, fingerprints, leaves, woody debris and other foreign materials, from sight-exposed interior and exterior surfaces, and of concealed spaces.
- D. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- E. Broom clean paved surfaces; rake clean other surfaces of grounds.
- F. Remove wheel tracked or other dirt caused by hauling and construction operations from all paved roadway surfaces.
- G. Maintain cleaning until Project, or portion thereof, is accepted by the OWNER.
- H. The CONTRACTOR shall restore or replace existing property or culverts as promptly and practicable as work progresses.

-END OF SECTION-

DIVISION 2
EXISTING CONDITIONS

SECTION 02070 GEOTEXTILES

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Furnish all materials and labor as needed to install geotextile material for pavement and scour protection as shown on the plans.

1.02 RELATED WORK

Section 2160 -EARTHWORK

Section 02255 – CRUSHED STONE, RIPRAP & STRUCTURE BACKFILL

1.03 SUBMITTALS

- A. Submit Geotextile to be used on the project in accordance with 01300.
 - 1. Certification: The CONTRACTOR shall provide to the ENGINEER a certificate stating the name of the manufacturer, product name, style number, chemical composition of the filaments or yarns and other pertinent information to fully describe the geosynthetic. The Certification shall state that the furnished geosynthetic meets MARV requirements of the specification as evaluated under the Manufacturer's quality control program. The Certification shall be attested to by a person having legal authority to bind the Manufacturer.
 - 2. Quality Standards: The CONTRACTOR shall provide to the ENGINEER the manufacturer's Quality Control Plan along with their current A2LA, GAI-LAP, and ISO 9001:2000 certificates.

1.04 DEFINITIONS

- A. Minimum Average Roll Value (MARV): Property value calculated as typical minus two standard deviations. Statistically, it yields a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed value reported.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. The geotextile manufacturer shall have all of the following credentials:

- a. Geosynthetic Accreditation Institute (GAI)- Laboratory Accreditation Program (LAP)
 - b. American Association for Laboratory Accreditation (A2LA) c.ISO 9001:2000 Quality Management System
- B. The geotextile manufacturer shall have a GAI-LAP accredited laboratory at the location of production capable of performing the ASTM tests as outlined in the specification.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Geosynthetic labeling, shipment, and storage shall follow ASTM D 4873. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.
- B. Each geosynthetic roll shall be wrapped with a material that will protect the geosynthetic from damage due to shipment, water, sunlight, and contaminants.
- C. During storage, geosynthetic rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical property values of the geosynthetic.

PART 2 – PRODUCTS

2.02 MATERIALS

- A. INDOT Type IIB Woven Geotextile (US Fabrics US4800/30 or equal) to be used in walkways. INDOT Type IB BI-Axial Geogrid (US Fabrics Basegrid 12 or equal) to be used in Parking areas. CONTRACTOR shall submit material for approval before installation.
- B. Geotextile shall be composed of high molecular weight, high tenacity polyester multifilament yarns woven in tension and finished with a PVC coating. Geotextile is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids. Geotextile is used as soil reinforcement in parking and traveled way additions.
- C. The geosynthetic shall be manufactured with fibers consisting of long- chain synthetic polymers composed of at least 95 percent by weight of polyolefins or polyesters. They shall form a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvage.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Foundation soil shall be excavated to the line and grades as shown on the construction drawings or as directed by the ENGINEER. Over-excavated areas shall be filled with compacted backfill material as per project specifications or as directed by the ENGINEER.

3.02 INSTALLATION

- A. Geosynthetic shall be laid at the proper elevation and orientation as shown on the construction drawings or as directed by the ENGINEER. Correct orientation of the geosynthetic shall be verified by CONTRACTOR.
- B. Geosynthetic may be temporarily secured in-place with staples, pins, sand bags or backfill as required by fill properties, fill placement procedure or weather condition, or as directed by the ENGINEER.
- C. Geosynthetic shall be installed per manufacturer's instructions.
- D. Backfill material shall be placed in lifts and compacted as directed under project specifications. Backfill shall be placed, spread and compacted in such a manner as to minimize the development of wrinkles in and/or movement of the geosynthetic. A minimum fill thickness of 150 mm (6 in) is required prior to the operation of tracked vehicles over the geosynthetic.
- E. Turning of tracked vehicles should be kept to minimum to prevent tracks from displacing the fill and damaging the geosynthetic. Rubber tired equipment may pass over the geosynthetic reinforcement at low speeds, less than 16 km/hr (10 mph). Sudden braking and sharp turns shall be avoided. Any geosynthetic damaged during installation shall be replaced by the CONTRACTOR at no additional cost to the OWNER.

-END OF SECTION -

SECTION 02160 EARTHWORK

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Preparation of subgrade for pavement patching is included as part of this work.
- B. Backfilling around culverts within the construction limits is included as part of this work.
- C. Install safety measures required to protect personnel in accordance with OSHA requirements.
- D. This work shall also include all Rock Excavation. Blasting is NOT allowed as a means of removing rock.

1.02 DEFINITIONS

- A. Excavation consists of removal of all material encountered to subgrade elevations and subsequent disposal or reuse of materials removed.
- B. Backfill shall consist of material used to replace excavated material after the facilities have been constructed as shown in the plan details or as directed by the ENGINEER. Previously excavated material may be used as Borrow for fill if approved by the ENGINEER.

1.03 RELATED WORK

Section 02170 - EROSION AND SEDIMENT CONTROL

Section 32912 – LANDSCAPE GRADING.

Section 32920 – TURF AND GRASSES.

1.04 QUALITY ASSURANCE

The CONTRACTOR shall perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

1.05 SUBMITTALS

None Required

1.06 SITE CONDITIONS

A. Site Information:

1. Data on indicated subsurface conditions is not available.
2. Additional test borings and other exploratory operations may be made by CONTRACTOR at no cost to OWNER.

B. Existing Utilities:

Prior to commencement of work, the CONTRACTOR shall locate existing underground utilities in areas of the work. If utilities are to remain in place, provide adequate means of protection during earthwork operations. In addition to Indiana 811, the CONTRACTOR shall coordinate with the Park Manager concerning the location of underground park owned utilities that may not be listed with Indiana 811.

C. Protection of Persons and Property:

1. Barricade open excavations occurring as part of this work and post with warning lights. Comply with Traffic Control requirements of these plans.
2. Operate warning lights as recommended by authorities having jurisdiction.
3. Protect culverts, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
4. The CONTRACTOR shall place orange snow fence or an equal type of construction fencing around all work areas to prevent park patron access to the construction area and construction equipment.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

A. Definitions:

1. Subbase material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, natural or crushed sand meeting INDOT requirements.
2. Structural Backfill: The material shall be of acceptable quality, free from large or frozen lumps, wood, or other extraneous matter in accordance with INDOT Standard Specification 904.05.
3. Backfill and fill materials: Satisfactory soil materials free of debris, waste, frozen materials, and other deleterious matter.

4. Trench Encasement fill shall consist of silty clay, free of organic material, with a plasticity index of 10. Clay with a liquid limit in excess of 60 shall not be used.

PART 3 - EXECUTION

3.01 EXCAVATION

- A. Excavation includes excavation to subgrade elevations including excavation of earth, rock, bricks, wood, cinders, and other debris. All excavation of materials shall be included in the lump sum portion of the work and will be UNCLASSIFIED. NO ADDITIONAL PAYMENT WILL BE MADE REGARDLESS OF TYPE OF MATERIAL ENCOUNTERED. Rock is not expected to be encountered on this project.
- B. Exploratory Excavation and Potholing:
 1. Provide potholing if utility crossing is suspected.
- C. Differing Site Conditions:
 1. The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER in writing of subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The OWNER shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.
 2. No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in (a) above; provided, however, the time prescribed therefore may be extended by the OWNER.
 3. No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.
- D. Additional Excavation:
 1. When excavation has reached required subgrade elevations, notify the ENGINEER who will make an inspection of conditions. The surface of the excavated area shall be "proofrolled" with a loaded truck or other heavy construction equipment.
 - a. If unsuitable bearing materials are encountered at required subgrade elevations, carry excavations deeper and replace excavated material as directed in writing

by the ENGINEER.

- b. Removal of unsuitable material and its replacement as directed will be included in the cost of the project.

E. Stability of Excavations:

1. Slope sides of excavations to comply with federal, state and local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.
2. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

F. Material Storage:

1. The CONTRACTOR is responsible for coordinating temporary stockpile areas with the Park Property Manager. Any area of the park used shall gain the approval of the Park Property Manager prior to its use. The CONTRACTOR is responsible for hauling excess material off-site if the Park does not have available areas for spoils. Stockpile satisfactory excavated material until required for backfill of fill. Place, grade, and shape stockpiles for proper drainage. Dispose of excess soil material and waste materials as herein specified. The CONTRACTOR is responsible for submitting and obtaining a construction stormwater general permit if required for offsite borrow pits and stockpile areas.

G. Cold Weather Protection:

1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35°F(1°C).

3.02 COMPACTION

A. General:

1. Control soil compaction during construction providing minimum percentage of density specified for each area classification indicated below.
 - a. Percentage of maximum density requirements: Compact soil to not less than the following percentages of maximum density for soils which exhibit a well-defined moisture density relationship (cohesive soils) determined in accordance with ASTM D698; and not less than the following percentages of relative density, determined in accordance with ASTM D4253 and D4254, for soils which will not exhibit a well-defined moisture-density relationship (cohesionless soils).
 - b. Compact top 12-inches of subgrade and each layer of backfill or fill material in accordance with the following schedule.

PLACEMENT OF BACKFILL OR FILL MATERIAL			
Location	Minimum Compaction	Maximum Lift Thickness (Loose) (in.)	Moisture Content Relative To Optimum Moisture
Subgrade for Footings	100%	8	-2% to +2%
Subgrade for Floor Slabs Steps & Embankments	98%	8	-2% to +2%
Subgrade for Pavements and Walkways	95%	6"	-2% to +2%
Backfill for Walls & Piping	95%	6	-2% to +2%
Landscape Areas	90%	12	-2% to +2%
Note: Minimum compaction refers to percent of Maximum Dry Density as Determined by ASTM D-698.			

B. Moisture Control:

1. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface or subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.
2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
3. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to the optimum moisture for compaction.

3.03 BACKFILL AND FILL

A. General:

1. With the exception of the organic debris, existing fill material, topsoil, and backfill materials, which are specifically designated per the plan details could be used as on-site soil fill or backfill material, provided the moisture content of the soil is acceptable.
2. Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below. Backfill material shall be no larger than the specified depth of the layer to be placed and/or compacted.
 - a. In excavations, use satisfactory excavated or borrow material.

- b. Under grassed areas, use satisfactory excavated or borrow material.
 - c. Under walks and pavements, use structure backfill as detailed on the plans.
 - d. Under steps, use subbase material.
- B. Backfill excavation as promptly as work permits, but not until completion of the following:
1. Acceptance of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
 2. Inspection, testing, approval, and recording locations of underground utilities.
 3. Removal of concrete formwork.
 4. Removal of trash and debris.
 5. Permanent or temporary horizontal bracing is in place on horizontally supported walls.
- C. Ground Surface Preparation:
1. Strip the site as discussed in paragraph 3.01. Plow, strip or break up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.
 2. When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, bring moisture condition to optimum moisture content, and compact to required depth and percentage of maximum density.
- D. Placement and Compaction:
1. Place backfill and fill materials in layers as indicated in paragraph 3.02 A.1.b. for material compacted by heavy compaction equipment, and not more than 4-inches in loose depth for material compacted by hand- operated tampers. Crushed stone shall be installed in accordance with Section 02255.
 - a. Before compaction, add moisture or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
 - b. Place backfill and fill materials evenly adjacent to structures, piping, or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping, or conduit to approximately same elevation in each lift.

2. On completion of the project, all backfill shall be dressed; holes filled; and surplus material hauled away. All permanent walks, street paving, roadway, etc., shall be restored and seeding and sodding performed as required.

3.04 GRADING

A. General:

1. Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.

B. Grading:

1. All materials used for backfill around structures shall be of a quality acceptable to the ENGINEER and shall be free from large or frozen lumps, wood and other extraneous material. All spaces excavated and not occupied by footings, foundations, walls or other permanent work shall be refilled with earth up to the surface of the surrounding ground, unless otherwise specified, with sufficient allowance for settlement. In making the fills and terraces around the structures, the fill shall be placed in layers not exceeding 12-inches in depth and shall be kept smooth as the work progresses. Each layer of the fill shall be rolled with an approved type roller and/or be compacted per Sub-section 3.07 C-1 below. When it is not practicable to compact sections of the fill immediately adjacent to buildings or structures by rolling, then such sections shall be thoroughly compacted by means of mechanical tamping or hand tamping as may be required by the conditions encountered. All fills shall be placed so as to load structures symmetrically.
2. As set out hereinbefore, rough grading shall be held below finished grade and then the topsoil which has been stockpiled shall be evenly spread over the surface. The grading shall be brought to the levels shown on the Drawings. Final dressing shall be accomplished by hand work or machine work, or a combination of these methods as may be necessary to produce a uniform and smooth finish to all parts of the regrade. The surface shall be free from clods greater than 2-inches in diameter. Excavated rock may be placed in the fills, but it shall be thoroughly covered. Rock placed in fills shall not be closer than 12- inches from finished grade.
3. Grade areas adjacent to drain away from structures and to prevent ponding.
 - a. Finish surfaces free from irregular surface changes, and as follows:
 - 1) Lawn or unpaved areas: Finish areas to receive top soil to within not more than 0.10 ft. above or below required subgrade elevation.
 - 2) Pavements: Shape surface of areas under pavement to line, grade, and cross-section, with finish surface not more than 1.0 in. above or 1 in. below required

subgrade elevation.

C. Compaction:

1. After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or standard proctor density for each area classification.

3.05 PAVEMENT SUBBASE COURSE

- A. If unsuitable subbase soils are encountered, the CONTRACTOR shall consult the ENGINEER for direction.

3.06 MAINTENANCE

A. Protection of Graded Areas:

1. Protect newly graded areas from traffic and erosion. Keep free of trash and debris. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

B. Reconditioning Compacted Areas:

1. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

C. Settling:

1. Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.07 DISPOSAL OF EXCESS NONORGANIC SOIL AND ROCK

A. General:

1. All excess excavated material shall become the property of the CONTRACTOR and shall be disposed of by him outside the project limits. It is the CONTRACTOR's responsibility to locate a suitable waste area off-site, re-vegetate it after use, obtain necessary permits for use of the waste area and be in compliance with applicable laws and regulations.

B. Placement:

1. The distribution and gradation of material throughout the fill shall be such that the fill will be free from lenses, pockets, streaks or layers of material differing substantially in texture or gradation from the surrounding material. The combined excavation and

placing operations shall be such that the materials when compacted in fill will be blended sufficiently to secure the best practicable degree of compaction and stability.

2. Successive loads of material shall be placed on the fill so as to produce the best practicable distribution of the material.
3. The material shall not be dumped into final position but shall be distributed by blading or dozing in a manner that will ensure proper placement in the embankment so that voids, pockets and bridging will not occur.
4. No fills shall be placed upon a frozen surface, nor shall snow, ice or frozen materials be incorporated in the fill.

C. Spreading and Compacting:

1. The material shall be spread in uncompacted lifts with thickness as required in paragraph 3.02 A.1b. of this Section, depending on the amount of earth, over the entire length and width of the specified area. The material shall then be compacted by a minimum of 6 passes of a smooth drum vibratory roller. The roller shall have a total static weight of not less than 20,000 pounds. The diameter of the drum shall be between 5.0 and 5.5 feet and the width between 6.0 and 6.5 feet. The frequency of vibration during operation shall be between 1,200 and 1,500 vibrations per minute and the dynamic force at 1,400 vibrations per minute shall not be less than 16,000 pounds. Rollers shall be operated at speeds not to exceed 1.5 miles per hour.

D. Earth Cover:

1. The material shall be placed and spread in accordance with this Specification.

-END OF SECTION -

SECTION 02170 EROSION AND SEDIMENT CONTROL

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Description.

The work consists of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air from construction activities.

PART 2 – PRODUCTS

- A. Mulch and fertilizer shall be as specified in Sections 02936.
- B. Erosion control blanket shall be net free and in accordance with INDOT Standard Specifications 205. ALL Erosion control blanket shall be coordinated with IDNR Fish and Wildlife for compliance.
- C. Temporary silt fence fabric shall be provided per the plan details.
- D. Concrete Washouts shall be provided per the plan details.

PART 3 - EXECUTION

1.02 GENERAL

- A. Silt Fence. (temporary stockpiles shall be surrounded with silt fence or equivalent)
 - 1. Silt fence shall be installed down-slope of all areas to be protected and installed according to INDOT specifications.
 - 2. Silt fence shall remain in place until permanent soil stabilization has become established.
- B. General Erosion Control. Plan and execute construction and earth work by methods to control surface drainage from cuts and fills to prevent erosion and sedimentation. Keep to a minimum, the area of bare soil exposed at one time.
 - 1. Seeding to protect disturbed areas shall occur as soon as reasonably possible

following completion of earthwork activity.

- 2 Provide methods to control surface water, runoff, subsurface water, and water from excavations to prevent damage to the Work, the site, or adjoining areas.
- 3 The CONTRACTOR has full responsibility of inspecting the erosion control measures on a daily basis. At a minimum, practices need to be inspected weekly, within 24 hours after each storm event over ½ inch and daily during prolonged storm events. Failing practices shall be repaired or replaced immediately.
- 4 Comply with all federal, state, and local statutes, rules and regulations associated with control of storm water run-off from construction activities.

C. Other Pollutants. Vehicle fluids, including oil, grease, petroleum, and coolants

1. Drip pans and/or absorbent pads should be used during vehicle and equipment maintenance work that involved fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area. Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately. Properly dispose of used oils, fluids, lubricants and spill cleanup materials. Do not place used oil in a dumpster or pour into a storm drain or watercourse.
- 2 In regards to fuel storage, material storage, equipment parking, etc. the CONTRACTOR will be responsible to comply with Rule 5 requirements. All pollutants shall be contained on site and properly disposed of.
- 3 Trash cans shall be utilized on site for general litter during and after construction.

-END OF SECTION -

SECTION 02255 CRUSHED STONE, RIPRAP & STRUCTURE BACKFILL

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish and install crushed stone, riprap and structure backfill for miscellaneous uses as shown on the Drawings, and as called for in the Specifications.
- B. Sizes, types, and quality of crushed stone, riprap and structure backfill are specified in this Section and as noted in the plan details, but its use for replacement of unsuitable material, pavement base, and similar uses is specified in detail elsewhere in the Specifications. The ENGINEER may order the use of crushed stone for purposes other than those specified in other Sections, if, in his opinion, such use is advisable. Payment for same will be subject to negotiation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Aggregate: When referred to in these Specifications, compacted aggregate shall be Compacted Aggregate # 8, #9, #11 or # 53 of the specific size as required by the plans and plan details. Aggregate gradation shall be in accordance with the following gradation chart.

Sieve Sizes	COARSE AGGREGATE SIZES (PERCENT PASSING)									
	COARSE GRADED								DENSE GRADED	
	2	5	8	9	11	12	43 ⁽¹⁾	91	53 ⁽¹⁾	73 ⁽¹⁾
4 in. (100 mm)										
3 1/2 in. (90 mm)										
2 1/2 in. (63 mm)	100									
2 in. (50 mm)	80-100									
1 1/2 in. (37.5 mm)		100					100		100	
1 in. (25 mm)	0-25	85-98	100				70-90	100	80-100	100
3/4 in. (19 mm)	0-10	60-85	75-95	100			50-70		70-90	90-100
1/2 in. (12.5 mm)	0-7	30-60	40-70	60-85	100	100	35-50		55-80	60-90
3/8 in. (9.5 mm)		15-45	20-50	30-60	75-95	95-100				
No. 4 (4.75 mm)		0-15	0-15	0-15	10-30	50-80	20-40		35-60	35-60
No. 8 (2.36 mm)		0-10	0-10	0-10	0-10	0-35	15-35		25-50	
No. 30 (600 µm)						0-4	5-20		12-30	12-30
No. 200 (75 µm) ⁽²⁾							0-6.0		5.0-10.0 ⁽⁴⁾	5.0-12.0
Decant (PCC) ⁽³⁾		0-1.5	0-1.5	0-1.5	0-1.5	0-1.5		0-1.5		
Decant (Non-PCC)	0-2.5	0-2.5	0-3.0	0-2.5	0-2.5	0-2.0		0-2.5		

Notes: 1. The liquid limit shall not exceed 25 (35 if slag) and the plasticity index shall not exceed 5. The liquid limit shall be determined in accordance with AASHTO T 89 and the plasticity index in accordance with AASHTO T 90.
2. Includes the total amount passing the No. 200 (75 µm) sieve as determined by AASHTO T 11 and T 27.
3. Decant may be 0-2.5 for stone and slag.
4. When slag is used for separation layers as defined in 302.01, the total amount passing the No. 200 (75 µm) sieve shall be 10.0 to 12.0.

All aggregate and crushed stone under paved surfaces or within 5 feet of paved surfaces shall be compacted to 95% max dry density as determined in accordance with AASHTO T99. All aggregate in non paved areas shall be compacted to a minimum of 90% max dry density as determined in accordance with AASHTO T99. The procedure for determining maximum densities for compaction control shall be in accordance with AASHTO T 99. The size and type of stone to be used shall be as shown on the plan details.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Crushed stone shall be placed and compacted in accordance with INDOT Specification 211 and related specifications.
- B. Crushed stone shall be placed in those areas as shown on the Drawings.

3.02 BROKEN CONCRETE RESTRICTION

- A. Broken Concrete shall NOT be used as riprap.

-END OF SECTION -

SECTION 02500 PARK UTILITY AND TRAFFIC COORDINATION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Provide coordination with existing utility companies and the Park, which have facilities within the existing project limits of the project.
- B. Determine existing utility, size and type at potential crossings of the proposed construction with the existing utilities.
- C. Provide Traffic Control for the construction sites and coordinate with the Property Manager as to the time of work, road closures and lane restrictions.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Provide equipment necessary to coordinate, excavate and/or pothole existing utility crossings as needed to determine potential conflicts.
- B. Provide traffic control signage and traffic control devices in accordance with INDOT Specifications Section 801 and related material referenced specifications as referenced in 801.

PART 3 - EXECUTION

3.01 EXECUTION

A. UTILITIES:

1. The CONTRACTOR shall coordinate with existing utilities and the Park Manager prior to any excavation near, exploratory excavation or potholing of their facilities. The CONTRACTOR shall pothole or exploratory excavate potential utility crossings to determine the extent of conflicts prior to ordering any materials.
2. The CONTRACTOR shall comply with Indiana law and shall also call Indiana 811 prior to conducting any excavation or other underground related work.
3. Existing utility line locations as noted on the plans are based on the best data available.
4. All crossing utilities shall be field verified for clearances with construction prior to

the start of digging operations and prior to ordering any materials which could be affected such as manholes, inlets, etc.. Conflicts should be immediately noted to the ENGINEER in writing. Utility conflicts during construction will be the responsibility of the CONTRACTOR to correct.

5. The CONTRACTOR shall provide a minimum of 5 business days notice to any utility companies and to Property Manager prior to excavation which is expected to uncover any given utility.

B. MAINTENANCE OF TRAFFIC

1. The CONTRACTOR shall fully coordinate with the Property Manager for all work to be conducted.
2. The CONTRACTOR shall ensure that all traffic restrictions and road closures are coordinated with the Property Manager prior to putting any traffic control measures in place.
3. The CONTRACTOR shall ensure that access to the Residence Quarters between Culverts #1 and #2 is always maintained.

-END OF SECTION-

SECTION 02502 ASPHALT PAVEMENT

PART 1 -- GENERAL

3.02 DEFINITIONS

- A. Combined Aggregate: All mineral constituents of asphalt concrete mix, including mineral filler and separately sized aggregates.
- B. RAP: Reclaimed asphalt pavement.
- C. Provide hot-mix asphalt paving according to materials, workmanship, and other applicable requirements in accordance with the Indiana Department of Transportation (INDOT) Standard Specifications latest edition, Section 402.
- D. Related Sections:
 - 1. Section 02160 Earthwork.

3.01 MEASUREMENT AND PAYMENT

- A. Hot Mix Asphalt Paving
 - 1. Work Item Title and Number
 - a. HMA Paving, INDOT TYPE 'B'
 - 2. The payment for HMA asphalt pavement shall be based on lump sum bid and shall include tack coat.
 - 3. The limits will be field determined by the ENGINEER or their representative.

3.02 REFERENCES

- A. Standards referenced in this Section are listed below:
 - 1. ASTM International:
 - a. ASTM D242, Standard Specification for Mineral Filler for Bituminous Paving Mixtures.
 - b. ASTM D692, Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures.
 - c. ASTM D1073, Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
 - d. ASTM D3666, Standard Specification for Minimum Requirements for Agencies Testing and Inspection Road and Paving Materials.
 - e. ASTM D3910, Standard Practices for Design, Testing, and Construction of Slurry

Seal.

2. Asphalt Institute (AI):
 - a. MS-22, Construction of Hot Mix Asphalt Pavements

3. Indiana Department of Transportation (INDOT) - Standard Specifications:
 - a. Section 402, Hot Mix Asphalt, HMA, Pavement.
 - b. Section 406, Tack Coat.
 - c. Section 808, Pavement Traffic Markings.
 - d. Section 904, Aggregates.
 - e. Section 916, Materials Certifications.

4. Indiana Department of Transportation (INDOT) – Design Manual:
 - a. Chapter 17, Quantity Estimating.

3.03 SUBMITTALS

- A. Job Mix Designs: For each asphalt mix design the CONTRACTOR shall submit a copy of the following INDOT Material and Test Division standard forms:
 1. HMA Design Mix Formula form
 2. HMA Mix Design Approval Log

- B. Provide a copy of the INDOT list of certified hot mix asphalt producers, dated within the last 12 months and highlight the plant name and certification number, on the list.

- C. Provide a copy of the INDOT list of approved HMA mix design laboratories, dated within the last 12 months and highlight the laboratory name and certification number, on the list.

3.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer shall be an INDOT certified hot mix asphalt producer and shall be listed on the most recent version of the INDOT list of certified hot mix asphalt producers, unless otherwise approved by the OWNER.

- B. Laboratory Qualifications: Testing laboratory shall be an INDOT certified hot mix asphalt laboratory and shall be listed on the most recent version of the INDOT list of certified hot mix asphalt laboratories, unless otherwise approved by the OWNER.

- C. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing

indicated.

- D. Regulatory Requirements: Comply with INDOT Standard Specifications latest edition, Section 402 and provisions thereto for asphalt paving work.
 - 1. Asphalt-Paving Publication: Comply with Asphalt Institute (AI) MS- 22, "Construction of Hot Mix Asphalt Pavements," unless more stringent requirements are indicated.
- E. Pre-construction Meeting: Conduct conference at Project site. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:
 - 1. Review condition of subgrade and preparatory work.
 - 2. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.

3.05 ENVIRONMENTAL REQUIREMENTS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp or if the following conditions are not met:
 - 1. Tack Coats: Minimum surface temperature of 60 deg F (15.5 deg C).
 - 2. Slurry Coat: Comply with weather limitations of ASTM D 3910.
 - 3. Asphalt Base Course: Minimum surface temperature of 40 deg F (4 deg C) and rising at time of placement.
 - 4. Asphalt Surface Course: Minimum surface temperature of 60 deg F (15.5 deg C) at time of placement.

PART 2 - PRODUCTS

2.01 AGGREGATES

- A. General: All aggregates used in asphalt mixture shall be in accordance with INDOT Standard Specifications latest edition, Section 904. Use materials and gradations that have performed satisfactorily in previous installations.
- B. Coarse Aggregate: ASTM D 692, hard, strong; angular crushed stone, crushed gravel, or properly cured, crushed blast-furnace slag.
- C. Fine Aggregate: ASTM D 1073, sharp-edged natural sand or sand prepared from stone,

gravel, properly cured blast-furnace slag, or combinations thereof.

- D. Mineral Filler: ASTM D 242, rock or slag dust, hydraulic cement, or other inert material.

2.02 ASPHALT MATERIALS

- A. All Hot Mix Asphalt (HMA) material shall conform to applicable requirements of the INDOT Standard Specification latest edition, Sections 402.
- B. Tack Coat: Rapid-cure liquid asphalt conforming to INDOT Standard Specification latest edition, Section 406.
- C. Water: Potable.
- D. Recycled materials (RAP): Per INDOT Standard Specifications latest edition, Section 402.08 for Recycled Materials not to exceed 25% by weight (mass) of the total mixture.

PART 3 - EXECUTION

3.01 GENERAL

- A. Traffic Control:
 - 1. In accordance with Section 104.04, Maintenance of Traffic.
 - 2. Minimize inconvenience to traffic, but keep vehicles off freshly treated or paved surfaces to avoid pickup and tracking of asphalt.
- B. Driveways: Re-pave driveways as specified on the construction documents. Leave driveways in as good or better condition than before start of construction.

3.02 LINE AND GRADE

- A. Provide and maintain intermediate control of line and grade, independent of underlying base, to meet finish surface grades and minimum thickness.
- B. Shoulders: Construct to line, grade, and cross-section shown.

3.03 PREPARATION

- A. Prepare subgrade as specified in INDOT Standard Specifications latest edition, Section 402.11.
- B. Existing Roadway:

1. Modify profile by grinding, milling, or overlay methods as approved, to provide transition to existing adjacent pavement and surfaces and to produce smooth riding connection to existing facility.
 2. Remove existing material to a minimum depth of 38.1 millimeters (1 1/2 inch).
 3. Paint edges of existing adjacent pavement with tack coat prior to placing new pavement.
- C. Thoroughly coat edges of contact surfaces (curbs, manhole frames) with emulsified asphalt or asphalt cement prior to laying new pavement. Prevent staining of adjacent surfaces.

3.04 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.

3.05 PATCHING

- A. Hot-Mix Asphalt (HMA) Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches (300 mm) into adjacent sound pavement,
- B. unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.
- C. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.000251 Ton/Syd (0.06 Gal/Syd) per INDOT Design Manual latest edition, Chapter 17 – Quantity Estimating.
 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.
- D. Patching: Fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact flush with adjacent surface.
- E. Patching: Partially fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact. Cover asphalt base course with compacted, hot-mix surface layer

finished flush with adjacent surfaces.

3.06 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
 - 1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

- B. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.00251 Ton/Syd (0.06 gal/Syd) per INDOT Design Manual latest edition, Chapter 17 – Quantity Estimating.
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.07 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 - 1. Place hot-mix asphalt surface course in single lift.
 - 2. Spread mix at minimum temperature of 250 deg F (121 deg C).
 - 3. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
 - 4. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

- B. Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.
 - 1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips.

- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.08 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.
- B. Clean contact surfaces and apply tack coat to joints.
- C. Offset longitudinal joints, in successive courses, a minimum of 6 inches (150 mm).
- D. Offset transverse joints, in successive courses, a minimum of 24 inches (600 mm).
- E. Construct transverse joints as described in INDOT Standard Specifications latest edition, Section 402.14.
- F. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
- G. Compact asphalt at joints to a density within 2 percent of specified course density.

3.09 COMPACTION

- A. General: Compaction shall conform to INDOT Standard Specifications latest edition, Section 402.15 for the minimum number of rollers and coverage. Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
 - 1. Complete compaction before mix temperature cools to 185 deg F (85 deg C).
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still at the highest temperature where the mixture does not exhibit any possibility for distortions.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement

to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled sufficiently to prevent distortions.

3.10 INSTALLATION TOLERANCES

- A. Thickness: Compact each course to produce the thickness indicated within the following tolerances:
 - 1. Base Course: Plus or minus 1/2 inch (13 mm).
 - 2. Surface Course: Plus 1/4 inch (6 mm), no minus.
- B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10 foot (3-m) straightedge applied transversely or longitudinally to paved areas:
 - 1. Base Course: 1/4 inch (6 mm).
 - 2. Surface Course: 1/8 inch (3 mm)
 - 3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch (6 mm).

3.11 PAVEMENT OVERLAY

- A. Preparation:
 - 1. Remove fatty asphalt, grease drippings, dust, and other deleterious matter.
 - 2. Surface Depressions: Fill with asphalt concrete mix, and thoroughly compact.
 - 3. Damaged Areas: Remove broken or deteriorated asphalt concrete and patch as specified in Article Patching.
 - 4. Portland Cement Concrete Joints: Remove joint filler to minimum 1/2 inch (12 millimeters) below surface.
- B. Application:
 - 1. Tack Coat: As specified in this section.
 - 2. Place and compact asphalt concrete as specified in Article Pavement Application.
 - 3. Place first layer to include widening of pavement and leveling of irregularities in surface of existing pavement.
 - 4. When leveling irregular surfaces and raising low areas, the actual compacted

thickness of any one lift shall not exceed 2 inches (50 millimeters).

5. Actual compacted thickness of intermittent areas of 120 square yards (100 square meters) or less may exceed 2 inches (50 millimeters), but not 4 inches (100 millimeters).
6. Final wearing layer shall be of uniform thickness, and meet grade and cross section as shown.

3.12 FIELD QUALITY CONTROL

- A. Testing Agency: CONTRACTOR will engage a qualified independent testing and inspecting agency to perform field tests and inspections and to prepare test reports.
 1. Testing agency will conduct and interpret tests and state in each report whether tested work complies with or deviates from specified requirements.
- B. Additional testing and inspecting, at CONTRACTOR's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- C. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to INDOT Standard Specifications latest edition, Sections 402.13 and 402.15.
- D. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- E. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.
- F. All required testing must be witnessed and approved by the Resident Project Representative, assigned by OWNER.

3.13 DISPOSAL

- A. Except for material indicated to be recycled, remove excavated materials from project site and legally dispose of them in an EPA-approved landfill.

3.14 TESTING FREQUENCY

- A. Quality Control Tests:
 1. Asphalt Content, Aggregate Gradation: Once per every 500 Tons (400 mg) of mix or once every 4 hours, whichever is greater.
 2. Mix Design Properties, Measured Maximum (Rice's) Specific Gravity: Once every 1,000 Tons (900 mg) or once every 8 hours, whichever is greater.
- B. Density Tests: Once every 500 Tons (450 mg) of mix or once every 4 hours, whichever is greater.

- END OF SECTION -

DIVISION 3
CONCRETE

SECTION 03300 CAST-IN-PLACE CONCRETE

PART 1- GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to place all cast-in-place concrete, reinforcing steel, forms, and miscellaneous related items, including sleeves, ringlets, anchor bolts, stone veneer anchors, inserts and embedded items, as shown on the Drawings and specified herein.

1.02 RELATED WORK

- A. Section 03345 - Concrete Finishing

1.03 DESCRIPTION

- A. Concrete shall be of Portland cement, fine aggregate, coarse aggregate, water and admixtures as specified and shall be ready-mixed, or transit-mixed concrete produced by a plant acceptable to the ENGINEER. All constituents, including admixture, shall be batched at the central batch plant.
- B. Reinforced concrete shall conform to INDOT Specification 702, Concrete, Class "A". Admixture shall be added for Anti Corrosion without lowering strength requirements. Strength of Concrete shall be 4000 psi.
- C. All testing and inspection services required will be provided by the CONTRACTOR. Cost of such work, except as specifically stated otherwise, will be paid for by the CONTRACTOR. Methods of test will comply in detail with the latest applicable ASTM Methods of Test.
- D. Samples of constituents and of concrete as placed will be subjected to laboratory tests. All materials incorporated in the work shall conform to accepted samples.
- E. Under special circumstances, the ENGINEER may allow minor deviations from the material requirements specified, provided the resulting concrete quality is not adversely affected or provided a suitable adjustment in cement content is made to compensate for such deviations without cost to the OWNER.

1.04 SUBMITTALS

- A. The CONTRACTOR shall submit to the ENGINEER for approval a proposed design mix for each concrete strength and type required by this Specification. See Paragraph 1.05 for additional information required. An additional mix design for each type and strength of concrete to be placed by pumping shall be submitted to the ENGINEER for acceptance.
- B. The CONTRACTOR shall submit to the ENGINEER for acceptance, as provided in Section 01300, shop drawings showing placement of all joints of plywood forms, and rustications. CONTRACTOR shall specify what methods of form bracing he intends to use.

1.05 QUALITY ASSURANCE

- A. The actual acceptance of aggregates and development of mix proportions to produce concrete conforming to the specific requirements shall be determined by means of prior laboratory tests made with the constituents to be used on the work.
- B. Well in advance of placing concrete, the CONTRACTOR shall discuss with the ENGINEER the proposed source of materials and concrete mixture which he proposes to use. He shall furnish samples of aggregate and cement for testing, deliver them to the organization designated by the ENGINEER, and shall permit ample time for the laboratory to develop a proposed design mix to modify the design of the mix within the limits of these specifications.
- C. The limiting strengths, water contents and cement factors of INDOT Specification 702.02 shall apply.
 - 1. High early strength Portland cement is allowed as an option on this project. When high early strength Portland cement is permitted, the same strength requirements shall apply except that the indicated strengths shall be attained at seven (7) days instead of twenty-eight (28) days.
- D. If, during the progress of the work, it is impossible to secure concrete of the required workability and strength with the materials being furnished, the ENGINEER may order such changes in proportions or materials, or both, as may be necessary to secure the desired properties. All changes so ordered shall be made at the CONTRACTOR's expense.
- E. If the materials from the sources originally accepted change in characteristics, the CONTRACTOR shall, at his expense, have made new acceptance tests of aggregates and establishment of new basic mixtures by the acceptable testing laboratory being employed on the work.
- F. Concrete shall be of such consistency and mix composition that it can be readily

worked into the corners and angles of the forms and around the reinforcement, inserts, and wall castings without permitting materials to segregate or free water to collect on the surface, due consideration being given to the methods of placing and compacting.

1.06 ACCEPTANCE TESTS

- A. Conformity of aggregates to these Specifications, and the actual proportions of cement, aggregates, and water necessary to produce concrete conforming to the requirements set forth herein, shall be determined by tests made with representative samples of the materials to be used on the work. Tests will be made by the laboratory selected by the ENGINEER and shall comply with ASTM Specification C-39.
- B. Cement shall be subject to testing to determine that it conforms to the requirements of this Specification. Methods of testing shall conform to the appropriate specification, but the place, time, frequency, and method of sampling will be determined by the ENGINEER in accordance with the particular need.
- C. Samples of fine and coarse aggregates shall be furnished for examination and testing at least three weeks before the CONTRACTOR proposes to use them in the work.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials shall conform to INDOT Specification 702, Class "A" Concrete.
- B. Grout shall be non-shrink epoxy and be proportioned with sand in strict accordance with the manufacturer's instructions for the use intended. Non-shrink grout shall conform with the US Corps of Engineers Specification for Non-Shrink Grout, CRD-C621-82B. The mixed epoxy grout system shall have a minimum "working life" of 45 minutes at 75°F.
- C. Flowable Fill used on the project shall conform to INDOT Specification 213 and referenced specifications.

PART 3 - EXECUTION

3.01 MEASURING MATERIALS

- A. Materials shall be measured by weighing except as otherwise specified or where other methods are specifically authorized by the ENGINEER. The apparatus provided for weighing the aggregates and cement shall be suitably designed and constructed for this purpose. Scales shall have been certified by the local Sealer of Weights and Measures

within one year of use. Each size of aggregate and the cement shall be weighed separately. The accuracy of all weighing devices shall be such that successive quantities can be measured to within one per cent of the desired amount. Cement in standard packages (sacks) need not be weighed, but bulk cement and fractional packages shall be weighed.

- B. Water shall be measured by volume or by weight. The water-measuring devices shall be capable of control to 1/2% accuracy. All measuring devices shall be subject to approval. Admixtures shall be dispensed either manually with use of calibrated containers or measuring tanks, or by means of an approved automatic dispenser designed by the manufacturer of the specific admixture.

3.02 MIXING

- A. Concrete shall be ready-mixed, or transit-mixed, as produced by equipment acceptable to the ENGINEER. No hand-mixing will be permitted. Adding water in controlled amounts during the mixing cycle shall be done only with the express approval of, and under the direction of the ENGINEER.
- B. Ready-mix or transit-mixed concrete shall be transported to the site in watertight agitator or mixer trucks loaded not in excess of rated capacities for the respective conditions as stated on the name plate. Discharge at the site shall be within 1 1/2 hours after water was first introduced to the mix. Central mixed concrete shall be plant-mixed a minimum of 1 1/2 minutes per batch and then shall be truck-mixed or agitated a minimum of 8 minutes. Agitation shall begin immediately after the premixed concrete is placed in the truck and shall continue without interruption until discharged. Transit-mixed concrete shall be mixed at mixing speed for at least 10 minutes immediately after charging the truck, followed by agitation without interruption until discharged.
- C. All central plant and rolling stock equipment and methods shall conform to the latest Truck Mixer and Agitator Standards of the Truck mixer manufactures, Bureau of the National Ready-Mixed Concrete Association, as well as ACI Standard 318, Chapter 5, and ASTM Specification C94.
- D. The retempering of concrete or mortar which has partially hardened, that is mixing with or without additional cement, aggregate, or water, will not be permitted.
- E. Attention is called to the importance of dispatching trucks from the batching plant so that they shall arrive at the site of the work just before the concrete is required, thus avoiding excessive mixing of concrete while waiting or delays in placing successive layers of concrete in the forms.

3.03 FIELD TESTS

- A. Slump tests will be made in the field by the CONTRACTOR and observed by the

ENGINEER if requested by the ENGINEER during observation.

3.04 INSPECTION AND CONTROL

- A. The preparation of forms, placing of reinforcing steel, conduits, pipes, and sleeve, batching, mixing, transportation, placing and curing of concrete shall be at all times under the inspection of the ENGINEER.

3.05 CONCRETE APPEARANCE

- A. Concrete for every part of the work shall be of homogeneous structure which, when hardened, will have the required strengths, durability and appearance.
- B. Forms, mixtures and workmanship shall be such that concrete surfaces, when exposed, will require no finishing.
- C. When concrete surfaces are stripped, the concrete when viewed in good lighting from 10 ft away shall be pleasing in appearance, and at 20 ft shall show no visible defects.

3.06 FORMS

- A. Forms shall be used for all concrete masonry, including footings. Forms shall be so constructed and placed that the resulting concrete will be of the shape, lines, dimensions, appearance, and to the elevations indicated on the Drawings.
- B. Forms for all exposed exterior and interior concrete walls shall be Type A-C exterior grade plywood with "A" veneer exterior on casting side. Rustications shall be at the location and to the details shown on the Drawings. Moldings for chamfers and rustications shall be milled and planed smooth.
- C. Forms for all other cast-in-place concrete shall be made of wood, metal, or other accepted material. Wood forms shall be constructed of sound lumber or plywood of suitable dimensions, free from knotholes and loose knots. Where used for exposed surfaces, boards shall be dressed and matched. Plywood shall be sanded smooth and fitted with tight joints between panels. Metal forms shall be of an approved type for the class of work involved and of the thickness and design required for rigid construction.
- D. Edges of all form panels in contact with concrete shall be flush within 1/32-in. and forms for plane surfaces shall be such that the concrete will be plane within 1/16-in. in 4 ft. Forms shall be tight to prevent the passage of mortar and water and grout.
- E. Forms for walls shall have removable panels at the bottom for cleaning, inspection, and scrubbing-in of bonding paste. Forms for walls of considerable height shall be arranged with tremies and hoppers for placing concrete in a manner that will prevent segregation and accumulation of hardened concrete on the forms or

reinforcements above the fresh concrete.

- F. Molding or bevels shall be placed to produce a 3/4-inch chamfer on all exposed projecting 90° corners. Similar chamfers strips shall be provided at horizontal and vertical extremities of all wall placements to produce "clean" separation between successive placements as called for on the Drawings.
- G. Forms shall be sufficiently rigid to withstand vibration, to prevent displacement or sagging between supports, and constructed so the concrete will not be damaged by their removal. The CONTRACTOR shall be entirely responsible for their adequacy.
- H. Forms, including new pre-oiled forms, shall be oiled before reinforcement is placed, with an approved non-staining oil or liquid form coating not having a paraffin base.
- I. Before form material is re-used, all surfaces in contact with concrete shall be thoroughly cleaned, all damaged places repaired, all projecting nails withdrawn, all protrusions smoothed and, in the case of wood forms, preoiled.
- J. Form ties encased in concrete shall be designed so that after removal of the projecting part, no metal shall be within 1-inch of the face of the concrete. That part of the tie to be removed shall be at least 1/2-inch diameter or be provided with a wood or metal cone at least 1/2-inch diameter and 1-inch long. Form ties in concrete exposed to view shall be the Richmond "Tyscru" cone-washer type, or approved equal.
- K. Through bolts or common wire shall not be used for form ties.

3.07 PLACING AND COMPACTING

- A. Unless otherwise permitted, the work begun on any day shall be completed in daylight of the same day.
- B. Place no concrete until reinforcing, steel, pipes, conduits, sleeves, hangers, anchors, and other work required to be built into concrete have been inspected and approved by the ENGINEER. Remove water and foreign matter from forms and excavation. Place no concrete on frozen soil, and provide adequate protection against frost action during freezing weather. All soil preparation below slabs and footings shall be approved by the ENGINEER before placing concrete.
- C. Transport concrete from mixer to place of final deposit as rapidly as practicable by methods which prevent separation of ingredients and displacement of reinforcement, and which avoid rehandling. Deposit no partially hardened concrete.
- D. "Cold joints" are to be avoided unless called for on the Drawings. If they occur they are to be treated as bonded construction joints.

- E. Construction joints shall be per plans.
- F. Deposit concrete to maintain, until the completion of the unit, a horizontal plastic surface, vertical lifts of deposited concrete shall not exceed 24-inches and preferably 18-inches.
- G. Chutes for conveying concrete shall be of U-shaped design and sized to ensure a continuous flow of concrete. Flat (coal) chutes shall be not employed. Chutes shall be metal or metal-lined and each section shall have approximately the same slope. The slope shall not be less than 25 nor more than 45 degrees to the horizon and shall be such as to prevent the segregation of the ingredients. The discharge end of the chute shall be provided with a baffle plate or spout to prevent segregation. If the discharge end of the chute is more than 5 feet above the surface of the concrete in the forms, a spout shall be used, and the lower end maintained as near the surface of deposit as practicable. When the operation is intermittent, the chute shall discharge into a hopper. Chutes shall be thoroughly cleaned before and after each run, and the debris and any water shall be discharged outside the forms. Concrete shall not be allowed to flow horizontally over distances exceeding 5 feet. Concrete Washouts as provided in the plans shall be provided and used for the cleaning of all concrete equipment. The CONTRACTOR shall ensure that concrete is not washed onto the ground or drainage ways of the park.
- H. The pumping of concrete is an acceptable method. The proposed equipment and concrete mix shall be submitted to the ENGINEER prior to usage for approval.
- I. In thin sections of considerable height, concrete shall be placed using suitable hoppers, spouts with restricted outlets, or otherwise, as required or approved.
- J. Concrete during and immediately after depositing shall be thoroughly compacted by means of suitable tools. Internal type mechanical vibrators shall be employed to produce required quality of finish. Vibration shall be done by experienced operators under close supervision and shall be carried on long enough to produce homogeneity and optimum consolidation without permitting segregation of the solid constituents or "pumping" or migration of air. All vibrators shall be supplemented by proper wooden spade to prevent puddling adjacent to forms and to remove bubbles and honeycomb. This is essential for the top lifts of walls. All vibrators shall travel at least 10,000 rpm and be of adequate capacity. At least one vibrator shall be used for every 10 cu. yds. of concrete placed per hour. In addition, one spare vibrator in operating condition shall be on the site.
- K. Concrete slabs on the ground shall be well-tamped into place and foundation material shall be wet tamped, and rolled until thoroughly compacted prior to placing concrete.
- L. Concrete shall be deposited continuously in layers of such thickness that no concrete will be deposited on concrete which has hardened sufficiently to cause the formation

of seams and planes of weakness within the section. If a section cannot be placed continuously, construction joints may be located at points as provided for in the Drawings or as acceptable to the ENGINEER.

- M. Concrete Repair as noted in the plans shall include the filling of all voids behind the apparent failure of the existing concrete with a concrete mixture as noted in these specifications.

3.08 CURING AND PROTECTION

- A. Protect all concrete work against injury from the elements and defacements of any nature during construction operations.
- B. Concrete placed at air temperature below 40° F shall have a minimum temperature of 60° F. When the air temperature is below 40° F or near 40° F and falling, the water and aggregates shall be heated before mixing. Accelerating chemicals shall be so protected that the temperature at the surface will not fall below 50° F for at least 7 days after placing. The CONTRACTOR shall submit for acceptance by the ENGINEER the methods he proposes to use against low temperatures. No salt, manure, or other chemicals shall be used for protection.
- C. All concrete, particularly exposed surfaces, shall be treated immediately after concreting or cement finishing is completed to provide continuous moist curing above 50° F for at least 7 days, regardless of the ambient air temperature. Walls and vertical surfaces may be covered with continuously saturated burlap, or other approved means; horizontal surfaces, slabs, etc. in the liquid retaining structures shall be ponded to a depth of 1/2-inch or kept continuously wet by use of sprinklers.
- D. In cold weather supplementary continuous warm curing (above 50° F) shall provide a total of 350-day degrees (i.e., 5 days 70° F, etc.) of heat.
- E. Wherever practicable, finished surface and slabs shall be protected from the direct rays of the sun to prevent checking and crazing.
- F. Concrete deposited in hot weather shall have a placing temperature which will not cause a difficulty from loss of slump, flash set or cold joints, and in any case the temperature of concrete being placed shall not exceed 90° F. If necessary the ENGINEER may direct the CONTRACTOR to immediately cover plastic concrete with polyethylene sheeting to prevent rapid loss of moisture due to excessive ambient temperature and/or low humidity. This work will be part of the Contract price and not an extra.

3.09 REMOVAL OF FORMS

- A. Except as otherwise specifically authorized by the ENGINEER, forms shall not be removed before the concrete has attained a strength of at least 30 percent of the

ultimate strength prescribed by the design, and not before reaching the following number of day-degrees (whichever is the longer):

Beams and slabs	500
Walls and vertical surfaces	100

*Day-degree: Total number of days times average daily air temperature at surface of concrete. For example, 5 days at a daily weighted average temperature of 60° F equal 300 day-degrees. Temperatures below 50° F not to be included.

- B. Shores shall not be removed until the concrete has attained at least 60% of the specified strength and also sufficient strength to support safely its own weight and the construction live loads upon it.

3.10 FAILURE TO MEET REQUIREMENTS

- A. Should the strengths shown by the test specimens made and tested in accordance with the above provisions fall below the values required, the ENGINEER shall have the right to require changes in proportions as outlined above to apply on the remainder of the work. Furthermore, the ENGINEER shall have the right to require additional curing on those portions of the structure represented by the test specimens which failed, the cost of such additional curing to be at the CONTRACTOR's expense. In the event that such additional curing does not give the strength required, as evidenced by core and/or load tests, the ENGINEER shall have the right to require strengthening or replacement of those portions of the structure which fail to develop the required strength. The cost of all such core borings and/or load tests and any strengthening or concrete replacement required because strengths of test specimens are below that specified, shall be entirely at the expense of the CONTRACTOR. In such cases of failure to meet strength requirements the CONTRACTOR and ENGINEER shall confer to determine what adjustment, if any, can be made in conformity with Sections 15 and 17 of ASTM Specification C94 for Ready-mixed Concrete.
- B. When the tests on control specimens of concrete fall below the required strength, the ENGINEER will permit check tests for strengths to be made by means of typical cores drilled from the structure in accordance with ASTM Methods C42 and C39. In case of failure of the latter, the ENGINEER, in addition to other recourses, may require, at the CONTRACTOR's expense, load tests on any one of the slabs, beams, foundations, walls, and columns in which such concrete was used. Test need not be made until concrete has aged 60 days.
- C. Slabs or beams, under load test, shall be loaded with their own weights plus a superimposed load of 2 times design live load. The load shall be applied uniformly over portion being tested in acceptable manner, and left in position for 24 hours. The structure shall be considered satisfactory if deflection "D" in feet, at end of 24-hour period does not exceed value:

D equals $0.001 (L \times L)/t$, in which "L" is span in feet, "t" is depth of slab or beam in inches.

- D. If deflection exceeds "D" in the above formula, the concrete shall be considered faulty unless within 24 hours after removal of the load, slab or beam under test recovers at least 75% of observed deflection.
- E. Should the strength of test cylinders fall below 60% of the required minimum 28 day strength, the concrete shall be rejected and shall be removed and replaced.

3.11 PATCHING AND REPAIRS

- A. It is the intent of these Specification to require forms, mixture of concrete and workmanship so that concrete surfaces, when exposed, will require no patching.
- B. As soon as the forms have been stripped and the concrete surfaces exposed, fins and other projections shall be removed, recesses left by the removal of form ties shall be filled, and surface defects which do not impair structural strength shall be repaired. Clean all exposed concrete surfaces and adjoining work stained by leakage of concrete, to approval of the ENGINEER.
- C. Immediately after removal of forms remove plugs and break off metal ties as required by Paragraph 3.06. Holes are then to be promptly filled upon stripping as follows: moisten the hole with water, followed by a 1/16-inch brush coat of neat cement slurry mixed to the consistency of a heavy paste. Immediately plug the hole with a 1-1.5 mixture of cement and concrete sand mixed slightly damp to the touch (just short of "balling"). Hammer the grout into the hole until dense, and an excess of paste appears on the surface in the form of a spiderweb. Trowel smooth with heavy pressure. Avoid burnishing.
- D. When patching or repairing exposed surfaces the same source of cement and sand as used in the parent concrete shall be employed. Adjust color if necessary by addition of proper amounts of white cement. Rub lightly with a fine carborundum stone at an age of 1 to 5 days if necessary to bring the surface down with the parent concrete. Exercise care to avoid damaging or staining the virgin skin of the surrounding parent concrete. Wash thoroughly to remove all rubbed matter.
- E. Defective concrete and honeycombed areas as determined by the ENGINEER shall be chipped down reasonably square and at least 1-inch deep to sound concrete by means of hand chisels or pneumatic chipping hammers. Irregular voids or surface stones need not be removed if they are sound, free of laitance, and firmly imbedded in the parent concrete, subject to ENGINEER's final inspection. If honeycomb exists around reinforcement, chip to provide a clear space at least 3/8-inch wide all around the steel. For areas less than 1-1/2-inch deep, the patch may be made in the same manner as described above for filling form tie holes, care being exercised to use adequately dry (non-trowelable) mixtures and to avoid sagging. Thicker repairs will

require build-up in successive 1-1/2- inch layers on successive days, each layer being applied (with slurry, etc.) as described above. To aid strength and bonding of the multiple layer repairs, the ENGINEER may order the use of non-shrink, non-metallic grout.

Additives for non-shrink grout shall be as recommended by the manufacturer but shall conform to the Corps of ENGINEERs Specification for Non-Shrink Grout, CRO-C621-82B. The grout shall consist of the following minimum cement/sand proportions:

Material	Volumes	Weights
Cement	1.0	1.0
Sand	1.5	1.5

- F. For very heavy (generally formed) patches, the ENGINEER may order the addition of pea gravel to the mixture and the proportions modified as follows: (Non-shrink additives by manufacturer)

Material	Volumes	Weights
Cement	1.0	1.0
Sand	1.0	1.0
Pea Gravel	1.5	1.5

3.12 MODIFICATION AND REPAIR TO EXISTING CONCRETE

- A. Cut, repair, reuse, demolish, excavate or otherwise modify parts of the existing structures or appurtenances, as indicated on the Contract Drawings, specified, or necessary to permit completion of the work. Finishes, joints, reinforcements, sealants, etc. are specified under respective sections of Specification. All work shall conform with other requirements of this Section and details shown on the Drawings or within this section.
- B. Mix proportions of materials used in the modifications and repair to existing concrete as indicated on the drawings shall be:
1. When new material other than non-shrink grout is shown to be connected to existing concrete, use the following cement mixtures depending on the depths called for on the drawings:
 - a. Less than 2" in depth

<u>Material</u>	<u>Volume</u>
Cement	1.0
Sand	2.0
Water = 5 gals/100 lbs cement	

- b. From 2" to 12" in depth

<u>Material</u>	<u>Volume</u>
Cement	1.0
Pea Gravel	2.5
Sand	2.0
Water = 5 gals/100 lbs cement	

- c. Greater than 12 " in depth

Material
Concrete as specified under 2.01-MATERIALS in this section

2. Non-Shrink Grout - As specified under 3.11 "Patching and Repairs (E) or (F) in this section.

3. Epoxy Bonding Agent

- a. Epoxy bonding agent shall be used on all repairs and shall be a two component epoxy adhesive specifically formulated for bonding old concrete to new (plastic) cement. Component A shall be an epoxy resin and Component B shall be an epoxy hardener. The epoxy bonding agent shall be "Sikastix 370, Sikadur Hi-Mod", by Sika Corporation, Lyndhurst NJ; "Pro bond 821 or 822" by Protex Industries, Denver, CO; "Concresive 1170" by Adhesive Engineering company, San Carlos, CA; or approved equal.

- b. The mixing ratio shall be as recommended by the manufacturer for the ambient temperature when placed. Furnish manufacturer's specific instruction for specific job application and obtain ENGINEER's review prior to purchase.

- c. Epoxy bonding agent shall conform to ASTM C-881 and corresponding tests for bond strength and shrinkage as specified in ASTM C-882, C- 883, and C-884.

- d. The properties of the cured material shall meet the following.

Compressive Strength (ASTM D-695) 48 hour - 1,000 psi
28 day - 8,500 psi

Tensile Strength (ASTM D-638) 14 day -4,000 psi

Bond Strength (ASTM C-882 or C-884) - 1,500 psi

- e. Approval requirements: The CONTRACTOR must furnish notarized certification that the material proposed for use meets all of the above requirements and that the material has been previously used successfully for the purpose described.

C. Demolition of Existing Concrete

1. Concrete shown to be removed on the Plans shall be done by line drilling or saw cutting at limits on concrete to be removed, followed by jack-hammering in areas where concrete is to be taken out. The CONTRACTOR shall be responsible for removing concrete in such a manner that surrounding concrete or existing reinforcing to be left in place, and existing in-place equipment, is not damaged. Sawcutting at limits of concrete to be removed shall be done if indicated on the Drawings, or otherwise approved by the ENGINEER. The CONTRACTOR shall be responsible for the means and methods used, and for temporary support where needed.
2. If rebar is cut, new Rebar shall be installed with epoxy $\frac{3}{4}$ " from the existing cutoff reinforcement.

D. Demolition of Existing Stone

1. The existing limestone wingwalls and spandrel walls of Structures 3 to be removed on the Plans shall be done by hand tool.

E. Connection to Existing Concrete

1. Roughen surface of existing concrete to be connected to new materials by sand-blasting, chipping, or scarifying. Thoroughly clean area of concrete, to receive new materials, of loose particles and dust or other contamination objects.
2. Existing reinforcing as shown on the Drawings to be left in place shall be wire brushed to remove rust or concrete on the bar. The existing reinforcing shall be cut, if lapped rebar limits are reached and tied to new rebar. New rebar shall be provided with a minimum of one inch of cover all around and at ends of the bar. The reinforcing shall be thoroughly cleaned of loose- particles and dust before incorporating in new materials.
3. New steel shall be added with existing at 12" max c-c all ways unless otherwise noted on the plans. See Section 3200 for additional information. If not shown on the plans the minimum size of the rebar shall be No. 5.

F. Connection Methods

1. Method A: After existing concrete surface has been roughened and cleaned as

specified above, apply epoxy bonding agent at connection surface. The field preparation and application of the epoxy bonding agent shall conform strictly with the manufacturer's recommendations. Immediately pour new cement mixture or non-shrink grout as detailed on the drawings.

2. Method B: Drill holes for dowels to the diameter recommended by the epoxy bonding agent manufacturer. The drilled hole shall first be filled with epoxy bonding agent, then dowels shall be inserted by tapping. These holes shall be blown clear of loose particles and dust prior to installing epoxy bonding agent. Where shown on the Drawings, expansion bolts shall be installed in place of bonded dowels. Pour new cement mixture as detailed on the drawings.
3. Where existing reinforcing is exposed due to saw cutting and existing concrete is removed, a coating or surface treatment of epoxy protectorant shall be applied to the entire cut surface. The protectorant shall be Sikagard 62 by Sika Corporation, Duralprep A.C. by Euclid Chemical, or an approved equal. The epoxy protectorant shall be formulated for the intended application, and applied according to manufacturer's recommendations.

3.13 INSTALLATION SCHEDULE

- A. Concrete shall have minimum compressive strength at 28 days of 4,000 psi.
- B. Concrete fill and duct encasement- shall have a minimum compressive strength at 28 days of 2,500 psi.

3.14 FIELD CONTROL

- A. The CONTRACTOR shall advise the ENGINEER of his readiness to proceed at least 24 hours prior to each concrete placement. The ENGINEER will inspect the preparations for concreting including the preparation of previously placed concrete, the reinforcing and the alignment and tightness of formwork. No placement shall be made without the inspection and acceptance of the ENGINEER.
- B. The ENGINEER may have cores taken from any questionable area in the concrete work such as construction joints and other locations as required for determination of concrete quality. The results of tests on such cores shall be the basis for acceptance, rejection or determining the continuation of concrete work.
- C. The CONTRACTOR shall cooperate in the obtaining of cores by allowing free access to the work and permitting the use of ladders, scaffolding and such incidental equipment as may be required. The CONTRACTOR shall repair all core holes to the satisfaction of the ENGINEER. The work of cutting and testing the cores will be at the expense of the CONTRACTOR.

-END OF SECTION-

SECTION 03335 CONCRETE FINISHING

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to finish cast- in-place concrete surfaces as specified herein.

1.02 RELATED WORK

- A. Section 03300 Cast In Place Concrete

1.03 SCHEDULE OF FINISHES

- A. Concrete for the project shall be finished in the various specified manners either to remain as natural concrete or to receive an additional applied finish or material under another section.
- B. The base concrete for the following conditions shall be finished as noted and as further specified herein:
 - 1. Exterior concrete excluding slabs and walking surfaces, and exposed interior concrete; Rubbed Finish.
 - 2. Concrete where not exposed in the finished work and not scheduled to receive an additional applied finish or material; off-form finish.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Not used.

PART 3 - EXECUTION

3.01 FORMED SURFACES

- A. Forms shall not be stripped before the concrete has attained a strength as specified in Section 03300.

- B. Care shall be exercised to prevent damaging edges or obliterating the lines of chamfers, rustications or corners when removing the forms or doing any other work adjacent thereto.
- C. Clean all exposed concrete surfaces and adjoining work stained by leakage of concrete, to the satisfaction of the ENGINEER.
- D. Concrete not exposed or to be buried in the finished work shall have off-form finish with fins and other projections removed and tie cones and defects filled as specified under Section 03300. This shall include all headwall faces that are to receive a stone veneer. However, the faces of such stone veneer headwall backers shall receive surface finish bonding agent at the time that mortar is added for the stone veneer.
- E. Rubbed Finish (to be used on all exposed headwall and wingwall faces and culvert interior surfaces);
 - 1. Immediately upon stripping forms and before concrete has changed in color, all fins shall be carefully removed with a hammer. While the wall is still damp apply a thin coat of medium consistency neat cement slurry by means of bristle brushes to provide a bonding coat within all pits, air holes or blemishes in the parent concrete; avoid coating large areas of the finished surface with this slurry.
 - 2. Before the slurry has dried or changed color, apply a dry (almost crumbly) grout consisting of one volume cement to 1-1/2 volumes of clean masonry sand having a fineness modulus of approximately 2.25 and complying with the gradation requirements of the ASTM for such a material. Grout shall be uniformly applied by means of damp (neither dripping wet nor dry) pads of coarse burlap approximately 6-in. square used as a float. Grout shall be well scrubbed into the pits and air holes to provide a dense mortar in the imperfections to be patched.
 - 3. Allow the mortar to partially harden for one or two hours depending upon the weather. If the air is hot and dry, keep the wall damp during this period using a fine, fog spray. When the grout has hardened sufficiently so it can be scraped from the surface with the perpendicular edge of a steel trowel without damaging the grout in the small pits or holes, cut off all that can be removed with a trowel. Grout allowed to remain on the wall too long will get too hard and will be difficult to remove.
 - 4. Allow the surface to dry thoroughly and rub it vigorously with clean dry burlap to completely remove any dried grout. No visible film of grout should remain after this rubbing. The entire cleaning operation for any area must be completed the day it is started. Do not leave grout on surfaces overnight. Allow sufficient time for grout to dry after it has been cut with the trowel so it can be wiped off clean with the burlap.

5. On the day following the repair of pits, air holes and blemishes, the walls again shall be wiped off clean with dry, used pieces of burlap containing old hardened mortar which will act as a mild abrasive. After this treatment, there shall be no built-up film remaining on the parent surface. If, however, such is present a fine abrasive stone shall be used to remove all such material without breaking through the surface film of the original concrete. Such scrubbing shall be light and sufficient only to remove excess material without working up a lather or mortar or change the texture of the concrete.

6. A thorough wash-down with stiff bristle brushes shall follow the final bagging or stoning operation in order that no extraneous materials remain on the surface of the wall. The wall shall be sprayed with a fine fog spray periodically to maintain a continually damp condition for at least 3 days after the application of the repair grout.

3.02 FLOORS AND SLABS

- A. Not used

3.03 APPROVAL OF FINISHES

- A. All concrete surfaces, when finished, will be inspected by the ENGINEER.

- B. Surfaces which, in the opinion of the ENGINEER, are unsatisfactory shall be refinished or reworked until accepted by the ENGINEER.

-END OF SECTION-

SECTION 03340 PRECAST STRUCTURAL CONCRETE

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to install precast reinforced concrete box structure and such parts of similar structures composed of concrete in accordance with these specifications.

1.02 RELATED WORK

- A. Section 03300 Cast In Place Concrete

PART 2 - PRODUCTS

2.01 BOX STRUCTURE

- A. All box structures shall be designed and fabricated in accordance INDOT Standard Specification 714.

2.02 HEADWALLS, WINGWALLS, AND FOOTINGS

- A. Headwalls, wingwalls, and footings may be precast or cast-in-place. Headwalls and wingwalls shall be in accordance with INDOT Standard Specification 714.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Unless otherwise specified, the applicable requirements of INDOT Standard Specification 702, 703 and 714 shall apply for the construction of box structures and concrete parts of similar structures.
- B. Excavation and disposal shall be in accordance with the applicable requirements of INDOT Standard Specification 206.
- C. All underground drains encountered during excavation for the structure shall be perpetuated as dictated by field conditions. Drainage openings through masonry shall be in accordance with INDOT Standard Specification 702.16.
- D. Handling of box structures shall be in accordance with INDOT Standard

Specification 907.05. Handling of wingwalls shall be in accordance with INDOT Standard Specification 907.06.

- E. The box structure, headwalls, wingwalls, and footings shall be designed and constructed in accordance with the dimensions shown on the contract plans.
- F. Construction joints shall not be used within the cross-section of precast box structures.

-END OF SECTION-

DIVISION 4
MASONRY

SECTION 04413
STONE MASONRY VENEER

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Photograph Culvert #3 faces prior to demolition.
- B. Restoration and salvage of the existing stones during the demolition at Culvert #3.
- C. Cleaning of existing stones and store on-site.
- D. Re-install existing stones to proposed precast wingwalls, spandrel walls, and headwalls faces of Culvert #3 with adhesive and grout joints.

1.02 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Division I.
- B. Storage of stones during the construction of Culvert #3 shall be on-site to be determined by the CONTRACTOR and approved by the OWNER. The CONTRACTOR shall store salvaged brick on site on wood pallets.

PART 2 - PRODUCTS

2.01 GROUT

- A. The CONTRACTOR shall not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated. The CONTRACTOR shall not use calcium chloride in mortar or grout.
- B. Grout for Unit Masonry shall be in compliance with ASTM C476. The CONTRACTOR shall use grout of type indicated or, if not otherwise indicated, of type, fine or coarse, that will comply with TMS 602 for dimensions of grout spaces and pour height. Proportion grout in accordance with ASTM C476, Table 1. Provide grout with a slump of 8 to 11 in. as measured in accordance with ASTM C143/C143M.

2.02 MASONRY CLEANERS

- A. Acidic Cleaner shall be manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. The CONTRACTOR shall use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the work include, but are not limited to, the following:
1. Diedrich Technologies, Inc.; a division of Sandell Construction Solutions
 2. EaCo Chem, Inc.
 3. PROSOCO, Inc.

PART 3 - EXECUTION

3.01 DEMOLITION

- A. Existing wingwalls, spandrel walls or parapets of Culvert #3:
1. Prior to attempting adjacent excavation or removal and the possible removal of limestone, the CONTRACTOR shall photographically document the existing condition of the stone wall and present a copy to the OWNER and the ENGINEER.
 2. The CONTRACTOR shall carefully remove the limestone using methods and hand tool equipment which minimizes damage to the material. If power tools, such as grinders, will be used to remove the stones, the CONTRACTOR shall demonstrate the ability to use the tools without damaging the masonry as a test panel before starting work on the entire structure.
 3. The CONTRACTOR shall remove mortar from all bonding surfaces that will be salvaged so that fresh mortar can develop normal bond strengths.

3.02 CLEANING

- A. Cold-Weather Cleaning: The CONTRACTOR shall use liquid cleaning methods only when air temperature is 40°F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.
- B. Hot-Weather Requirements: The CONTRACTOR shall comply with hot-weather construction requirements contained in TMS 602.
- C. Masonry cleaning must follow the guidance provided in Preservation Brief #1, which is published by the National Park Service and available at <https://www.nps.gov/orgs/1739/preservation-briefs.htm>.

3.03 RESETTING

- A. The CONTRACTOR shall reset the existing limestone in such a manner that the visual appearance of the reset face shall match that of the original existing wall. If grout,

adhesive, or other anchoring material is found to be necessary on culvert faces that did not previously have such material, it shall be applied in a manner that does not damage the original material and is not visible.

- B. The CONTRACTOR shall reconstruct masonry to match original configuration, as specified on the plan.
- C. The CONTRACTOR shall clean any soiled fracture surfaces with specified cleaning materials to ensure adequate bond of the epoxy.
- D. The CONTRACTOR shall construct temporary formwork and shores as needed to support reinforced masonry elements during construction. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and that of other loads that may be placed on them during construction.
- E. The CONTRACTOR shall not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
- F. The CONTRACTOR shall comply with requirements in TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height. Limit height of vertical grout pours to not more than 60 in.
- G. The CONTRACTOR shall clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

3.04 FINAL CLEANING

- A. After mortar is thoroughly set and cured, the CONTRACTOR shall clean exposed masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain ENGINEER's approval of sample cleaning before proceeding with cleaning of masonry.
 - 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
 - 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.

5. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.

3.05 MASONRY WASTE DISPOSAL

- A. Excess limestone which is not needed for column restoration shall be offered to the owner. The CONTRACTOR shall contact the OWNER to verify and arrange for delivery. If the OWNER elects to receive the material, it shall be placed on the property at a location designated by the OWNER.
- B. Excess masonry materials not received by the OWNER shall be removed from the project site. The CONTRACTOR shall remove excess clean masonry waste and other masonry waste, and legally dispose of off OWNER's property.

3.06 APPROVAL OF FINISHES

- A. All concrete surfaces, when finished, will be inspected by the ENGINEER.
- B. Surfaces which, in the opinion of the ENGINEER, are unsatisfactory shall be refinished or reworked until accepted by the ENGINEER.

-END OF SECTION-

DIVISION 5
METALS

SECTION 05120
STRUCTURAL STEEL

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to install structural pipe arch structure for Culvert #3 in accordance with these Specifications.

1.02 RELATED WORK

- A. Not Used

PART 2 - PRODUCTS

2.01 STRUCTURAL PIPE ARCH

- A. The structural pipe arch shall be designed and fabricated in accordance with INDOT Standard Specification 717.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Unless otherwise specified, the applicable requirements of INDOT Standard Specification 717 shall apply for the construction of structural plate pipe and pipe arches.

-END OF SECTION-

DIVISION 6
WOOD, PLASTIC AND COMPOSITES

SECTION 06600
PLASTIC FABRICATIONS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to install a HDPE circular liner pipe for Culvert #4 in accordance with the plans and these Specifications.

1.02 RELATED WORK

- A. Not Used

PART 2 - PRODUCTS

2.01 LINER PIPE

- A. The HDPE Liner Pipe shall be designed and fabricated in accordance with INDOT Standard Specification 725.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Unless otherwise specified, the applicable requirements of INDOT Standard Specification 725 shall apply for the construction of the HDPE liner pipe at Culvert #4.

-END OF SECTION-

DIVISION 32
SITE IMPROVEMENTS

SECTION 32912 TURF AND GRASSES

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Final grading of topsoil for finish landscaping.

1.02 RELATED SECTIONS

- A. Section 02160 - EARTHWORK Section 02936 - SEEDING

PART 2 - PRODUCTS

- A. Topsoil: Excavated Material free of rocks, roots larger than 1/2-inch, subsoil, debris and large weeds.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that trench backfilling has been inspected.
- B. Verify substrate base has been contoured and compacted.

3.02 SUBSTRATE PREPARATION

- A. Eliminate uneven areas and low spots.
- B. Remove debris, roots, branches, stones, in excess of 1/2-inch in size. Remove subsoil.
- C. Scarify subgrade to depth of 3-inches where topsoil is scheduled. Scarify in areas where equipment is used for hauling and spreading topsoil and has compacted subsoil.

3.03 PLACING TOPSOIL

- A. Place topsoil in areas where seeding, planting are to occur to the thickness as scheduled. Place topsoil during dry weather.

- B. Fine grade topsoil eliminating rough or low areas. Maintain profile and contour of subgrade.
- C. Remove roots, weeds, rocks and foreign material while spreading.
- D. Manually spread topsoil close to trees, plants and building to prevent damage.
- E. Lightly compact placed topsoil.
- F. Remove surplus subsoil and topsoil from site.
- G. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.04 TOLERANCES

- A. Top of topsoil; Plus or minus 1/2-inch.

3.05 PROTECTION

- A. Protect landscaping and other features remaining as final work.
- B. Protect utilities and paving.

3.06 SCHEDULES

- A. Compacted topsoil thickness at the following areas:
 - 1. Seeded Grass: 3-inches.
 - 2. Sod: 2-inches.

-END OF SECTION -

SECTION 32920 SEEDING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Seeding, mulching.
- B. Maintenance.

1.02 RELATED SECTIONS

- A. Section 02160 - EARTHWORK
- B. Section 03291 - LANDSCAPE GRADING

1.03 DEFINITIONS

- A. Weeds: Includes Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimmer Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.04 MAINTENANCE DATA

- A. Includes maintenance instructions, cutting method and maximum grass height.

1.05 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

1.06 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for herbicide composition.
- B. Provide certificate of compliance from authority having jurisdiction indicating approval of seed mixture.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Division I.
- B. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

- C. Deliver fertilizers in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.08 MAINTENANCE SERVICE

- A. Maintain seeded areas immediately after placement until grass is well established and exhibits a vigorous growing condition for two cuttings.

PART 2 - PRODUCTS

2.01 SEED MIXTURES

- A. Permanent Seed Mixture: INDOT mixes Type U as specified in the plans, coordinate final seed mix with DNR Parks for compliance.
- B. Temporary Seed Mixture: (Refer to Erosion & Sediment Control Specifications)

2.02 ACCESSORIES

- A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are not acceptable.
- B. Water: Clean, fresh and free of substance of water or matter which could inhibit vigorous growth of grass.
- C. Erosion Fabric: Jute matting, open weave. Curlex Type 1 with Fibernet or equal.
- D. Stakes: Softwood lumber, chisel pointed. String: Biodegradable.
- E. Fertilizer: 12-12-12 Commercial Mixture.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Lawn:
 - 1. Till soil thoroughly to a minimum depth of 2".
 - 2. Apply fertilizer to soil at a rate of 20 pounds per 1000 square feet immediately prior to seeding.
 - 3. Rake or lightly till fertilizer into soil.
 - 4. When topsoil is exceedingly dry, moisten to a depth of 4", 48 to 72 hours prior to start of seeding.

5. Perform watering to prevent run off.

3.02 SEEDING:

- A. Sow seed uniformly over entire area in 2 operations at rate of 3 lbs. per 1000 sq. ft.
- B. Apply second seeding at right angles over the first.
- C. Seeding operation may be by broadcast method or drill equipment. Lightly cover seed by hand raking or dragging lawn areas to depth of 1/4".
- D. Smooth and firm seeded areas with a 200# roller and water with a fine spray.
- E. Cover all sloped areas (greater than 3 to 1 slopes) and other areas where erosion may occur with burlap erosion mat. Anchor securely in place.
- F. Mulch all seeded areas at a minimum rate of 1 Ton/acre. Mulch shall be held in place as CONTRACTOR will be responsible for replacing mulch which has blown away prior to adequate seeding germination. Mulch shall be held in place by one of the following methods. Means and methods must be coordinated with DNR Parks before installation.
 1. Tilling or punching mulch into the soil.
 2. Commercially produced mulch binder.
 3. Commercially produced biodegradable (and net free) in place with wire staples.

3.03 LAWN ESTABLISHMENT

- A. CONTRACTOR shall provide the following:
 1. Provide daily maintenance until lawn is well established.
 2. Provide necessary lawn care including fertilizing, weed eradication, watering, mowing, removal of excess clippings and replacement of unsuitable sod.
 3. Seeded Lawns: extend until uniform stand of grass established over entire area.

-END OF SECTION-



DIVISION 33
UTILITIES

SECTION 33822 FIBER COMMUNICATIONS

PART 1 - GENERAL

1.01 WORK INCLUDED

This work shall consist of providing and installing an outdoor-rated, single-mode, armored, fiber optic cable of the number of fibers specified, in accordance with 105.03 and as shown on the plans at Culverts #2 and #3 or as directed by the Engineer.

PART 2 - PRODUCTS

2.01 CONDUIT

- A. The properties and dimensions shall be in accordance with ASTM F 2160 standard specification for "Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD)".

2.02 FIBER

- A. The fiber optic cable shall match the existing and consist of a 48 strand singlemode fully waterblocked loose tube, all dielectric gel free design, 250u micron, 10.5 mm outer diameter, and suitable for Gigabit Ethernet and 10 Gigabit Ethernet. The cable shall be flame-retardant with no grounding or bonding required.
- B. The cable shall be new, unused, and of current design and manufacture.
- C. The cable shall withstand a minimum-bending radius of 15 times its outer diameter during operation and 10 times its outer diameter during installation without changing the characteristics of the optical fibers.
- D. Environmental Requirements:
 1. The cable shall meet all the specified environmental requirements under the following conditions:
 - a. Shipping/storage temperature: -40°F to +158°F
 - b. Installation temperature: -30°F to +158°F
 - c. Operating temperature: -40°F to +158°F
 - d. Relative humidity from 0% to 95%, non-condensing.

2.03 VAULT:

- A. The vault shall match the existing and consist of CHANNELL, part #EN124-B125, TIER 22, grade level box or equivalent as shown on the plans.

PART 3 - EXECUTION

3.01 EXCAVATION

- A. Vacuum excavate direct buried cable as shown on the plans.
- B. Trench new conduit to a minimum depth of 36 in.

3.02 INSTALLATION

A. Experience Requirements:

1. CONTRACTOR personnel involved in the installation, splicing, and testing of the fiber optic cables shall meet the following requirements:
 - a. Shall have installed two systems where fiber optic cables are outdoors in conduit and where the systems have been in continuous satisfactory operation for at least two years. The Contractor shall submit as proof, photographs or other supporting documents, and the names, addresses, and telephone numbers of the operating personnel who can be contacted regarding the installed fiber optic systems.
 - b. A minimum of two years of experience in the installation of fiber optic cables, including fusion splicing, terminating, and testing single mode fibers.
 - c. Installers shall be familiar with the cable manufacturer's recommended procedures for installing the cable. This shall include knowledge of splicing procedures for the fusion splicer being used on this project and knowledge of all hardware such as breakout, furcation, kits and splice closures. The Contractor shall submit documented procedures to the Engineer for approval and to be used by Construction inspectors.
 - d. Personnel involved in testing shall have been trained by the manufacturer of the fiber optic cable test equipment to be used in fiber optic cable testing procedures. Proof of this training shall be submitted to the Engineer for approval. In addition, the Contractor shall submit documentation of the testing procedures for approval by the Engineer.

B. Installation in Conduit:

1. The Contractor shall provide a cable-pulling plan, identifying where the cable will enter the underground system and the direction of pull. This plan shall address locations where the cable is pulled out of a handhole, coiled in a figure eight, and pulled back into the handhole. The plan shall address the physical protection of the

cable during installation and during periods of downtime. The cable-pulling plan shall be provided to the Engineer for approval a minimum of 10 working days prior to the start of installation.

2. Fifty feet of slack fiber shall be installed at all locations where splices are being made, 50 ft on each side of the splice enclosure and tie-wrapped and coiled in the splice enclosure.
3. The pulling tension shall be continuously measured and shall not be allowed to exceed the maximum tension specified by the manufacturer of the cable.

C. SPLICING:

1. Splices shall be made at locations shown on the plans. Any other splices will be allowed only with the written approval of the Engineer.

3.03 TESTING

- A. A CONTRACTOR Certified Technician utilizing an Optical Time Domain Reflectometer and Optical Source/Power Meter shall conduct the installation test.
- B. The CONTRACTOR Technician shall conduct the test using the standard operating procedures defined by the manufacturer of the test equipment. All fibers installed shall be tested in both directions.

-END OF SECTION-

Culvert Replacement / Repair
Ouabache State Park
Wells County

ENG#2403734214

August 2025

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101 West Ohio Street
Suite 810
Indianapolis, IN 46204
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**INDOT Standard Specifications Dated 2025
and all amendments thereto
are hereby made a part of the plans**



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DIVISION 1
PROCUREMENT AND CONTRACTING REQUIREMENTS

SECTION 01010 SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. This project consists of for the replacement or repairs to four culverts within Ouabache State Park, Wells County, Indiana. The project generally includes but is not limited to the following:
1. Temporary Park Access:
 - a. Excavate to grade for temporary park access. Provide excavation or fill as needed to meet subgrade elevations as required.
 - b. Install geotextile and aggregate in areas for pavement for temporary park access. Compact and roll aggregate subgrade prior to HMA paving.
 - c. Place base over aggregate temporary park access (Alternate).
 - d. Prep tie in and new base for surface paving temporary park access (Alternate).
 - e. Place surface and resurface paving temporary park access (Alternate).
 - f. Grade earthen shoulders or place existing aggregate to within 1 vertical inch of edge of pavement. Add fill or take excess spoil material to permitted spoil site. Stabilize disturbed areas with mulched seeding (shall be net free).
 - g. Install detour signage as per plan and cover until access road is open.
 2. Culvert #1:
 - a. Culverts #1 and #2 may not be installed concurrently.
 - b. Submit shop drawings to DESIGNER of Record for review and approval.
 - c. Install barricades and traffic signage, erosion control measures, locate utilities (pothole utilities as necessary), etc.
 - d. Remove Culvert and dispose material to permitted site.
 - e. Prepare structural foundation for Culvert #1. Install Culvert. Place structural backfill and borrow as needed per plan.
 - f. Install geotextile and aggregate in areas for pavement over Culvert. Compact and roll aggregate subgrade prior to HMA paving.
 - g. Place base and intermediate over Culvert.
 - h. Prep tie in and new base for surface paving.
 - i. Place surface and resurface paving over Culvert.

- j. Install scour protection.
 - k. Grade earthen shoulders or place existing aggregate to within 1 vertical inch of edge of pavement. Add fill or take excess spoil material to permitted spoil site. Stabilize disturbed areas with mulched seeding (shall be net free).
 - l. Clean up, restore site, and removal of erosion control measures.
3. Culvert #2:
- a. Culverts #1 and #2 may not be installed concurrently.
 - b. Submit shop drawings to DESIGNER of Record for review and approval.
 - c. Install barricades and traffic signage, erosion control measures, locate utilities (pothole utilities as necessary), etc.
 - d. Cut and remove existing fiber optic line as per plans.
 - e. Install vaults and conduit as per plans. Install fiber optic cable and splice to existing cable at each end. Test for functionality.
 - f. Cover with excavated material to rough finish grade.
 - g. Remove Culvert and dispose material to permitted site.
 - h. Prepare structural foundation for Culvert #2. Install Culvert. Place structural backfill and borrow as needed per plan.
 - i. Install geotextile and aggregate in areas for pavement over Culvert. Compact and roll aggregate subgrade prior to HMA paving.
 - j. Place base and intermediate over Culvert.
 - k. Prep tie in and new base for surface paving.
 - l. Place surface and resurface paving over Culvert.
 - m. Install scour protection.
 - n. Grade earthen shoulders or place existing aggregate to within 1 vertical inch of edge of pavement. Add fill or take excess spoil material to permitted spoil site. Stabilize disturbed areas with mulched seeding.
 - o. Clean up, restore site, and removal of erosion control measures.
4. Culvert #3:
- a. Install barricades and traffic signage, erosion control measures, locate utilities (pothole utilities as necessary), etc.
 - b. Cut and remove existing fiber optic cable as per plans.
 - c. Install vaults and conduit as per plans. Install fiber optic cable and splice to existing cable at each end. Test for functionality. Cover with excavated material to rough finish grade.

- d. Remove parapet, wingwall and spandrel wall stones with hand tools. If power tools, such as grinders, will be used to remove the stones, the CONTRACTOR shall demonstrate the ability to use the tools without damaging the masonry as a test panel before starting work on the entire structure.
 - e. Remove and clean old grout and set aside on site. Masonry cleaning must follow the guidance provided in Preservation Brief #1, which is published by the National Park Service and available at <https://www.nps.gov/orgs/1739/preservation-briefs.htm>.
 - f. Remove partial Culvert as per plans and dispose material to permitted site.
 - g. Install partial structure. Place structural backfill and borrow as needed per plan.
 - h. Place base and intermediate over Culvert.
 - i. Prep tie in and new base for surface paving.
 - j. Install geotextile and aggregate in areas for pavement over Culvert. Compact and roll aggregate subgrade prior to HMA paving.
 - k. Place surface and resurface paving over Culvert.
 - l. Adhere stones to concrete with grout or adhesive to headwall and wingwall faces.
 - m. Install scour protection.
 - n. Grade earthen shoulders or place existing aggregate to within 1 vertical inch of edge of pavement. Add fill or take excess spoil material to permitted spoil site. Stabilize disturbed areas with mulched seeding (shall be net free).
 - o. Clean up, restore site, and removal of erosion control measures.
5. Culvert #4:
- a. Install barricades and traffic signage, erosion control measures, locate utilities, etc.
 - b. Clean inside of culvert.
 - c. Install liner as per plans.
 - d. Install scour protection.
 - e. Clean-up and restore site.
 - f. Remove all Maintenance of Traffic Items.
 - g. Perform all punch list items.
- B. The Contractor shall perform all work required to complete the project in accordance with the contract documents.
- C. The Contractor will provide a 1-year warranty on the work.

- D. Questions related to the bid documents shall be submitted to the Engineer and Project Manager via email no later than 10 days prior to the bid opening.

Engineer/Designer: Gary Mrocza, PE, gary.mrocza@aecom.com
DNR Project Manager: John Spears, PE PG, jspears@indr.in.gov

1.02 BID:

The Base Bid shall include all work and requirements indicated by the Bidding Documents.

The Contractor shall not be allowed extra compensation by reason of any matter or thing concerning which the Contractor could have fully informed himself prior to bidding. No verbal agreement, understanding or conversation with an agent or employee of the Owner, either before or after the execution of this contract, shall affect or modify the terms or obligations herein contained.

1.03 SITE ACCESS PRIOR TO BIDDING:

Bidders are encouraged to visit the construction site for on-site inspection prior to bidding.

Property Contact: Jon Winne, jwinne@dnr.in.gov, 260-824-0926

- A. This Project generally includes but is not limited to the construction of the following:
- B. CONTRACTOR shall be expected to commit all resources, equipment, manpower, and overtime needed to complete the project on time. No extra compensation will be made to the CONTRACTOR for schedule implications. Substantial completion for this project is defined as having all paving in place. Minor grading, seeding and restoration items, and any punch list items may be completed within the period following substantial completion.

1.04 USE OF CONTRACT DOCUMENTS:

- A. Contractor shall examine all Specifications and Drawings for the Work, including those that may pertain to Work Contractor does not normally perform with its own forces.
- B. Contractor shall use all the Project Drawings and Specifications:
1. For a complete understanding of the Project.
 2. To determine the type of construction and systems required.
 3. For coordination with other contractors.
 4. To determine what other work may be involved in various parts or phases.
 5. To anticipate and notify others when work by others will be required.
 6. And all other relevant matters related to the project.
- C. Contractor is also bound by all requirements of the Contract Documents which are

applicable to, pertain to, or affect its work, as may be shown or inferred by the entire set of Project Drawings and Specifications.

1.05 COMMENCEMENT AND COMPLETION OF WORK:

- A. The Contractor shall initiate the project within ten (10) days after the date of the execution of the Contract.
- B. Work shall not commence until all labor, materials and equipment are available so Work can continue without interruption or delay.
- C. This project, or portion thereof, will not be ready for substantial completion review until test and performance evaluations are completed, all items are installed, and area is clear of construction rubbish and debris.

1.06 BUILDER'S RISK INSURANCE:

- A. The Builders Risk insurance requirements as specified in the General Conditions (11.2.5) are waived for this project.

1.07 SUBMISSION OF POST-BID INFORMATION: Submit the following information within ten (10) days of receipt of Notice to Proceed.

- A. Designation of the work to be performed by the Contractor with his own forces.
- B. A list of Subcontractors.
- C. A list of manufacturers and suppliers.
- D. A Progress schedule for the work in relation to the entire Project. The Progress schedule shall be revised and updated at least monthly.
- E. A Schedule of Values. This schedule, when approved by the Owner shall be used as a basis for the Contractor's Applications for Progress and Final Payments.

1.08 MEASUREMENT AND PAYMENT - LUMP SUM:

Payment for Lump Sum projects will be based on the accepted schedule of values for the project. No separate measurement for payment will be performed for Lump Sum Work unless otherwise specified in the plans and specifications. All Work described in the Specifications and/or shown on the Drawings shall be included in the Lump Sum Bid.

Where INDOT specifications are referenced in these project specifications, they are referenced for material identification and for means of execution, installation and construction. The method of measurement and basis of payment listed in the INDOT specifications do not apply.

1.09 ALTERNATE BIDS:

- A. Alternate Bid No. 1 – Add HMA Intermediate and Surface to Temporary Park Access.
 - 1. The BASE BID includes placement of 8" Compacted Aggregate No. 53 on Geogrid Type IB as shown and detailed in the plans.
 - 2. The ALTERNATE NO. 1 includes the placement of 165 lbs/syd HMA Surface Type B on 275 lbs HMA Intermediate Type B on 6" Compacted Aggregate No. 53 on Geogrid Type IB as shown and detailed in the plans.
- B. Alternate Bid No. 2 – Remove Culvert (4 Pipe Lining)
 - 1. The BASE BID includes the construction of Culverts 1, 2, 3 and 4.
 - 2. The ALTERNATE NO. 2 includes the construction of Culverts 1, 2 and 3.

1.10 ANTICIPATED SCHEDULE / COMPLETION OF WORK:

- A. Work is anticipated to start by 12/1/2025.
- B. Tree Clearing may occur between 12/1/2025 to 3/31/2026.
- C. Construction activities which close the Main Park Entrance Road (Old State Route 201) at Culverts #1 or #2 may not start until after the Temporary Access Road is open to traffic.
- D. Culverts #1 and #2 shall be installed between 1/1/2026 and 4/1/2026.
- E. Work shall be substantially completed on Culverts #1 and #2 and the Park Entrance Road (Old State Route 201) open to traffic by 4/1/2026. Culverts #1 and #2 shall not be constructed concurrently.
- F. Project completion by 6/1/2026.
- G. All work required by the Contract Documents shall be completed within the timeframe specified in the Contract.

1.11 NOTIFICATIONS:

- A. Upon notice of bid award, the CONTRACTOR shall notify the DESIGNER to establish communications for the above project(s). The notification may be by mail or email to the DESIGNER's following mail or e-mail address:
 - 1. Gerard (Gary) Mrocza, P.E., AECOM
Phone: 317-479-6057

101 West Ohio Street, Suite 810, Indianapolis, IN 46204
Email: gary.mroczka@aecom.com

2. John Spears, PE, PG
Civil Engineering Section
Manager, IDNR
Phone: 317-232-4156 (O), 615-946-6320 (C)
Address: 402 W Washington Street, Indianapolis, IN 46204
Email: jspears@indot.in.gov
3. Jon Winne
Phone: 260-824-0926
Address: 4930 East State Road 201, Bluffton, IN 46714
Email: jwinne@dnr.in.gov

1.12 REMEDIATION ALLOWANCE: NOT USED

1.13 WORKING HOURS:

- A. Contractor shall perform all construction activity between sunrise and sunset and shall not be performed on Saturdays, Sundays, or during the period beginning at 12:00 noon on the last weekday (Monday through Friday) proceeding and continuing until Sunrise on the day following New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas, unless previous arrangements are made with the Owner.
- B. All work performed at other times shall be only by approval from the Owner, confirmed in writing, and shall not constitute a change in the contract amount.

1.14 PROGRESS MEETINGS:

Progress meetings will be held throughout progress of the Work at intervals agreed to by Owner, Designer, and Contractor.

1.15 EXISTING SITE CONDITIONS:

- A. Data on the drawings pertaining to present conditions, dimensions, type of construction, obstructions on or near site, location of utilities, etc. have been obtained from sources believed reliable, but accuracy of such data is not guaranteed and is furnished solely for accommodation of the Contractor.
- B. Before starting excavations, Contractor shall locate existing underground utilities in all areas of the work. Utilities may be privately and/or publicly owned.

1.16 CONSTRUCTION AND STORAGE AREA:

- A. The Contractor shall confine the construction operations and storage of materials within the project construction work limits.

- B. Except for permanent site improvements provided under the Contract, Contractor shall restore property disturbed during the Work to the conditions which previously existed.
- C. Parking and Deliveries:
 - 1. Contractor is responsible for control of traffic by vehicles and persons within the limits of its operations.
 - 2. Parking for employees, subcontractors, and agents of Contractor shall be in areas subject to approval of Owner.
 - 3. Access to the site for delivery of construction material of equipment shall be subject to approval of Owner.

1.17 PROTECTION OF FACILITIES AND PREMISES:

- A. The Contractor shall be responsible for the protection of all facilities during the entire period of service. Any damages to the existing facilities, roads, drainage structures, driveways, utilities, landscaping or other State-owned property caused by the contractor shall be repaired to pre-construction conditions by the Contractor at his/her expense and in a manner and schedule approved by the Owner.
- B. The Contractor shall power wash all mechanical equipment or vehicle used on the job site to remove mud and debris prior to unloading on the site. This is necessary to prevent contamination by invasive species seeds that may be attached to the equipment.

1.18 ARCHEOLOGICAL AND HISTORICAL ARTIFACTS:

- A. If any objects are uncovered during construction which could possibly be of historic archeological importance, this shall be immediately report to Owner. Work at that spot shall not proceed further until Owner has evaluated the object and the area where it was found and approved continuation of the work.
- B. If any construction time is lost due to such objects being found, an equal number of calendar days will be added to the project completion time given in the specifications.

1.19 SALVAGE RIGHTS:

- A. Unless stated otherwise in these specifications or on the plans, all equipment and materials removed as part of this project and not being reused shall become the property of the Contractor and removed from the site.

1.20 SAFETY, REGULATORY REQUIREMENTS, AND SPECIAL PROVISIONS:

- A. Tree clearing shall be completed between October 1, 2025 and March 31, 2026.
- B. All work including site safety, equipment, materials, property, and fabricated items provided under the Contract shall comply with the provisions of OSHA or IOSHA and other applicable laws and regulations to prevent damage, injury, or loss to people, equipment, materials, and property.
- C. Contractor shall comply with roadway weight restrictions including seasonal weight

restrictions.

- D. The Contractor shall adhere to all conditions of approved permits. The following permits have been obtained:
1. IDNR Construction in Floodway Permit for Culvert #1 (Application #: FW-33065, Issued 4/4/2025, Exp. 3/17/2027).
 2. USACE 404 Nationwide Permit #14 for Culvert #1.
 3. IDEM 401 Nationwide Permit for Culvert #1 (IDEM #2023-888-90-JWR-X, Exp. 3/16/2026).
 4. USACE 404 Nationwide Permit #14 for Culvert #2.
 5. IDEM Section 401 General Water Quality Certification for Culvert #2 (IDEM ID#2024-1033-90-ENH-NWP, Exp. 3/16/2026).
 6. USACE Nationwide Permit #14 for Culvert #3.
 7. IDEM Section 401 General Water Quality Certification for Culvert #3 (Exp. 3/16/2026).
 8. USACE Nationwide Permit #14 for Culvert #4
 9. IDEM Section 401 General Water Quality Certification for Culvert #4 (IDEM # 2025-23-90-LDC-NWP, Exp. 3/16/2026).

1.21 UTILITY COORDINATION

Contractor shall coordinate with utilities as needed to determine and resolve any conflicts with proposed construction. Utility locations have been provided showing the approximate location where utilities are believed to be located. There is no guarantee or warranty as to the accuracy or completeness of said locations. No direct evidence of other utilities was discovered, however there is no guarantee that others do not exist. Public and/or private utility locates may be necessary and their cost shall be included in the Contractor's bid.

All existing utilities which shall cross new structures and piping that is to be installed as part of this contract shall be field verified for proper clearance prior to ordering new structures and the start of the installation of the new structures or piping. The Contractor shall notify the Owner/Project Manager in writing as soon as possible after the investigation of any conflicts which are identified and will require resolution.

PART 2 – PRODUCTS

Not used

PART 3 – EXECUTION

Not used

-END OF SECTION-

SECTION 01200 PROJECT MEETINGS

PART 1 - GENERAL

1.01 PRECONSTRUCTION CONFERENCES

- A. Prior to commencing the work, a preconstruction conference will be held at the job site and the following organizations shall have at least one representative in attendance: OWNER, DESIGNER, CONTRACTOR, Indiana Department of Natural Resources Division Project Manager, major Subcontractors, and Utility representatives (as needed).
- B. The preconstruction conference will be for the purpose of reviewing procedures to be followed concerning the orderly flow of required paperwork, coordination of the various parties involved with the project, park access requirements, review of shop drawing submittals, contract time, liquidated damages, payment estimates, change orders, regulatory requirements, labor requirements and other items of interest to the parties involved.

1.02 PROGRESS MEETINGS

- A. A progress meeting will be held at least twice each month or as specified by OWNER to review progress of the work, discuss problems encountered or foreseen, coordinate the work and answer any questions as they arise, and administer changes.
- B. The organizations listed under 1.01 above shall be given advance notification, and shall have at least one representative in attendance at each meeting.
- C. Minutes of each progress meeting will be kept by the DESIGNER and a typed copy shall be distributed to all parties after the progress meeting. All parties shall review these minutes and shall in writing, within seven days of receipt, inform the DESIGNER if there are errors or changes to be made. If no response is received within this time period it shall be assumed that there are no corrections and the record of the minutes shall become a part of the construction documents as are change orders, work directives, etc.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

-END OF SECTION-

SECTION 01300 SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. This section specifies the general methods and requirements of submissions applicable to, the following work-related submittals: (a) construction schedule, (b) schedule of submittals, (c) shop drawings, product data, and samples, (d) mock-ups, (e) construction photographs, and (f) CONTRACTOR's record drawings.

1.02 CONSTRUCTION SCHEDULE

- A. The CONTRACTOR shall submit to the ENGINEER the construction schedule. The schedule shall account for all work of the CONTRACTOR and their subcontractors.
- B. The CONTRACTOR schedule shall incorporate the following dates:
1. Project Start: 12/1/2025 (Est.)
 2. Tree Clearing may occur between: 12/1/2025 to 3/31/2026
 3. Culverts #1 or #2 Construction Start: 1/1/2026
 4. Culverts #1 and #2 Substantially Complete and Park Entrance (Old State Road 201) Open to Traffic: 4/1/2026
 5. Final Completion: 6/5/2026
- C. The CONTRACTOR shall not work on Culverts #1 and #2 at the same time.
- D. The CONTRACTOR shall update the construction schedule information monthly and submit the update information to the ENGINEER at the same time the pay estimate is prepared. The schedule shall contain all of the items of the periodic estimate and pay schedule.
- E. The CONTRACTOR bears full responsibility for scheduling all phases and stages of the work including their subcontractors work to insure its successful prosecution and completion within the time specified in accordance with all provisions of the Contract Documents.

1.03 SHOP DRAWINGS, PRODUCT DATA, SAMPLES, O&M INSTRUCTIONS

A. Shop Drawings

1. Shop drawings include, but are not necessarily limited to, custom prepared data such as fabrication and erection/installation drawings, schedule information, setting diagrams, actual shop work manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system of equipment inspection and test reports including performance curves and certifications, as applicable to the work.
2. All details on shop drawings submitted for review shall show clearly the relation of the various parts to the main members and lines of the Culvert, and where correct fabrication of the work depends upon field measurements; such measurements shall be made and noted on the shop drawings before being submitted for review.

B. Product Data

1. Product data as specified in individual sections, include, but are not necessarily limited to, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare parts listing, and printed product warranties, as applicable to the Work. The CONTRACTOR shall ensure that the product data submitted has adequate cross reference information that relates to how the specifications identify the product so that the ENGINEER will be able to make the determination that the product is "equal" to what is specified.

C. Samples

1. Samples specified in individual sections, include, but are not necessarily limited to, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols, and units-of work that can be used by the ENGINEER or OWNER for independent inspection and testing and to determine their applicability to the project work.

D. Operation and Maintenance (O&M) Instructions

1. O&M instructions shall conform to the particular requirements of the individual sections.

1.04 CONTRACTOR'S RESPONSIBILITY

- A. The CONTRACTOR shall provide a submittal schedule for shop drawings.
- B. The CONTRACTOR shall review shop drawings, product data and samples prior to submission to determine and verify the following:
 1. Field measurements
 2. Field construction criteria
 3. Catalog numbers and similar data
 4. Conformance with the Specifications
- C. All shop drawings submitted by the subcontractors for review shall be sent directly to the CONTRACTOR for preliminary checking. The CONTRACTOR shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
- D. The CONTRACTOR shall check all shop drawings including subcontractor's shop drawings regarding measurements, size of members, materials, and details to satisfy himself that they conform to the intent of the Drawings and Specifications. Drawings found to be inaccurate or otherwise in error shall be corrected before submission thereof.
- E. Each shop drawing, working drawing, sample and catalog data submitted by the CONTRACTOR shall have affixed to it the following certification statement, signed by the CONTRACTOR: "Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable reviewed shop drawings and all Contract requirements."
- F. The CONTRACTOR shall notify the OWNER in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.
- G. The CONTRACTOR should include the notation "Critical Path" on critical path submittals.
- H. The review of shop drawings, samples or, catalog data by the ENGINEER shall not relieve the CONTRACTOR from his responsibility with regard to the fulfillment of the terms of the Contract.
- I. No portion of the work requiring a shop drawing, working drawing, sample, or catalog data shall be started nor shall any materials be fabricated or installed prior to the review or qualified review of such item. Fabrication performed, materials

purchased or on-site construction accomplished which does not conform to reviewed shop drawings and data shall be at the CONTRACTOR's risk. The OWNER will not be liable for any expense or delay due to the corrections or remedies required to accomplish conformity.

- J. Project work, materials, fabrication, and installation shall conform with reviewed shop drawings, working drawings, applicable samples, and catalog data.

1.05 SUBMISSION REQUIREMENTS

- A. The CONTRACTOR shall make submittals promptly in accordance with the accepted shop drawing submittal schedule, and in such sequence as to cause no delay in the work or in the Work of any other CONTRACTOR.
- B. Number of submittals required for initial review:
 - 1. Shop Drawings: Submit one (1) copies.
 - 2. Product Data: Submit one (1) copies.
 - 3. Samples: Submit number stated in the respective specification sections.
 - 4. O&M Instructions: Submit one (1) copies in accordance with the respective Specifications to which they apply.

After final approval, five sets shall be submitted, three will be returned to the CONTRACTOR. If more than three sets are needed for return then the CONTRACTOR shall submit additional sets as needed. The CONTRACTOR shall also include a transmittal that includes the project information and their standard certification for the item.

- C. Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The project title, contract number, and submittal number.
 - 3. CONTRACTOR identification.
 - 4. The names of:
 - a. CONTRACTOR
 - b. Supplier
 - c. Manufacturer
 - 5. Identification of the product, with the specification section number.
 - 6. Field dimensions, clearly identified as such.
 - 7. Relation to adjacent or critical features of the work or materials.
 - 8. Applicable standards, such as ASTM or Federal Specification numbers.
 - 9. Identification of deviations from contract documents.
 - 10. Identification of revisions on resubmittals.
 - 11. An 8 in. x 3 in. blank space for CONTRACTOR's and ENGINEER's stamps.
 - 12. Critical path notation as required.

D. ALTERNATE PROCEDURE:

Electronic, paperless submission and return is an acceptable alternative. Items shall be presented only in searchable pdf format. The CONTRACTOR shall also include a transmittal that includes the project information and their standard certification for the item. The ENGINEER has the option to electronically mark the submission or only respond with a written transmittal and comments.

If CONTRACTOR elects to submit by the alternate electronic procedure, then he shall notify the ENGINEER at the pre-construction conference prior to any submission. If elected then every effort shall be made to submit all items in this manner, and only to mix and match the systems when items are not available electronically.

1.06 RESUBMISSION REQUIREMENTS

A. The CONTRACTOR shall make any corrections or changes in the submittals required by the ENGINEER and resubmit until accepted, in accordance with the following:

1. Shop drawings and product data:

- a. Revise initial drawings or data and resubmit as specified for the initial submittal.
- b. Indicate any changes which have been made other than those requested by the ENGINEER.

2. Samples: Submit new samples as required for initial submittal.

B. The CONTRACTOR shall bear the cost for all review and processing of initial and any subsequent resubmittals.

1.07 DISTRIBUTION

A. The CONTRACTOR shall distribute reproductions of reviewed shop drawings and copies of reviewed product data and samples, where required, to the job site file and elsewhere/as directed by the ENGINEER. Number of copies shall be as directed by the ENGINEER but shall not exceed five (5) unless the CONTRACTOR requires extra sets or copies.

1.08 MOCK-UPS

A. Mock-up units as specified in individual sections include but are not necessarily limited to, complete units of the standard of acceptance for that type of work to be used on the project. They shall be removed by CONTRACTOR at the completion of the Work or when directed.

1.09 CONSTRUCTION PHOTOGRAPHS

- A. The CONTRACTOR shall be responsible for digital video of all alignments, roadways to be used by construction vehicles, and site locations over the entire project and shall provide a copy of this videotape prior to beginning any work. This shall include a complete digital video of the roadway routes to be used for equipment access and materials hauling within the park. This videotape will be used in the instance of any dispute over restoration, or damage to public or private property. The videotape shall be standard color with "voice-over" commentary on stations, locations, existing features, and proposed improvement locations. Each alignment will be filmed in order from the lowest station to the highest station with pauses at the proposed location of each Culvert and provides a 360 degree look at the area to be disturbed. It is recommended but not required that the CONTRACTOR utilize a subcontractor for this operation that specializes in such services.
- B. The CONTRACTOR shall provide photographs and / or digital photographs, and / or digital videos of site and construction during the progress of work. The photographs shall be taken monthly on the cutoff date for each Application for Payment and routinely throughout the project to document work status, problems, and potential changes. Two sets shall be produced; one for the site, and one for the OWNER. Identify each print on front or digital folders and filenames. List name of project, date and name of photographer in the submittal.

1.10 GENERAL PROCEDURES FOR SUBMITTALS

- A. Coordination of Submittal Times: The CONTRACTOR shall prepare and transmit each submittal sufficiently in advance of performing the related Work or other applicable activities, or within the time specified in the individual Work section of the Specifications, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery and similar sequenced activities. No extension of time will be authorized because of the CONTRACTOR's failure to transmit submittals sufficiently in advance of the Work.

1.11 SCHEDULE OF VALUES AND PAYMENTS

- A. Within ten (10) days after award of the Contract, the CONTRACTOR shall submit to the OWNER in triplicate, a breakdown of the lump sum items, including a schedule of values and an estimated schedule of payments. This breakdown shall be subject to approval by the OWNER, and when so approved shall become the basis for determining progress payments and for negotiation of change orders, if required.

- B. The schedule of values submitted by the CONTRACTOR to the OWNER for approval must include a cost for providing approved O&M manuals for all equipment. The cost finally used in the schedule of values will be established by mutual agreement between the OWNER and the CONTRACTOR on a per item basis. Regardless of the cost in the schedule of values for O&M manuals, payments in excess of 75% of the equipment cost will not be made until receipt of approved O&M Manuals.

1.12 CONTRACTOR'S RECORD DRAWINGS

- A. The format of these drawings shall be similar to the Contract Drawings.
- B. Within 60 days after the Notice to Proceed is issued, the CONTRACTOR shall submit to the OWNER a written description of their procedure and format for record drawings. The CONTRACTOR, OWNER, ENGINEER shall meet to assure mutual acceptance of the procedure.
- C. The CONTRACTOR shall keep their record drawings up to date at the job site, and shall make them available for review by the ENGINEER or their representatives when requested.
- D. The CONTRACTOR shall submit electronic version (.pdf) of their construction record drawings to the ENGINEER upon completion of the work, and prior to final payment.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

-END OF SECTION-

SECTION 01400 QUALITY CONTROL

PART 1 - GENERAL

1.01 QUALITY CONTROL - GENERAL

- A. Work of all crafts and trades shall be laid out to lines and elevations as established by the CONTRACTOR from the Drawings or from instructions by the ENGINEER.
- B. Unless otherwise shown, all work shall be plumb and level, in straight lines and true planes, parallel or square to the established lines and levels. The Work shall be accurately measured and fitted to tolerance as established by the best practices of the crafts and trades involved, and shall be as required to fit all parts of the Work carefully and neatly together.
- C. All equipment, materials and articles incorporated into the work shall be new and of comparable quality as specified. All workmanship shall be first-class and shall be performed by mechanics skilled and regularly employed in their respective trades.
- D. The CONTRACTOR shall determine that the equipment he proposes to furnish can be brought into the site and installed in the space available. Equipment shall be installed so that all parts are readily accessible for inspection and maintenance as applicable.

1.02 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

1.03 MANUFACTURERS INSTRUCTIONS

- A. Comply with instructions in full detail.

1.04 MANUFACTURERS' FIELD SERVICES

- A. The CONTRACTOR shall arrange for the services of qualified service representatives from the company's manufacturing or supplying each type of equipment described in the specification sections.

- B. The manufacturer or supplier shall provide sufficient engineering and technician man-hours to satisfactorily complete supervision of installation, equipment check-out, and field acceptance tests.

1.05 TESTING SERVICES

- A. Tests, inspections and certifications of materials, equipment, subcontractors or completed work, as required by the various sections of the Specifications shall be obtained by the CONTRACTOR and all costs shall be included in the Contract Price.
- B. The CONTRACTOR shall submit to the ENGINEER the name of testing laboratory(s) to be used.
- C. CONTRACTOR shall deliver written notice to the ENGINEER at least 48 hours in advance of any inspections or tests to be made at the Project site. All inspections or tests to be conducted in the field shall be done in the presence of the ENGINEER or their representative.
- D. Certifications by independent testing laboratories may be by copy of the attestation(s) and shall give scientific procedures and results of tests. Certifications by persons having interest in the matter shall be by original attest properly sworn to and notarized.

-END OF SECTION-

SECTION 01500 CONSTRUCTION FACILITIES AND SITE MAINTENANCE

PART 1 - GENERAL

1.01 TEMPORARY SANITARY FACILITIES

- A. The CONTRACTOR shall construct and/or maintain, in a sanitary condition, temporary sanitary facilities for their employees and also employees of the subcontractors. The CONTRACTOR shall, at completion of the Work, properly dispose of these sanitary facilities.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

- A. Obtain and pay for all permits required by governing authorities that are not enclosed as part of these documents.
- B. Obtain and pay for any required temporary easements, etc. required across property (other than easements or lands furnished by OWNER).
- C. Comply with applicable codes.
- D. On a continuous basis, maintain premises free from accumulations of waste, debris, and rubbish, caused by operations.
- E. Comply with the conditions set forth in the attached permits.

1.03 NOT USED

1.04 NOT USED

1.05 NOT USED

1.06 PROPERTY PROTECTION

- A. Care is to be exercised by the CONTRACTOR in all phases of construction, to prevent damage and/or injury to the OWNER's and/or other property. Payments for the repair and restoration are limited as set forth in General Conditions.

- B. All exposed existing piping must be immediately supported to prevent damage. Prior to completion of each day's work, such piping must be adequately covered by the CONTRACTOR and approved by the OWNER'S representative.
- C. The CONTRACTOR shall avoid unnecessary injury to trees and shall remove only those authorized to be removed as detailed on the plans and otherwise by written consent of the OWNER. Fences, gates and terrain damaged or disarranged by the CONTRACTOR's forces shall be immediately restored in their original condition or better.

1.07 CONSTRUCTION WARNING SIGNS

- A. If required by the work, the CONTRACTOR shall provide construction warning signs for each location where he is working. He will further provide flagmen as required and shall abide by all applicable safety rules, including size, type and placement of construction signs. All signs shall be of professional quality. SECTION 02500 provides additional information.
- B. Provide barricades, barrier fences, lanterns and other such signs and signals as may be necessary to warn of the dangers in connection with open excavation and obstructions.
- C. Provide an adequate and approved system to secure the project area at all times, especially during non-construction periods; CONTRACTOR shall be solely responsible for taking proper security measures.
- D. CONTRACTOR shall pay all costs for protection and security systems.

1.08 NOT USED

1.09 NOT USED

1.10 NOT USED

1.11 NOT USED

1.12 NOT USED

1.13 NOT USED

1.14 CONTRACTOR STAGING AREA

- A. The CONTRACTOR and their subcontractors shall provide site offices(s), tool trailers and storage as needed by each trade during the duration of this project. Off-site staging is the responsibility of the CONTRACTOR. It shall be of sufficient size to accommodate all trades involved and include room for field office(s), storage and tool trailers and materials.
- B. Limited on-site storage for materials on Park property shall be coordinated between the CONTRACTOR and the OWNER. If any park areas are agreed upon and used by the CONTRACTOR, then he shall be responsible for erecting and installing an eight-foot tall chain link fence completely surrounding each facility. Fence shall be gated and locked at all times except when CONTRACTOR is directly within the fencing. The fence shall be removed and the area restored to a pre- construction condition upon completion of the work.
- C. Sufficient temporary stone drives, parking, etc. shall be provided to minimize mud tracking.
- D. If offsite staging area land disturbance exceeds 0.5-acre, CONTRACTOR shall be responsible for (CSGP) Construction Stormwater General Permit.
- E. Security of the staging area shall be the responsibility of the CONTRACTOR.
- F. Temporary utilities shall be the responsibility of the CONTRACTOR.
- G. The cost of this item shall be considered incidental to the project.

1.15 MAINTENANCE OF OPERATIONS

- A. During the course of the work, streets and roads will remain open to the public per the project phasing requirements. The CONTRACTOR, through his operations, will in no manner hinder the operation of the facility except in those instances which are approved by the OWNER.

The CONTRACTOR shall endeavor to assist the staff in the maintenance of operations affected by the work. The CONTRACTOR shall in no way:

1. Permit excavation adjacent to roadways which could jeopardize the road's stability.
2. Construct culverts, temporary, or permanent, which place the public at risk, or prevent personnel from completing job functions.

3. Introduce any substance into the Park's ditches and streams which are not authorized in the applicable permits.
4. Cause any unscheduled interruption of the Park's traffic flow or access.
5. Place excavated, stored, or purchased materials on or near park roadways when these roadways remain open to traffic in such a manner as to present a hazard to motorists.
6. Excavate, pour concrete or flowable fill, provide crane operations, truck hauling operations or headwall or wingwall or other plan related work installation in such a manner as to endanger the integrity of any culvert or road that is to remain in place.

1.16 SCHEDULED ROAD CLOSURES

- A. Due to the nature of the work to be completed, interruptions to public roads are expected. The following full closures are expected and allowed:
 1. Full road closures are allowed for the replacements of Culverts #1, #2 and #3.
 2. The CONTRACTOR shall not close the Main Entrance Service Road for the construction of Culverts #1 or #2 prior to the completion and opening of the temporary entrance.
 3. The CONTRACTOR shall coordinate and notify all closings at least one week in advance with the OWNER.
- B. The CONTRACTOR shall not construct Culverts #1 and #2 at the same time.

1.17 NOT USED

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 SEQUENCE OF CONSTRUCTION

Prior to beginning construction, the CONTRACTOR shall develop and submit a phasing plan to the ENGINEER for review and approval. The approved phasing plan

shall allow for continuous traffic as much as possible.

Phasing must comply with project plans and the Anticipated Schedule in Section 1010, Item 1.02.

-END OF SECTION-

SECTION 01535 PROTECTION OF INSTALLED WORK

PART 1 - GENERAL

1.01 DESCRIPTION

Related Requirements Specified Elsewhere:

- A. Project Closeout: Section 01700.
- B. Cleaning for Specific Products or Work: Specification Section for that work.

On a continuous basis, maintain premises free from accumulations of waste, debris, and rubbish, caused by operations.

At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave Project clean and ready for occupancy.

1.01 SAFETY REQUIREMENTS

- A. Hazards Control:
 - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions. Provide adequate ventilation during use of volatile or noxious substances.
 - 3. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 4. Do not burn or bury rubbish and waste materials on Project site without written permission from the OWNER.
 - 5. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 6. Do not dispose of wastes into streams or waterways.

1.02 REQUIREMENTS INCLUDED

- A. Protection for products, including OWNER-provided products, after installation.

1.03 RELATED REQUIREMENTS

- A. Division 1 – Procurement and Contracting Requirements.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 PROTECTION AFTER INSTALLATION

- A. Protect installed products and control traffic in immediate area to prevent damage from subsequent operations.
- B. Provide protective coverings at all culverts and headwalls as required.
- C. Restrict traffic of any kind across planted and landscaped areas. Water and maintain as needed.
- D. Protect installed products and control traffic in immediate area to prevent damage from subsequent operations.

3.01 DURING CONSTRUCTION

- A. Execute cleaning to ensure that building, grounds and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. At reasonable intervals during progress of Work, clean site and public properties, and dispose of waste of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish.
- E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off OWNER's property.

- F. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- G. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted areas or interfere with the operations of the park except as allowed by these plans and specifications.
- H. The CONTRACTOR shall thoroughly clean all materials and equipment installed.

3.02 FINAL CLEANING

- A. Employ experienced workmen, or professional cleaners, for final cleaning. In preparation for substantial completion, conduct final inspection of site. remove all debris and silt from culverts.
- B. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- C. Broom clean paved surfaces; rake clean other surfaces of grounds. Maintain cleaning until Project, or portion thereof, is occupied by OWNER.
- D. The CONTRACTOR shall restore or replace existing property or culverts as promptly and practicable as work progresses.

-END OF SECTION-

SECTION 01700
PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. All Contract documents, and GENERAL CONDITIONS.
- B. Final Cleaning of Culverts.
- C. Contractor's Record Documents.

1.02 SUBSTANTIAL COMPLETION

A. CONTRACTOR:

- 1. Submit written certification to ENGINEER that project is substantially complete.
- 2. Submit list of major items to be completed or corrected.

B. ENGINEER will make an inspection within seven days after receipt of certification.

C. Should ENGINEER consider that work is substantially complete:

- 1. CONTRACTOR shall prepare, and submit to ENGINEER, a list of items to be completed or corrected, as determined by the inspection.
- 2. ENGINEER will prepare and issue a Certificate of Substantial Completion, containing:
 - a. Date of Substantial Completion.
 - b. CONTRACTOR's list of items to be completed or corrected verified and amended by ENGINEER.
 - c. The time within which CONTRACTOR shall complete or correct work of listed items.
 - d. Time and date OWNER will assume possession of work or designated portion thereof.

e. Signatures of:

(1) ENGINEER.

(2) CONTRACTOR.

(3) OWNER.

3. CONTRACTOR: Complete work listed for completion or correction, within designated time.

D. Should ENGINEER consider that work is not substantially complete:

1. He shall notify CONTRACTOR, in writing, stating reasons.

2. CONTRACTOR: Complete work, and send second written notice to ENGINEER, certifying that Project or designated portion of Project is substantially complete.

3. ENGINEER will re-inspect work.

1.03 FINAL INSPECTION

A. CONTRACTOR shall submit written certification that:

1. Contract Documents have been reviewed.

2. Project has been inspected for compliance with Contract Documents.

3. Work has been completed in accordance with Contract documents.

4. Project is completed and ready for final inspection.

B. ENGINEER will make final inspection within seven (7) days after receipt of certification.

C. Should ENGINEER consider that work is finally complete in accordance with requirements of Contract Documents, they shall request CONTRACTOR to make Project Close-out submittals.

D. Should ENGINEER consider that work is not finally complete:

1. He shall notify CONTRACTOR, in writing, stating reasons.
2. CONTRACTOR shall take immediate steps to remedy the stated deficiencies, and send second written notice to ENGINEER certifying that work is complete.
3. ENGINEER will re-inspect work.

1.02 FINAL CLEANING UP

The work will not be considered as completed and final payment made until all final cleaning has been completed by the CONTRACTOR in a manner satisfactory to the ENGINEER. See Section 3.02 for detailed requirements.

1.07 FINAL APPLICATION FOR PAYMENT

CONTRACTOR shall submit final applications in accordance with requirements of General Conditions.

1.08 FINAL CERTIFICATE FOR PAYMENT

ENGINEER will issue final certificate in accordance with provisions of General Conditions.

Should final completion be materially delayed through no fault of CONTRACTOR, ENGINEER may issue a Semi-Final Certificate for Payment.

PART 2 - PRODUCTS

2.01 MATERIALS

Not Applicable

2.02 SAFETY REQUIREMENTS

A. Hazards Control:

1. Store volatile wastes in covered metal containers and remove from premises daily.
2. Prevent accumulation of wastes which create hazardous conditions.

3. Provide adequate ventilation during use of volatile or noxious substances.
4. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
5. Do not burn or bury rubbish and waste materials on Project site without written permission from the OWNER and only after obtaining any required permits to conduct such work.
6. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains, ditches, or anywhere else on the park grounds.
7. Do not dispose of wastes into streams or waterways.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute cleaning to ensure that culverts, grounds and park properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. At reasonable intervals during progress of Work, clean site and public properties, and dispose of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish.
- E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off of the OWNER's property.
- F. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- G. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall into any waterways or ditch lines.
- H. The CONTRACTOR shall thoroughly clean all materials and equipment installed.
- I. Provide necessary containment to prevent the inadvertent discharge of any materials into ditchlines or any other waterways. All spills regardless of location shall also be properly contained and cleaned up in accordance with all

local, state and federal requirements.

3.02 FINAL CLEANING

- A. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave Project clean and ready for occupancy.
- B. In preparation for substantial use of the culverts, conduct final inspection of sight- exposed interior and exterior surface, and of any accessible culvert interiors.
- C. Remove grease, dust, dirt, stains, labels, fingerprints, leaves, woody debris and other foreign materials, from sight-exposed interior and exterior surfaces, and of concealed spaces.
- D. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- E. Broom clean paved surfaces; rake clean other surfaces of grounds.
- F. Remove wheel tracked or other dirt caused by hauling and construction operations from all paved roadway surfaces.
- G. Maintain cleaning until Project, or portion thereof, is accepted by the OWNER.
- H. The CONTRACTOR shall restore or replace existing property or culverts as promptly and practicable as work progresses.

-END OF SECTION-

DIVISION 2
EXISTING CONDITIONS

SECTION 02070 GEOTEXTILES

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Furnish all materials and labor as needed to install geotextile material for pavement and scour protection as shown on the plans.

1.02 RELATED WORK

Section 2160 -EARTHWORK

Section 02255 – CRUSHED STONE, RIPRAP & STRUCTURE BACKFILL

1.03 SUBMITTALS

- A. Submit Geotextile to be used on the project in accordance with 01300.
 - 1. Certification: The CONTRACTOR shall provide to the ENGINEER a certificate stating the name of the manufacturer, product name, style number, chemical composition of the filaments or yarns and other pertinent information to fully describe the geosynthetic. The Certification shall state that the furnished geosynthetic meets MARV requirements of the specification as evaluated under the Manufacturer's quality control program. The Certification shall be attested to by a person having legal authority to bind the Manufacturer.
 - 2. Quality Standards: The CONTRACTOR shall provide to the ENGINEER the manufacturer's Quality Control Plan along with their current A2LA, GAI-LAP, and ISO 9001:2000 certificates.

1.04 DEFINITIONS

- A. Minimum Average Roll Value (MARV): Property value calculated as typical minus two standard deviations. Statistically, it yields a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed value reported.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. The geotextile manufacturer shall have all of the following credentials:

- a. Geosynthetic Accreditation Institute (GAI)- Laboratory Accreditation Program (LAP)
 - b. American Association for Laboratory Accreditation (A2LA) c.ISO 9001:2000 Quality Management System
- B. The geotextile manufacturer shall have a GAI-LAP accredited laboratory at the location of production capable of performing the ASTM tests as outlined in the specification.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Geosynthetic labeling, shipment, and storage shall follow ASTM D 4873. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.
- B. Each geosynthetic roll shall be wrapped with a material that will protect the geosynthetic from damage due to shipment, water, sunlight, and contaminants.
- C. During storage, geosynthetic rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical property values of the geosynthetic.

PART 2 – PRODUCTS

2.02 MATERIALS

- A. INDOT Type IIB Woven Geotextile (US Fabrics US4800/30 or equal) to be used in walkways. INDOT Type IB BI-Axial Geogrid (US Fabrics Basegrid 12 or equal) to be used in Parking areas. CONTRACTOR shall submit material for approval before installation.
- B. Geotextile shall be composed of high molecular weight, high tenacity polyester multifilament yarns woven in tension and finished with a PVC coating. Geotextile is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids. Geotextile is used as soil reinforcement in parking and traveled way additions.
- C. The geosynthetic shall be manufactured with fibers consisting of long- chain synthetic polymers composed of at least 95 percent by weight of polyolefins or polyesters. They shall form a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvage.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Foundation soil shall be excavated to the line and grades as shown on the construction drawings or as directed by the ENGINEER. Over-excavated areas shall be filled with compacted backfill material as per project specifications or as directed by the ENGINEER.

3.02 INSTALLATION

- A. Geosynthetic shall be laid at the proper elevation and orientation as shown on the construction drawings or as directed by the ENGINEER. Correct orientation of the geosynthetic shall be verified by CONTRACTOR.
- B. Geosynthetic may be temporarily secured in-place with staples, pins, sand bags or backfill as required by fill properties, fill placement procedure or weather condition, or as directed by the ENGINEER.
- C. Geosynthetic shall be installed per manufacturer's instructions.
- D. Backfill material shall be placed in lifts and compacted as directed under project specifications. Backfill shall be placed, spread and compacted in such a manner as to minimize the development of wrinkles in and/or movement of the geosynthetic. A minimum fill thickness of 150 mm (6 in) is required prior to the operation of tracked vehicles over the geosynthetic.
- E. Turning of tracked vehicles should be kept to minimum to prevent tracks from displacing the fill and damaging the geosynthetic. Rubber tired equipment may pass over the geosynthetic reinforcement at low speeds, less than 16 km/hr (10 mph). Sudden braking and sharp turns shall be avoided. Any geosynthetic damaged during installation shall be replaced by the CONTRACTOR at no additional cost to the OWNER.

-END OF SECTION -

SECTION 02160 EARTHWORK

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Preparation of subgrade for pavement patching is included as part of this work.
- B. Backfilling around culverts within the construction limits is included as part of this work.
- C. Install safety measures required to protect personnel in accordance with OSHA requirements.
- D. This work shall also include all Rock Excavation. Blasting is NOT allowed as a means of removing rock.

1.02 DEFINITIONS

- A. Excavation consists of removal of all material encountered to subgrade elevations and subsequent disposal or reuse of materials removed.
- B. Backfill shall consist of material used to replace excavated material after the facilities have been constructed as shown in the plan details or as directed by the ENGINEER. Previously excavated material may be used as Borrow for fill if approved by the ENGINEER.

1.03 RELATED WORK

Section 02170 - EROSION AND SEDIMENT CONTROL

Section 32912 – LANDSCAPE GRADING.

Section 32920 – TURF AND GRASSES.

1.04 QUALITY ASSURANCE

The CONTRACTOR shall perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

1.05 SUBMITTALS

None Required

1.06 SITE CONDITIONS

A. Site Information:

1. Data on indicated subsurface conditions is not available.
2. Additional test borings and other exploratory operations may be made by CONTRACTOR at no cost to OWNER.

B. Existing Utilities:

Prior to commencement of work, the CONTRACTOR shall locate existing underground utilities in areas of the work. If utilities are to remain in place, provide adequate means of protection during earthwork operations. In addition to Indiana 811, the CONTRACTOR shall coordinate with the Park Manager concerning the location of underground park owned utilities that may not be listed with Indiana 811.

C. Protection of Persons and Property:

1. Barricade open excavations occurring as part of this work and post with warning lights. Comply with Traffic Control requirements of these plans.
2. Operate warning lights as recommended by authorities having jurisdiction.
3. Protect culverts, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
4. The CONTRACTOR shall place orange snow fence or an equal type of construction fencing around all work areas to prevent park patron access to the construction area and construction equipment.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

A. Definitions:

1. Subbase material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, natural or crushed sand meeting INDOT requirements.
2. Structural Backfill: The material shall be of acceptable quality, free from large or frozen lumps, wood, or other extraneous matter in accordance with INDOT Standard Specification 904.05.
3. Backfill and fill materials: Satisfactory soil materials free of debris, waste, frozen materials, and other deleterious matter.

4. Trench Encasement fill shall consist of silty clay, free of organic material, with a plasticity index of 10. Clay with a liquid limit in excess of 60 shall not be used.

PART 3 - EXECUTION

3.01 EXCAVATION

- A. Excavation includes excavation to subgrade elevations including excavation of earth, rock, bricks, wood, cinders, and other debris. All excavation of materials shall be included in the lump sum portion of the work and will be UNCLASSIFIED. NO ADDITIONAL PAYMENT WILL BE MADE REGARDLESS OF TYPE OF MATERIAL ENCOUNTERED. Rock is not expected to be encountered on this project.
- B. Exploratory Excavation and Potholing:
 1. Provide potholing if utility crossing is suspected.
- C. Differing Site Conditions:
 1. The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER in writing of subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The OWNER shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.
 2. No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in (a) above; provided, however, the time prescribed therefore may be extended by the OWNER.
 3. No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.
- D. Additional Excavation:
 1. When excavation has reached required subgrade elevations, notify the ENGINEER who will make an inspection of conditions. The surface of the excavated area shall be "proofrolled" with a loaded truck or other heavy construction equipment.
 - a. If unsuitable bearing materials are encountered at required subgrade elevations, carry excavations deeper and replace excavated material as directed in writing

by the ENGINEER.

- b. Removal of unsuitable material and its replacement as directed will be included in the cost of the project.

E. Stability of Excavations:

1. Slope sides of excavations to comply with federal, state and local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.
2. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

F. Material Storage:

1. The CONTRACTOR is responsible for coordinating temporary stockpile areas with the Park Property Manager. Any area of the park used shall gain the approval of the Park Property Manager prior to its use. The CONTRACTOR is responsible for hauling excess material off-site if the Park does not have available areas for spoils. Stockpile satisfactory excavated material until required for backfill of fill. Place, grade, and shape stockpiles for proper drainage. Dispose of excess soil material and waste materials as herein specified. The CONTRACTOR is responsible for submitting and obtaining a construction stormwater general permit if required for offsite borrow pits and stockpile areas.

G. Cold Weather Protection:

1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35°F(1°C).

3.02 COMPACTION

A. General:

1. Control soil compaction during construction providing minimum percentage of density specified for each area classification indicated below.
 - a. Percentage of maximum density requirements: Compact soil to not less than the following percentages of maximum density for soils which exhibit a well-defined moisture density relationship (cohesive soils) determined in accordance with ASTM D698; and not less than the following percentages of relative density, determined in accordance with ASTM D4253 and D4254, for soils which will not exhibit a well-defined moisture-density relationship (cohesionless soils).
 - b. Compact top 12-inches of subgrade and each layer of backfill or fill material in accordance with the following schedule.

PLACEMENT OF BACKFILL OR FILL MATERIAL			
Location	Minimum Compaction	Maximum Lift Thickness (Loose) (in.)	Moisture Content Relative To Optimum Moisture
Subgrade for Footings	100%	8	-2% to +2%
Subgrade for Floor Slabs Steps & Embankments	98%	8	-2% to +2%
Subgrade for Pavements and Walkways	95%	6"	-2% to +2%
Backfill for Walls & Piping	95%	6	-2% to +2%
Landscape Areas	90%	12	-2% to +2%
Note: Minimum compaction refers to percent of Maximum Dry Density as Determined by ASTM D-698.			

B. Moisture Control:

1. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface or subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.
2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
3. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to the optimum moisture for compaction.

3.03 BACKFILL AND FILL

A. General:

1. With the exception of the organic debris, existing fill material, topsoil, and backfill materials, which are specifically designated per the plan details could be used as on-site soil fill or backfill material, provided the moisture content of the soil is acceptable.
2. Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below. Backfill material shall be no larger than the specified depth of the layer to be placed and/or compacted.
 - a. In excavations, use satisfactory excavated or borrow material.

- b. Under grassed areas, use satisfactory excavated or borrow material.
 - c. Under walks and pavements, use structure backfill as detailed on the plans.
 - d. Under steps, use subbase material.
- B. Backfill excavation as promptly as work permits, but not until completion of the following:
1. Acceptance of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
 2. Inspection, testing, approval, and recording locations of underground utilities.
 3. Removal of concrete formwork.
 4. Removal of trash and debris.
 5. Permanent or temporary horizontal bracing is in place on horizontally supported walls.
- C. Ground Surface Preparation:
1. Strip the site as discussed in paragraph 3.01. Plow, strip or break up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.
 2. When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, bring moisture condition to optimum moisture content, and compact to required depth and percentage of maximum density.
- D. Placement and Compaction:
1. Place backfill and fill materials in layers as indicated in paragraph 3.02 A.1.b. for material compacted by heavy compaction equipment, and not more than 4-inches in loose depth for material compacted by hand- operated tampers. Crushed stone shall be installed in accordance with Section 02255.
 - a. Before compaction, add moisture or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
 - b. Place backfill and fill materials evenly adjacent to structures, piping, or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping, or conduit to approximately same elevation in each lift.

2. On completion of the project, all backfill shall be dressed; holes filled; and surplus material hauled away. All permanent walks, street paving, roadway, etc., shall be restored and seeding and sodding performed as required.

3.04 GRADING

A. General:

1. Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.

B. Grading:

1. All materials used for backfill around structures shall be of a quality acceptable to the ENGINEER and shall be free from large or frozen lumps, wood and other extraneous material. All spaces excavated and not occupied by footings, foundations, walls or other permanent work shall be refilled with earth up to the surface of the surrounding ground, unless otherwise specified, with sufficient allowance for settlement. In making the fills and terraces around the structures, the fill shall be placed in layers not exceeding 12-inches in depth and shall be kept smooth as the work progresses. Each layer of the fill shall be rolled with an approved type roller and/or be compacted per Sub-section 3.07 C-1 below. When it is not practicable to compact sections of the fill immediately adjacent to buildings or structures by rolling, then such sections shall be thoroughly compacted by means of mechanical tamping or hand tamping as may be required by the conditions encountered. All fills shall be placed so as to load structures symmetrically.
2. As set out hereinbefore, rough grading shall be held below finished grade and then the topsoil which has been stockpiled shall be evenly spread over the surface. The grading shall be brought to the levels shown on the Drawings. Final dressing shall be accomplished by hand work or machine work, or a combination of these methods as may be necessary to produce a uniform and smooth finish to all parts of the regrade. The surface shall be free from clods greater than 2-inches in diameter. Excavated rock may be placed in the fills, but it shall be thoroughly covered. Rock placed in fills shall not be closer than 12- inches from finished grade.
3. Grade areas adjacent to drain away from structures and to prevent ponding.
 - a. Finish surfaces free from irregular surface changes, and as follows:
 - 1) Lawn or unpaved areas: Finish areas to receive top soil to within not more than 0.10 ft. above or below required subgrade elevation.
 - 2) Pavements: Shape surface of areas under pavement to line, grade, and cross-section, with finish surface not more than 1.0 in. above or 1 in. below required

subgrade elevation.

C. Compaction:

1. After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or standard proctor density for each area classification.

3.05 PAVEMENT SUBBASE COURSE

- A. If unsuitable subbase soils are encountered, the CONTRACTOR shall consult the ENGINEER for direction.

3.06 MAINTENANCE

A. Protection of Graded Areas:

1. Protect newly graded areas from traffic and erosion. Keep free of trash and debris. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

B. Reconditioning Compacted Areas:

1. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

C. Settling:

1. Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.07 DISPOSAL OF EXCESS NONORGANIC SOIL AND ROCK

A. General:

1. All excess excavated material shall become the property of the CONTRACTOR and shall be disposed of by him outside the project limits. It is the CONTRACTOR's responsibility to locate a suitable waste area off-site, re-vegetate it after use, obtain necessary permits for use of the waste area and be in compliance with applicable laws and regulations.

B. Placement:

1. The distribution and gradation of material throughout the fill shall be such that the fill will be free from lenses, pockets, streaks or layers of material differing substantially in texture or gradation from the surrounding material. The combined excavation and

placing operations shall be such that the materials when compacted in fill will be blended sufficiently to secure the best practicable degree of compaction and stability.

2. Successive loads of material shall be placed on the fill so as to produce the best practicable distribution of the material.
3. The material shall not be dumped into final position but shall be distributed by blading or dozing in a manner that will ensure proper placement in the embankment so that voids, pockets and bridging will not occur.
4. No fills shall be placed upon a frozen surface, nor shall snow, ice or frozen materials be incorporated in the fill.

C. Spreading and Compacting:

1. The material shall be spread in uncompacted lifts with thickness as required in paragraph 3.02 A.1b. of this Section, depending on the amount of earth, over the entire length and width of the specified area. The material shall then be compacted by a minimum of 6 passes of a smooth drum vibratory roller. The roller shall have a total static weight of not less than 20,000 pounds. The diameter of the drum shall be between 5.0 and 5.5 feet and the width between 6.0 and 6.5 feet. The frequency of vibration during operation shall be between 1,200 and 1,500 vibrations per minute and the dynamic force at 1,400 vibrations per minute shall not be less than 16,000 pounds. Rollers shall be operated at speeds not to exceed 1.5 miles per hour.

D. Earth Cover:

1. The material shall be placed and spread in accordance with this Specification.

-END OF SECTION -

SECTION 02170 EROSION AND SEDIMENT CONTROL

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Description.

The work consists of installing measures or performing work to control erosion and minimize the production of sediment and other pollutants to water and air from construction activities.

PART 2 – PRODUCTS

- A. Mulch and fertilizer shall be as specified in Sections 02936.
- B. Erosion control blanket shall be net free and in accordance with INDOT Standard Specifications 205. ALL Erosion control blanket shall be coordinated with IDNR Fish and Wildlife for compliance.
- C. Temporary silt fence fabric shall be provided per the plan details.
- D. Concrete Washouts shall be provided per the plan details.

PART 3 - EXECUTION

1.02 GENERAL

- A. Silt Fence. (temporary stockpiles shall be surrounded with silt fence or equivalent)
 - 1. Silt fence shall be installed down-slope of all areas to be protected and installed according to INDOT specifications.
 - 2. Silt fence shall remain in place until permanent soil stabilization has become established.
- B. General Erosion Control. Plan and execute construction and earth work by methods to control surface drainage from cuts and fills to prevent erosion and sedimentation. Keep to a minimum, the area of bare soil exposed at one time. All erosion control measures shall be net free.

1. Seeding to protect disturbed areas shall occur as soon as reasonably possible following completion of earthwork activity.
 2. Provide methods to control surface water, runoff, subsurface water, and water from excavations to prevent damage to the Work, the site, or adjoining areas.
 3. The CONTRACTOR has full responsibility of inspecting the erosion control measures on a daily basis. At a minimum, practices need to be inspected weekly, within 24 hours after each storm event over ½ inch and daily during prolonged storm events. Failing practices shall be repaired or replaced immediately.
 4. Comply with all federal, state, and local statutes, rules and regulations associated with control of storm water run-off from construction activities.
- C. Other Pollutants. Vehicle fluids, including oil, grease, petroleum, and coolants
1. Drip pans and/or absorbent pads should be used during vehicle and equipment maintenance work that involved fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area. Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately. Properly dispose of used oils, fluids, lubricants and spill cleanup materials. Do not place used oil in a dumpster or pour into a storm drain or watercourse.
 2. In regards to fuel storage, material storage, equipment parking, etc. the CONTRACTOR will be responsible to comply with Rule 5 requirements. All pollutants shall be contained on site and properly disposed of.
 3. Trash cans shall be utilized on site for general litter during and after construction.

-END OF SECTION -

SECTION 02255 CRUSHED STONE, RIPRAP & STRUCTURE BACKFILL

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish and install crushed stone, riprap and structure backfill for miscellaneous uses as shown on the Drawings, and as called for in the Specifications.
- B. Sizes, types, and quality of crushed stone, riprap and structure backfill are specified in this Section and as noted in the plan details, but its use for replacement of unsuitable material, pavement base, and similar uses is specified in detail elsewhere in the Specifications. The ENGINEER may order the use of crushed stone for purposes other than those specified in other Sections, if, in his opinion, such use is advisable. Payment for same will be subject to negotiation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Aggregate: When referred to in these Specifications, compacted aggregate shall be Compacted Aggregate # 8, #9, #11 or # 53 of the specific size as required by the plans and plan details. Aggregate gradation shall be in accordance with the following gradation chart.

Sieve Sizes	COARSE AGGREGATE SIZES (PERCENT PASSING)									
	COARSE GRADED							DENSE GRADED		
	2	5	8	9	11	12	43 ⁽¹⁾	91	53 ⁽¹⁾	73 ⁽¹⁾
4 in. (100 mm)										
3 1/2 in. (90 mm)										
2 1/2 in. (63 mm)	100									
2 in. (50 mm)	80-100									
1 1/2 in. (37.5 mm)		100					100		100	
1 in. (25 mm)	0-25	85-98	100				70-90	100	80-100	100
3/4 in. (19 mm)	0-10	60-85	75-95	100			50-70		70-90	90-100
1/2 in. (12.5 mm)	0-7	30-60	40-70	60-85	100	100	35-50		55-80	60-90
3/8 in. (9.5 mm)		15-45	20-50	30-60	75-95	95-100				
No. 4 (4.75 mm)		0-15	0-15	0-15	10-30	50-80	20-40		35-60	35-60
No. 8 (2.36 mm)		0-10	0-10	0-10	0-10	0-35	15-35		25-50	
No. 30 (600 μm)						0-4	5-20		12-30	12-30
No. 200 (75 μm) ⁽²⁾							0-6.0		5.0-10.0 ⁽⁴⁾	5.0-12.0
Decant (PCC) ⁽³⁾		0-1.5	0-1.5	0-1.5	0-1.5	0-1.5		0-1.5		
Decant (Non-PCC)	0-2.5	0-2.5	0-3.0	0-2.5	0-2.5	0-2.0		0-2.5		

Notes: 1. The liquid limit shall not exceed 25 (35 if slag) and the plasticity index shall not exceed 5. The liquid limit shall be determined in accordance with AASHTO T 89 and the plasticity index in accordance with AASHTO T 90.
2. Includes the total amount passing the No. 200 (75 μm) sieve as determined by AASHTO T 11 and T 27.
3. Decant may be 0-2.5 for stone and slag.
4. When slag is used for separation layers as defined in 302.01, the total amount passing the No. 200 (75 μm) sieve shall be 10.0 to 12.0.

All aggregate and crushed stone under paved surfaces or within 5 feet of paved surfaces shall be compacted to 95% max dry density as determined in accordance with AASHTO T99. All aggregate in non paved areas shall be compacted to a minimum of 90% max dry density as determined in accordance with AASHTO T99. The procedure for determining maximum densities for compaction control shall be in accordance with AASHTO T 99. The size and type of stone to be used shall be as shown on the plan details.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Crushed stone shall be placed and compacted in accordance with INDOT Specification 211 and related specifications.
- B. Crushed stone shall be placed in those areas as shown on the Drawings.

3.02 BROKEN CONCRETE RESTRICTION

- A. Broken Concrete shall NOT be used as riprap.

-END OF SECTION -

SECTION 02500 PARK UTILITY AND TRAFFIC COORDINATION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Provide coordination with existing utility companies and the Park, which have facilities within the existing project limits of the project.
- B. Determine existing utility, size and type at potential crossings of the proposed construction with the existing utilities.
- C. Provide Traffic Control for the construction sites and coordinate with the Property Manager as to the time of work, road closures and lane restrictions.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Provide equipment necessary to coordinate, excavate and/or pothole existing utility crossings as needed to determine potential conflicts.
- B. Provide traffic control signage and traffic control devices in accordance with INDOT Specifications Section 801 and related material referenced specifications as referenced in 801.

PART 3 - EXECUTION

3.01 EXECUTION

A. UTILITIES:

1. The CONTRACTOR shall coordinate with existing utilities and the Park Manager prior to any excavation near, exploratory excavation or potholing of their facilities. The CONTRACTOR shall pothole or exploratory excavate potential utility crossings to determine the extent of conflicts prior to ordering any materials.
2. The CONTRACTOR shall comply with Indiana law and shall also call Indiana 811 prior to conducting any excavation or other underground related work.
3. Existing utility line locations as noted on the plans are based on the best data available.
4. All crossing utilities shall be field verified for clearances with construction prior to

the start of digging operations and prior to ordering any materials which could be affected such as manholes, inlets, etc.. Conflicts should be immediately noted to the ENGINEER in writing. Utility conflicts during construction will be the responsibility of the CONTRACTOR to correct.

5. The CONTRACTOR shall provide a minimum of 5 business days notice to any utility companies and to Property Manager prior to excavation which is expected to uncover any given utility.

B. MAINTENANCE OF TRAFFIC

1. The CONTRACTOR shall fully coordinate with the Property Manager for all work to be conducted.
2. The CONTRACTOR shall ensure that all traffic restrictions and road closures are coordinated with the Property Manager prior to putting any traffic control measures in place.
3. The CONTRACTOR shall ensure that access to the Residence Quarters between Culverts #1 and #2 is always maintained.

-END OF SECTION-

SECTION 02502 ASPHALT PAVEMENT

PART 1 -- GENERAL

3.02 DEFINITIONS

- A. Combined Aggregate: All mineral constituents of asphalt concrete mix, including mineral filler and separately sized aggregates.
- B. RAP: Reclaimed asphalt pavement.
- C. Provide hot-mix asphalt paving according to materials, workmanship, and other applicable requirements in accordance with the Indiana Department of Transportation (INDOT) Standard Specifications latest edition, Section 402.
- D. Related Sections:
 - 1. Section 02160 Earthwork.

3.01 MEASUREMENT AND PAYMENT

- A. Hot Mix Asphalt Paving
 - 1. Work Item Title and Number
 - a. HMA Paving, INDOT TYPE 'B'
 - 2. The payment for HMA asphalt pavement shall be based on lump sum bid and shall include tack coat.
 - 3. The limits will be field determined by the ENGINEER or their representative.

3.02 REFERENCES

- A. Standards referenced in this Section are listed below:
 - 1. ASTM International:
 - a. ASTM D242, Standard Specification for Mineral Filler for Bituminous Paving Mixtures.
 - b. ASTM D692, Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures.
 - c. ASTM D1073, Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
 - d. ASTM D3666, Standard Specification for Minimum Requirements for Agencies Testing and Inspection Road and Paving Materials.
 - e. ASTM D3910, Standard Practices for Design, Testing, and Construction of Slurry

Seal.

2. Asphalt Institute (AI):
 - a. MS-22, Construction of Hot Mix Asphalt Pavements

3. Indiana Department of Transportation (INDOT) - Standard Specifications:
 - a. Section 402, Hot Mix Asphalt, HMA, Pavement.
 - b. Section 406, Tack Coat.
 - c. Section 808, Pavement Traffic Markings.
 - d. Section 904, Aggregates.
 - e. Section 916, Materials Certifications.

4. Indiana Department of Transportation (INDOT) – Design Manual:
 - a. Chapter 17, Quantity Estimating.

3.03 SUBMITTALS

- A. Job Mix Designs: For each asphalt mix design the CONTRACTOR shall submit a copy of the following INDOT Material and Test Division standard forms:
 1. HMA Design Mix Formula form
 2. HMA Mix Design Approval Log

- B. Provide a copy of the INDOT list of certified hot mix asphalt producers, dated within the last 12 months and highlight the plant name and certification number, on the list.

- C. Provide a copy of the INDOT list of approved HMA mix design laboratories, dated within the last 12 months and highlight the laboratory name and certification number, on the list.

3.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer shall be an INDOT certified hot mix asphalt producer and shall be listed on the most recent version of the INDOT list of certified hot mix asphalt producers, unless otherwise approved by the OWNER.

- B. Laboratory Qualifications: Testing laboratory shall be an INDOT certified hot mix asphalt laboratory and shall be listed on the most recent version of the INDOT list of certified hot mix asphalt laboratories, unless otherwise approved by the OWNER.

- C. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing

indicated.

- D. Regulatory Requirements: Comply with INDOT Standard Specifications latest edition, Section 402 and provisions thereto for asphalt paving work.
 - 1. Asphalt-Paving Publication: Comply with Asphalt Institute (AI) MS- 22, "Construction of Hot Mix Asphalt Pavements," unless more stringent requirements are indicated.
- E. Pre-construction Meeting: Conduct conference at Project site. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:
 - 1. Review condition of subgrade and preparatory work.
 - 2. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.

3.05 ENVIRONMENTAL REQUIREMENTS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp or if the following conditions are not met:
 - 1. Tack Coats: Minimum surface temperature of 60 deg F (15.5 deg C).
 - 2. Slurry Coat: Comply with weather limitations of ASTM D 3910.
 - 3. Asphalt Base Course: Minimum surface temperature of 40 deg F (4 deg C) and rising at time of placement.
 - 4. Asphalt Surface Course: Minimum surface temperature of 60 deg F (15.5 deg C) at time of placement.

PART 2 - PRODUCTS

2.01 AGGREGATES

- A. General: All aggregates used in asphalt mixture shall be in accordance with INDOT Standard Specifications latest edition, Section 904. Use materials and gradations that have performed satisfactorily in previous installations.
- B. Coarse Aggregate: ASTM D 692, hard, strong; angular crushed stone, crushed gravel, or properly cured, crushed blast-furnace slag.
- C. Fine Aggregate: ASTM D 1073, sharp-edged natural sand or sand prepared from stone,

gravel, properly cured blast-furnace slag, or combinations thereof.

- D. Mineral Filler: ASTM D 242, rock or slag dust, hydraulic cement, or other inert material.

2.02 ASPHALT MATERIALS

- A. All Hot Mix Asphalt (HMA) material shall conform to applicable requirements of the INDOT Standard Specification latest edition, Sections 402.
- B. Tack Coat: Rapid-cure liquid asphalt conforming to INDOT Standard Specification latest edition, Section 406.
- C. Water: Potable.
- D. Recycled materials (RAP): Per INDOT Standard Specifications latest edition, Section 402.08 for Recycled Materials not to exceed 25% by weight (mass) of the total mixture.

PART 3 - EXECUTION

3.01 GENERAL

- A. Traffic Control:
 - 1. In accordance with Section 104.04, Maintenance of Traffic.
 - 2. Minimize inconvenience to traffic, but keep vehicles off freshly treated or paved surfaces to avoid pickup and tracking of asphalt.
- B. Driveways: Re-pave driveways as specified on the construction documents. Leave driveways in as good or better condition than before start of construction.

3.02 LINE AND GRADE

- A. Provide and maintain intermediate control of line and grade, independent of underlying base, to meet finish surface grades and minimum thickness.
- B. Shoulders: Construct to line, grade, and cross-section shown.

3.03 PREPARATION

- A. Prepare subgrade as specified in INDOT Standard Specifications latest edition, Section 402.11.
- B. Existing Roadway:

1. Modify profile by grinding, milling, or overlay methods as approved, to provide transition to existing adjacent pavement and surfaces and to produce smooth riding connection to existing facility.
 2. Remove existing material to a minimum depth of 38.1 millimeters (1 1/2 inch).
 3. Paint edges of existing adjacent pavement with tack coat prior to placing new pavement.
- C. Thoroughly coat edges of contact surfaces (curbs, manhole frames) with emulsified asphalt or asphalt cement prior to laying new pavement. Prevent staining of adjacent surfaces.

3.04 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.

3.05 PATCHING

- A. Hot-Mix Asphalt (HMA) Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches (300 mm) into adjacent sound pavement,
- B. unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.
- C. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.000251 Ton/Syd (0.06 Gal/Syd) per INDOT Design Manual latest edition, Chapter 17 – Quantity Estimating.
 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.
- D. Patching: Fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact flush with adjacent surface.
- E. Patching: Partially fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact. Cover asphalt base course with compacted, hot-mix surface layer

finished flush with adjacent surfaces.

3.06 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
 - 1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

- B. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.00251 Ton/Syd (0.06 gal/Syd) per INDOT Design Manual latest edition, Chapter 17 – Quantity Estimating.
 - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
 - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.07 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 - 1. Place hot-mix asphalt surface course in single lift.
 - 2. Spread mix at minimum temperature of 250 deg F (121 deg C).
 - 3. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
 - 4. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

- B. Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.
 - 1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips.

- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.08 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.
- B. Clean contact surfaces and apply tack coat to joints.
- C. Offset longitudinal joints, in successive courses, a minimum of 6 inches (150 mm).
- D. Offset transverse joints, in successive courses, a minimum of 24 inches (600 mm).
- E. Construct transverse joints as described in INDOT Standard Specifications latest edition, Section 402.14.
- F. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
- G. Compact asphalt at joints to a density within 2 percent of specified course density.

3.09 COMPACTION

- A. General: Compaction shall conform to INDOT Standard Specifications latest edition, Section 402.15 for the minimum number of rollers and coverage. Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
 - 1. Complete compaction before mix temperature cools to 185 deg F (85 deg C).
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still at the highest temperature where the mixture does not exhibit any possibility for distortions.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement

to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled sufficiently to prevent distortions.

3.10 INSTALLATION TOLERANCES

- A. Thickness: Compact each course to produce the thickness indicated within the following tolerances:
 - 1. Base Course: Plus or minus 1/2 inch (13 mm).
 - 2. Surface Course: Plus 1/4 inch (6 mm), no minus.
- B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10 foot (3-m) straightedge applied transversely or longitudinally to paved areas:
 - 1. Base Course: 1/4 inch (6 mm).
 - 2. Surface Course: 1/8 inch (3 mm)
 - 3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch (6 mm).

3.11 PAVEMENT OVERLAY

- A. Preparation:
 - 1. Remove fatty asphalt, grease drippings, dust, and other deleterious matter.
 - 2. Surface Depressions: Fill with asphalt concrete mix, and thoroughly compact.
 - 3. Damaged Areas: Remove broken or deteriorated asphalt concrete and patch as specified in Article Patching.
 - 4. Portland Cement Concrete Joints: Remove joint filler to minimum 1/2 inch (12 millimeters) below surface.
- B. Application:
 - 1. Tack Coat: As specified in this section.
 - 2. Place and compact asphalt concrete as specified in Article Pavement Application.
 - 3. Place first layer to include widening of pavement and leveling of irregularities in surface of existing pavement.
 - 4. When leveling irregular surfaces and raising low areas, the actual compacted

thickness of any one lift shall not exceed 2 inches (50 millimeters).

5. Actual compacted thickness of intermittent areas of 120 square yards (100 square meters) or less may exceed 2 inches (50 millimeters), but not 4 inches (100 millimeters).
6. Final wearing layer shall be of uniform thickness, and meet grade and cross section as shown.

3.12 FIELD QUALITY CONTROL

- A. Testing Agency: CONTRACTOR will engage a qualified independent testing and inspecting agency to perform field tests and inspections and to prepare test reports.
 1. Testing agency will conduct and interpret tests and state in each report whether tested work complies with or deviates from specified requirements.
- B. Additional testing and inspecting, at CONTRACTOR's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- C. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to INDOT Standard Specifications latest edition, Sections 402.13 and 402.15.
- D. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- E. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.
- F. All required testing must be witnessed and approved by the Resident Project Representative, assigned by OWNER.

3.13 DISPOSAL

- A. Except for material indicated to be recycled, remove excavated materials from project site and legally dispose of them in an EPA-approved landfill.

3.14 TESTING FREQUENCY

- A. Quality Control Tests:
 1. Asphalt Content, Aggregate Gradation: Once per every 500 Tons (400 mg) of mix or once every 4 hours, whichever is greater.
 2. Mix Design Properties, Measured Maximum (Rice's) Specific Gravity: Once every 1,000 Tons (900 mg) or once every 8 hours, whichever is greater.
- B. Density Tests: Once every 500 Tons (450 mg) of mix or once every 4 hours, whichever is greater.

- END OF SECTION -

DIVISION 3
CONCRETE

SECTION 03300 CAST-IN-PLACE CONCRETE

PART 1- GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to place all cast-in-place concrete, reinforcing steel, forms, and miscellaneous related items, including sleeves, ringlets, anchor bolts, stone veneer anchors, inserts and embedded items, as shown on the Drawings and specified herein.

1.02 RELATED WORK

- A. Section 03345 - Concrete Finishing

1.03 DESCRIPTION

- A. Concrete shall be of Portland cement, fine aggregate, coarse aggregate, water and admixtures as specified and shall be ready-mixed, or transit-mixed concrete produced by a plant acceptable to the ENGINEER. All constituents, including admixture, shall be batched at the central batch plant.
- B. Reinforced concrete shall conform to INDOT Specification 702, Concrete, Class "A". Admixture shall be added for Anti Corrosion without lowering strength requirements. Strength of Concrete shall be 4000 psi.
- C. All testing and inspection services required will be provided by the CONTRACTOR. Cost of such work, except as specifically stated otherwise, will be paid for by the CONTRACTOR. Methods of test will comply in detail with the latest applicable ASTM Methods of Test.
- D. Samples of constituents and of concrete as placed will be subjected to laboratory tests. All materials incorporated in the work shall conform to accepted samples.
- E. Under special circumstances, the ENGINEER may allow minor deviations from the material requirements specified, provided the resulting concrete quality is not adversely affected or provided a suitable adjustment in cement content is made to compensate for such deviations without cost to the OWNER.

1.04 SUBMITTALS

- A. The CONTRACTOR shall submit to the ENGINEER for approval a proposed design mix for each concrete strength and type required by this Specification. See Paragraph 1.05 for additional information required. An additional mix design for each type and strength of concrete to be placed by pumping shall be submitted to the ENGINEER for acceptance.
- B. The CONTRACTOR shall submit to the ENGINEER for acceptance, as provided in Section 01300, shop drawings showing placement of all joints of plywood forms, and rustications. CONTRACTOR shall specify what methods of form bracing he intends to use.

1.05 QUALITY ASSURANCE

- A. The actual acceptance of aggregates and development of mix proportions to produce concrete conforming to the specific requirements shall be determined by means of prior laboratory tests made with the constituents to be used on the work.
- B. Well in advance of placing concrete, the CONTRACTOR shall discuss with the ENGINEER the proposed source of materials and concrete mixture which he proposes to use. He shall furnish samples of aggregate and cement for testing, deliver them to the organization designated by the ENGINEER, and shall permit ample time for the laboratory to develop a proposed design mix to modify the design of the mix within the limits of these specifications.
- C. The limiting strengths, water contents and cement factors of INDOT Specification 702.02 shall apply.
 - 1. High early strength Portland cement is allowed as an option on this project. When high early strength Portland cement is permitted, the same strength requirements shall apply except that the indicated strengths shall be attained at seven (7) days instead of twenty-eight (28) days.
- D. If, during the progress of the work, it is impossible to secure concrete of the required workability and strength with the materials being furnished, the ENGINEER may order such changes in proportions or materials, or both, as may be necessary to secure the desired properties. All changes so ordered shall be made at the CONTRACTOR's expense.
- E. If the materials from the sources originally accepted change in characteristics, the CONTRACTOR shall, at his expense, have made new acceptance tests of aggregates and establishment of new basic mixtures by the acceptable testing laboratory being employed on the work.
- F. Concrete shall be of such consistency and mix composition that it can be readily

worked into the corners and angles of the forms and around the reinforcement, inserts, and wall castings without permitting materials to segregate or free water to collect on the surface, due consideration being given to the methods of placing and compacting.

1.06 ACCEPTANCE TESTS

- A. Conformity of aggregates to these Specifications, and the actual proportions of cement, aggregates, and water necessary to produce concrete conforming to the requirements set forth herein, shall be determined by tests made with representative samples of the materials to be used on the work. Tests will be made by the laboratory selected by the ENGINEER and shall comply with ASTM Specification C-39.
- B. Cement shall be subject to testing to determine that it conforms to the requirements of this Specification. Methods of testing shall conform to the appropriate specification, but the place, time, frequency, and method of sampling will be determined by the ENGINEER in accordance with the particular need.
- C. Samples of fine and coarse aggregates shall be furnished for examination and testing at least three weeks before the CONTRACTOR proposes to use them in the work.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials shall conform to INDOT Specification 702, Class "A" Concrete.
- B. Grout shall be non-shrink epoxy and be proportioned with sand in strict accordance with the manufacturer's instructions for the use intended. Non-shrink grout shall conform with the US Corps of Engineers Specification for Non-Shrink Grout, CRD-C621-82B. The mixed epoxy grout system shall have a minimum "working life" of 45 minutes at 75°F.
- C. Flowable Fill used on the project shall conform to INDOT Specification 213 and referenced specifications.

PART 3 - EXECUTION

3.01 MEASURING MATERIALS

- A. Materials shall be measured by weighing except as otherwise specified or where other methods are specifically authorized by the ENGINEER. The apparatus provided for weighing the aggregates and cement shall be suitably designed and constructed for this purpose. Scales shall have been certified by the local Sealer of Weights and Measures

within one year of use. Each size of aggregate and the cement shall be weighed separately. The accuracy of all weighing devices shall be such that successive quantities can be measured to within one per cent of the desired amount. Cement in standard packages (sacks) need not be weighed, but bulk cement and fractional packages shall be weighed.

- B. Water shall be measured by volume or by weight. The water-measuring devices shall be capable of control to 1/2% accuracy. All measuring devices shall be subject to approval. Admixtures shall be dispensed either manually with use of calibrated containers or measuring tanks, or by means of an approved automatic dispenser designed by the manufacturer of the specific admixture.

3.02 MIXING

- A. Concrete shall be ready-mixed, or transit-mixed, as produced by equipment acceptable to the ENGINEER. No hand-mixing will be permitted. Adding water in controlled amounts during the mixing cycle shall be done only with the express approval of, and under the direction of the ENGINEER.
- B. Ready-mix or transit-mixed concrete shall be transported to the site in watertight agitator or mixer trucks loaded not in excess of rated capacities for the respective conditions as stated on the name plate. Discharge at the site shall be within 1 1/2 hours after water was first introduced to the mix. Central mixed concrete shall be plant-mixed a minimum of 1 1/2 minutes per batch and then shall be truck-mixed or agitated a minimum of 8 minutes. Agitation shall begin immediately after the premixed concrete is placed in the truck and shall continue without interruption until discharged. Transit-mixed concrete shall be mixed at mixing speed for at least 10 minutes immediately after charging the truck, followed by agitation without interruption until discharged.
- C. All central plant and rolling stock equipment and methods shall conform to the latest Truck Mixer and Agitator Standards of the Truck mixer manufactures, Bureau of the National Ready-Mixed Concrete Association, as well as ACI Standard 318, Chapter 5, and ASTM Specification C94.
- D. The retempering of concrete or mortar which has partially hardened, that is mixing with or without additional cement, aggregate, or water, will not be permitted.
- E. Attention is called to the importance of dispatching trucks from the batching plant so that they shall arrive at the site of the work just before the concrete is required, thus avoiding excessive mixing of concrete while waiting or delays in placing successive layers of concrete in the forms.

3.03 FIELD TESTS

- A. Slump tests will be made in the field by the CONTRACTOR and observed by the

ENGINEER if requested by the ENGINEER during observation.

3.04 INSPECTION AND CONTROL

- A. The preparation of forms, placing of reinforcing steel, conduits, pipes, and sleeve, batching, mixing, transportation, placing and curing of concrete shall be at all times under the inspection of the ENGINEER.

3.05 CONCRETE APPEARANCE

- A. Concrete for every part of the work shall be of homogeneous structure which, when hardened, will have the required strengths, durability and appearance.
- B. Forms, mixtures and workmanship shall be such that concrete surfaces, when exposed, will require no finishing.
- C. When concrete surfaces are stripped, the concrete when viewed in good lighting from 10 ft away shall be pleasing in appearance, and at 20 ft shall show no visible defects.

3.06 FORMS

- A. Forms shall be used for all concrete masonry, including footings. Forms shall be so constructed and placed that the resulting concrete will be of the shape, lines, dimensions, appearance, and to the elevations indicated on the Drawings.
- B. Forms for all exposed exterior and interior concrete walls shall be Type A-C exterior grade plywood with "A" veneer exterior on casting side. Rustications shall be at the location and to the details shown on the Drawings. Moldings for chamfers and rustications shall be milled and planed smooth.
- C. Forms for all other cast-in-place concrete shall be made of wood, metal, or other accepted material. Wood forms shall be constructed of sound lumber or plywood of suitable dimensions, free from knotholes and loose knots. Where used for exposed surfaces, boards shall be dressed and matched. Plywood shall be sanded smooth and fitted with tight joints between panels. Metal forms shall be of an approved type for the class of work involved and of the thickness and design required for rigid construction.
- D. Edges of all form panels in contact with concrete shall be flush within 1/32-in. and forms for plane surfaces shall be such that the concrete will be plane within 1/16-in. in 4 ft. Forms shall be tight to prevent the passage of mortar and water and grout.
- E. Forms for walls shall have removable panels at the bottom for cleaning, inspection, and scrubbing-in of bonding paste. Forms for walls of considerable height shall be arranged with tremies and hoppers for placing concrete in a manner that will prevent segregation and accumulation of hardened concrete on the forms or

reinforcements above the fresh concrete.

- F. Molding or bevels shall be placed to produce a 3/4-inch chamfer on all exposed projecting 90° corners. Similar chamfers strips shall be provided at horizontal and vertical extremities of all wall placements to produce "clean" separation between successive placements as called for on the Drawings.
- G. Forms shall be sufficiently rigid to withstand vibration, to prevent displacement or sagging between supports, and constructed so the concrete will not be damaged by their removal. The CONTRACTOR shall be entirely responsible for their adequacy.
- H. Forms, including new pre-oiled forms, shall be oiled before reinforcement is placed, with an approved non-staining oil or liquid form coating not having a paraffin base.
- I. Before form material is re-used, all surfaces in contact with concrete shall be thoroughly cleaned, all damaged places repaired, all projecting nails withdrawn, all protrusions smoothed and, in the case of wood forms, preoiled.
- J. Form ties encased in concrete shall be designed so that after removal of the projecting part, no metal shall be within 1-inch of the face of the concrete. That part of the tie to be removed shall be at least 1/2-inch diameter or be provided with a wood or metal cone at least 1/2-inch diameter and 1-inch long. Form ties in concrete exposed to view shall be the Richmond "Tyscru" cone-washer type, or approved equal.
- K. Through bolts or common wire shall not be used for form ties.

3.07 PLACING AND COMPACTING

- A. Unless otherwise permitted, the work begun on any day shall be completed in daylight of the same day.
- B. Place no concrete until reinforcing, steel, pipes, conduits, sleeves, hangers, anchors, and other work required to be built into concrete have been inspected and approved by the ENGINEER. Remove water and foreign matter from forms and excavation. Place no concrete on frozen soil, and provide adequate protection against frost action during freezing weather. All soil preparation below slabs and footings shall be approved by the ENGINEER before placing concrete.
- C. Transport concrete from mixer to place of final deposit as rapidly as practicable by methods which prevent separation of ingredients and displacement of reinforcement, and which avoid rehandling. Deposit no partially hardened concrete.
- D. "Cold joints" are to be avoided unless called for on the Drawings. If they occur they are to be treated as bonded construction joints.

- E. Construction joints shall be per plans.
- F. Deposit concrete to maintain, until the completion of the unit, a horizontal plastic surface, vertical lifts of deposited concrete shall not exceed 24-inches and preferably 18-inches.
- G. Chutes for conveying concrete shall be of U-shaped design and sized to ensure a continuous flow of concrete. Flat (coal) chutes shall be not employed. Chutes shall be metal or metal-lined and each section shall have approximately the same slope. The slope shall not be less than 25 nor more than 45 degrees to the horizon and shall be such as to prevent the segregation of the ingredients. The discharge end of the chute shall be provided with a baffle plate or spout to prevent segregation. If the discharge end of the chute is more than 5 feet above the surface of the concrete in the forms, a spout shall be used, and the lower end maintained as near the surface of deposit as practicable. When the operation is intermittent, the chute shall discharge into a hopper. Chutes shall be thoroughly cleaned before and after each run, and the debris and any water shall be discharged outside the forms. Concrete shall not be allowed to flow horizontally over distances exceeding 5 feet. Concrete Washouts as provided in the plans shall be provided and used for the cleaning of all concrete equipment. The CONTRACTOR shall ensure that concrete is not washed onto the ground or drainage ways of the park.
- H. The pumping of concrete is an acceptable method. The proposed equipment and concrete mix shall be submitted to the ENGINEER prior to usage for approval.
- I. In thin sections of considerable height, concrete shall be placed using suitable hoppers, spouts with restricted outlets, or otherwise, as required or approved.
- J. Concrete during and immediately after depositing shall be thoroughly compacted by means of suitable tools. Internal type mechanical vibrators shall be employed to produce required quality of finish. Vibration shall be done by experienced operators under close supervision and shall be carried on long enough to produce homogeneity and optimum consolidation without permitting segregation of the solid constituents or "pumping" or migration of air. All vibrators shall be supplemented by proper wooden spade to prevent puddling adjacent to forms and to remove bubbles and honeycomb. This is essential for the top lifts of walls. All vibrators shall travel at least 10,000 rpm and be of adequate capacity. At least one vibrator shall be used for every 10 cu. yds. of concrete placed per hour. In addition, one spare vibrator in operating condition shall be on the site.
- K. Concrete slabs on the ground shall be well-tamped into place and foundation material shall be wet tamped, and rolled until thoroughly compacted prior to placing concrete.
- L. Concrete shall be deposited continuously in layers of such thickness that no concrete will be deposited on concrete which has hardened sufficiently to cause the formation

of seams and planes of weakness within the section. If a section cannot be placed continuously, construction joints may be located at points as provided for in the Drawings or as acceptable to the ENGINEER.

- M. Concrete Repair as noted in the plans shall include the filling of all voids behind the apparent failure of the existing concrete with a concrete mixture as noted in these specifications.

3.08 CURING AND PROTECTION

- A. Protect all concrete work against injury from the elements and defacements of any nature during construction operations.
- B. Concrete placed at air temperature below 40° F shall have a minimum temperature of 60° F. When the air temperature is below 40° F or near 40° F and falling, the water and aggregates shall be heated before mixing. Accelerating chemicals shall be so protected that the temperature at the surface will not fall below 50° F for at least 7 days after placing. The CONTRACTOR shall submit for acceptance by the ENGINEER the methods he proposes to use against low temperatures. No salt, manure, or other chemicals shall be used for protection.
- C. All concrete, particularly exposed surfaces, shall be treated immediately after concreting or cement finishing is completed to provide continuous moist curing above 50° F for at least 7 days, regardless of the ambient air temperature. Walls and vertical surfaces may be covered with continuously saturated burlap, or other approved means; horizontal surfaces, slabs, etc. in the liquid retaining structures shall be ponded to a depth of 1/2-inch or kept continuously wet by use of sprinklers.
- D. In cold weather supplementary continuous warm curing (above 50° F) shall provide a total of 350-day degrees (i.e., 5 days 70° F, etc.) of heat.
- E. Wherever practicable, finished surface and slabs shall be protected from the direct rays of the sun to prevent checking and crazing.
- F. Concrete deposited in hot weather shall have a placing temperature which will not cause a difficulty from loss of slump, flash set or cold joints, and in any case the temperature of concrete being placed shall not exceed 90° F. If necessary the ENGINEER may direct the CONTRACTOR to immediately cover plastic concrete with polyethylene sheeting to prevent rapid loss of moisture due to excessive ambient temperature and/or low humidity. This work will be part of the Contract price and not an extra.

3.09 REMOVAL OF FORMS

- A. Except as otherwise specifically authorized by the ENGINEER, forms shall not be removed before the concrete has attained a strength of at least 30 percent of the

ultimate strength prescribed by the design, and not before reaching the following number of day-degrees (whichever is the longer):

Beams and slabs	500
Walls and vertical surfaces	100

*Day-degree: Total number of days times average daily air temperature at surface of concrete. For example, 5 days at a daily weighted average temperature of 60° F equal 300 day-degrees. Temperatures below 50° F not to be included.

- B. Shores shall not be removed until the concrete has attained at least 60% of the specified strength and also sufficient strength to support safely its own weight and the construction live loads upon it.

3.10 FAILURE TO MEET REQUIREMENTS

- A. Should the strengths shown by the test specimens made and tested in accordance with the above provisions fall below the values required, the ENGINEER shall have the right to require changes in proportions as outlined above to apply on the remainder of the work. Furthermore, the ENGINEER shall have the right to require additional curing on those portions of the structure represented by the test specimens which failed, the cost of such additional curing to be at the CONTRACTOR's expense. In the event that such additional curing does not give the strength required, as evidenced by core and/or load tests, the ENGINEER shall have the right to require strengthening or replacement of those portions of the structure which fail to develop the required strength. The cost of all such core borings and/or load tests and any strengthening or concrete replacement required because strengths of test specimens are below that specified, shall be entirely at the expense of the CONTRACTOR. In such cases of failure to meet strength requirements the CONTRACTOR and ENGINEER shall confer to determine what adjustment, if any, can be made in conformity with Sections 15 and 17 of ASTM Specification C94 for Ready-mixed Concrete.
- B. When the tests on control specimens of concrete fall below the required strength, the ENGINEER will permit check tests for strengths to be made by means of typical cores drilled from the structure in accordance with ASTM Methods C42 and C39. In case of failure of the latter, the ENGINEER, in addition to other recourses, may require, at the CONTRACTOR's expense, load tests on any one of the slabs, beams, foundations, walls, and columns in which such concrete was used. Test need not be made until concrete has aged 60 days.
- C. Slabs or beams, under load test, shall be loaded with their own weights plus a superimposed load of 2 times design live load. The load shall be applied uniformly over portion being tested in acceptable manner, and left in position for 24 hours. The structure shall be considered satisfactory if deflection "D" in feet, at end of 24-hour period does not exceed value:

D equals $0.001 (L \times L)/t$, in which "L" is span in feet, "t" is depth of slab or beam in inches.

- D. If deflection exceeds "D" in the above formula, the concrete shall be considered faulty unless within 24 hours after removal of the load, slab or beam under test recovers at least 75% of observed deflection.
- E. Should the strength of test cylinders fall below 60% of the required minimum 28 day strength, the concrete shall be rejected and shall be removed and replaced.

3.11 PATCHING AND REPAIRS

- A. It is the intent of these Specification to require forms, mixture of concrete and workmanship so that concrete surfaces, when exposed, will require no patching.
- B. As soon as the forms have been stripped and the concrete surfaces exposed, fins and other projections shall be removed, recesses left by the removal of form ties shall be filled, and surface defects which do not impair structural strength shall be repaired. Clean all exposed concrete surfaces and adjoining work stained by leakage of concrete, to approval of the ENGINEER.
- C. Immediately after removal of forms remove plugs and break off metal ties as required by Paragraph 3.06. Holes are then to be promptly filled upon stripping as follows: moisten the hole with water, followed by a 1/16-inch brush coat of neat cement slurry mixed to the consistency of a heavy paste. Immediately plug the hole with a 1-1.5 mixture of cement and concrete sand mixed slightly damp to the touch (just short of "balling"). Hammer the grout into the hole until dense, and an excess of paste appears on the surface in the form of a spiderweb. Trowel smooth with heavy pressure. Avoid burnishing.
- D. When patching or repairing exposed surfaces the same source of cement and sand as used in the parent concrete shall be employed. Adjust color if necessary by addition of proper amounts of white cement. Rub lightly with a fine carborundum stone at an age of 1 to 5 days if necessary to bring the surface down with the parent concrete. Exercise care to avoid damaging or staining the virgin skin of the surrounding parent concrete. Wash thoroughly to remove all rubbed matter.
- E. Defective concrete and honeycombed areas as determined by the ENGINEER shall be chipped down reasonably square and at least 1-inch deep to sound concrete by means of hand chisels or pneumatic chipping hammers. Irregular voids or surface stones need not be removed if they are sound, free of laitance, and firmly imbedded in the parent concrete, subject to ENGINEER's final inspection. If honeycomb exists around reinforcement, chip to provide a clear space at least 3/8-inch wide all around the steel. For areas less than 1-1/2-inch deep, the patch may be made in the same manner as described above for filling form tie holes, care being exercised to use adequately dry (non-trowelable) mixtures and to avoid sagging. Thicker repairs will

require build-up in successive 1-1/2- inch layers on successive days, each layer being applied (with slurry, etc.) as described above. To aid strength and bonding of the multiple layer repairs, the ENGINEER may order the use of non-shrink, non-metallic grout.

Additives for non-shrink grout shall be as recommended by the manufacturer but shall conform to the Corps of ENGINEERS Specification for Non-Shrink Grout, CRO-C621-82B. The grout shall consist of the following minimum cement/sand proportions:

Material	Volumes	Weights
Cement	1.0	1.0
Sand	1.5	1.5

- F. For very heavy (generally formed) patches, the ENGINEER may order the addition of pea gravel to the mixture and the proportions modified as follows: (Non-shrink additives by manufacturer)

Material	Volumes	Weights
Cement	1.0	1.0
Sand	1.0	1.0
Pea Gravel	1.5	1.5

3.12 MODIFICATION AND REPAIR TO EXISTING CONCRETE

- A. Cut, repair, reuse, demolish, excavate or otherwise modify parts of the existing structures or appurtenances, as indicated on the Contract Drawings, specified, or necessary to permit completion of the work. Finishes, joints, reinforcements, sealants, etc. are specified under respective sections of Specification. All work shall conform with other requirements of this Section and details shown on the Drawings or within this section.
- B. Mix proportions of materials used in the modifications and repair to existing concrete as indicated on the drawings shall be:
1. When new material other than non-shrink grout is shown to be connected to existing concrete, use the following cement mixtures depending on the depths called for on the drawings:
 - a. Less than 2" in depth

<u>Material</u>	<u>Volume</u>
Cement	1.0
Sand	2.0
Water = 5 gals/100 lbs cement	

- b. From 2" to 12" in depth

<u>Material</u>	<u>Volume</u>
Cement	1.0
Pea Gravel	2.5
Sand	2.0
Water = 5 gals/100 lbs cement	

- c. Greater than 12 " in depth

Material
Concrete as specified under 2.01-MATERIALS in this section

2. Non-Shrink Grout - As specified under 3.11 "Patching and Repairs (E) or (F) in this section.

3. Epoxy Bonding Agent

- a. Epoxy bonding agent shall be used on all repairs and shall be a two component epoxy adhesive specifically formulated for bonding old concrete to new (plastic) cement. Component A shall be an epoxy resin and Component B shall be an epoxy hardener. The epoxy bonding agent shall be "Sikastix 370, Sikadur Hi-Mod", by Sika Corporation, Lyndhurst NJ; "Pro bond 821 or 822" by Protex Industries, Denver, CO; "Concresive 1170" by Adhesive Engineering company, San Carlos, CA; or approved equal.

- b. The mixing ratio shall be as recommended by the manufacturer for the ambient temperature when placed. Furnish manufacturer's specific instruction for specific job application and obtain ENGINEER's review prior to purchase.

- c. Epoxy bonding agent shall conform to ASTM C-881 and corresponding tests for bond strength and shrinkage as specified in ASTM C-882, C- 883, and C-884.

- d. The properties of the cured material shall meet the following.

Compressive Strength (ASTM D-695) 48 hour - 1,000 psi
28 day - 8,500 psi

Tensile Strength (ASTM D-638) 14 day -4,000 psi

Bond Strength (ASTM C-882 or C-884) - 1,500 psi

- e. Approval requirements: The CONTRACTOR must furnish notarized certification that the material proposed for use meets all of the above requirements and that the material has been previously used successfully for the purpose described.

C. Demolition of Existing Concrete

1. Concrete shown to be removed on the Plans shall be done by line drilling or saw cutting at limits on concrete to be removed, followed by jack-hammering in areas where concrete is to be taken out. The CONTRACTOR shall be responsible for removing concrete in such a manner that surrounding concrete or existing reinforcing to be left in place, and existing in-place equipment, is not damaged. Sawcutting at limits of concrete to be removed shall be done if indicated on the Drawings, or otherwise approved by the ENGINEER. The CONTRACTOR shall be responsible for the means and methods used, and for temporary support where needed.
2. If rebar is cut, new Rebar shall be installed with epoxy $\frac{3}{4}$ " from the existing cutoff reinforcement.

D. Demolition of Existing Stone

1. The existing limestone wingwalls and spandrel walls of Structures 3 to be removed on the Plans shall be done by hand tool.

E. Connection to Existing Concrete

1. Roughen surface of existing concrete to be connected to new materials by sand-blasting, chipping, or scarifying. Thoroughly clean area of concrete, to receive new materials, of loose particles and dust or other contamination objects.
2. Existing reinforcing as shown on the Drawings to be left in place shall be wire brushed to remove rust or concrete on the bar. The existing reinforcing shall be cut, if lapped rebar limits are reached and tied to new rebar. New rebar shall be provided with a minimum of one inch of cover all around and at ends of the bar. The reinforcing shall be thoroughly cleaned of loose- particles and dust before incorporating in new materials.
3. New steel shall be added with existing at 12" max c-c all ways unless otherwise noted on the plans. See Section 3200 for additional information. If not shown on the plans the minimum size of the rebar shall be No. 5.

F. Connection Methods

1. Method A: After existing concrete surface has been roughened and cleaned as

specified above, apply epoxy bonding agent at connection surface. The field preparation and application of the epoxy bonding agent shall conform strictly with the manufacturer's recommendations. Immediately pour new cement mixture or non-shrink grout as detailed on the drawings.

2. Method B: Drill holes for dowels to the diameter recommended by the epoxy bonding agent manufacturer. The drilled hole shall first be filled with epoxy bonding agent, then dowels shall be inserted by tapping. These holes shall be blown clear of loose particles and dust prior to installing epoxy bonding agent. Where shown on the Drawings, expansion bolts shall be installed in place of bonded dowels. Pour new cement mixture as detailed on the drawings.
3. Where existing reinforcing is exposed due to saw cutting and existing concrete is removed, a coating or surface treatment of epoxy protectorant shall be applied to the entire cut surface. The protectorant shall be Sikagard 62 by Sika Corporation, Duralprep A.C. by Euclid Chemical, or an approved equal. The epoxy protectorant shall be formulated for the intended application, and applied according to manufacturer's recommendations.

3.13 INSTALLATION SCHEDULE

- A. Concrete shall have minimum compressive strength at 28 days of 4,000 psi.
- B. Concrete fill and duct encasement- shall have a minimum compressive strength at 28 days of 2,500 psi.

3.14 FIELD CONTROL

- A. The CONTRACTOR shall advise the ENGINEER of his readiness to proceed at least 24 hours prior to each concrete placement. The ENGINEER will inspect the preparations for concreting including the preparation of previously placed concrete, the reinforcing and the alignment and tightness of formwork. No placement shall be made without the inspection and acceptance of the ENGINEER.
- B. The ENGINEER may have cores taken from any questionable area in the concrete work such as construction joints and other locations as required for determination of concrete quality. The results of tests on such cores shall be the basis for acceptance, rejection or determining the continuation of concrete work.
- C. The CONTRACTOR shall cooperate in the obtaining of cores by allowing free access to the work and permitting the use of ladders, scaffolding and such incidental equipment as may be required. The CONTRACTOR shall repair all core holes to the satisfaction of the ENGINEER. The work of cutting and testing the cores will be at the expense of the CONTRACTOR.

-END OF SECTION-

SECTION 03335 CONCRETE FINISHING

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to finish cast- in-place concrete surfaces as specified herein.

1.02 RELATED WORK

- A. Section 03300 Cast In Place Concrete

1.03 SCHEDULE OF FINISHES

- A. Concrete for the project shall be finished in the various specified manners either to remain as natural concrete or to receive an additional applied finish or material under another section.
- B. The base concrete for the following conditions shall be finished as noted and as further specified herein:
 - 1. Exterior concrete excluding slabs and walking surfaces, and exposed interior concrete; Rubbed Finish.
 - 2. Concrete where not exposed in the finished work and not scheduled to receive an additional applied finish or material; off-form finish.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Not used.

PART 3 - EXECUTION

3.01 FORMED SURFACES

- A. Forms shall not be stripped before the concrete has attained a strength as specified in Section 03300.

- B. Care shall be exercised to prevent damaging edges or obliterating the lines of chamfers, rustications or corners when removing the forms or doing any other work adjacent thereto.
- C. Clean all exposed concrete surfaces and adjoining work stained by leakage of concrete, to the satisfaction of the ENGINEER.
- D. Concrete not exposed or to be buried in the finished work shall have off-form finish with fins and other projections removed and tie cones and defects filled as specified under Section 03300. This shall include all headwall faces that are to receive a stone veneer. However, the faces of such stone veneer headwall backers shall receive surface finish bonding agent at the time that mortar is added for the stone veneer.
- E. Rubbed Finish (to be used on all exposed headwall and wingwall faces and culvert interior surfaces);
 - 1. Immediately upon stripping forms and before concrete has changed in color, all fins shall be carefully removed with a hammer. While the wall is still damp apply a thin coat of medium consistency neat cement slurry by means of bristle brushes to provide a bonding coat within all pits, air holes or blemishes in the parent concrete; avoid coating large areas of the finished surface with this slurry.
 - 2. Before the slurry has dried or changed color, apply a dry (almost crumbly) grout consisting of one volume cement to 1-1/2 volumes of clean masonry sand having a fineness modulus of approximately 2.25 and complying with the gradation requirements of the ASTM for such a material. Grout shall be uniformly applied by means of damp (neither dripping wet nor dry) pads of coarse burlap approximately 6-in. square used as a float. Grout shall be well scrubbed into the pits and air holes to provide a dense mortar in the imperfections to be patched.
 - 3. Allow the mortar to partially harden for one or two hours depending upon the weather. If the air is hot and dry, keep the wall damp during this period using a fine, fog spray. When the grout has hardened sufficiently so it can be scraped from the surface with the perpendicular edge of a steel trowel without damaging the grout in the small pits or holes, cut off all that can be removed with a trowel. Grout allowed to remain on the wall too long will get too hard and will be difficult to remove.
 - 4. Allow the surface to dry thoroughly and rub it vigorously with clean dry burlap to completely remove any dried grout. No visible film of grout should remain after this rubbing. The entire cleaning operation for any area must be completed the day it is started. Do not leave grout on surfaces overnight. Allow sufficient time for grout to dry after it has been cut with the trowel so it can be wiped off clean with the burlap.

5. On the day following the repair of pits, air holes and blemishes, the walls again shall be wiped off clean with dry, used pieces of burlap containing old hardened mortar which will act as a mild abrasive. After this treatment, there shall be no built-up film remaining on the parent surface. If, however, such is present a fine abrasive stone shall be used to remove all such material without breaking through the surface film of the original concrete. Such scrubbing shall be light and sufficient only to remove excess material without working up a lather or mortar or change the texture of the concrete.
6. A thorough wash-down with stiff bristle brushes shall follow the final bagging or stoning operation in order that no extraneous materials remain on the surface of the wall. The wall shall be sprayed with a fine fog spray periodically to maintain a continually damp condition for at least 3 days after the application of the repair grout.

3.02 FLOORS AND SLABS

- A. Not used

3.03 APPROVAL OF FINISHES

- A. All concrete surfaces, when finished, will be inspected by the ENGINEER.
- B. Surfaces which, in the opinion of the ENGINEER, are unsatisfactory shall be refinished or reworked until accepted by the ENGINEER.

-END OF SECTION-

SECTION 03340 PRECAST STRUCTURAL CONCRETE

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to install precast reinforced concrete box structure and such parts of similar structures composed of concrete in accordance with these specifications.

1.02 RELATED WORK

- A. Section 03300 Cast In Place Concrete

PART 2 - PRODUCTS

2.01 BOX STRUCTURE

- A. All box structures shall be designed and fabricated in accordance INDOT Standard Specification 714.

2.02 HEADWALLS, WINGWALLS, AND FOOTINGS

- A. Headwalls, wingwalls, and footings may be precast or cast-in-place. Headwalls and wingwalls shall be in accordance with INDOT Standard Specification 714.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Unless otherwise specified, the applicable requirements of INDOT Standard Specification 702, 703 and 714 shall apply for the construction of box structures and concrete parts of similar structures.
- B. Excavation and disposal shall be in accordance with the applicable requirements of INDOT Standard Specification 206.
- C. All underground drains encountered during excavation for the structure shall be perpetuated as dictated by field conditions. Drainage openings through masonry shall be in accordance with INDOT Standard Specification 702.16.
- D. Handling of box structures shall be in accordance with INDOT Standard

Specification 907.05. Handling of wingwalls shall be in accordance with INDOT Standard Specification 907.06.

- E. The box structure, headwalls, wingwalls, and footings shall be designed and constructed in accordance with the dimensions shown on the contract plans.
- F. Construction joints shall not be used within the cross-section of precast box structures.

-END OF SECTION-

DIVISION 4
MASONRY

SECTION 04413 STONE MASONRY VENEER

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Photograph Culvert #3 faces prior to demolition.
- B. Restoration and salvage of the existing stones during the demolition at Culvert #3.
- C. Cleaning of existing stones and store on-site.
- D. Re-install existing stones to proposed precast wingwalls, spandrel walls, and headwalls faces of Culvert #3 with adhesive and grout joints.

1.02 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Division I.
- B. Storage of stones during the construction of Culvert #3 shall be on-site to be determined by the CONTRACTOR and approved by the OWNER. The CONTRACTOR shall store salvaged brick on site on wood pallets.

PART 2 - PRODUCTS

2.01 GROUT

- A. The CONTRACTOR shall not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated. The CONTRACTOR shall not use calcium chloride in mortar or grout.
- B. Grout for Unit Masonry shall be in compliance with ASTM C476. The CONTRACTOR shall use grout of type indicated or, if not otherwise indicated, of type, fine or coarse, that will comply with TMS 602 for dimensions of grout spaces and pour height. Proportion grout in accordance with ASTM C476, Table 1. Provide grout with a slump of 8 to 11 in. as measured in accordance with ASTM C143/C143M.

2.02 MASONRY CLEANERS

- A. Acidic Cleaner shall be manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. The CONTRACTOR shall use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the work include, but are not limited to, the following:
1. Diedrich Technologies, Inc.; a division of Sandell Construction Solutions
 2. EaCo Chem, Inc.
 3. PROSOCO, Inc.

PART 3 - EXECUTION

3.01 DEMOLITION

- A. Existing wingwalls, spandrel walls or parapets of Culvert #3:
1. Prior to attempting adjacent excavation or removal and the possible removal of limestone, the CONTRACTOR shall photographically document the existing condition of the stone wall and present a copy to the OWNER and the ENGINEER.
 2. The CONTRACTOR shall carefully remove the limestone using methods and hand tool equipment which minimizes damage to the material. If power tools, such as grinders, will be used to remove the stones, the CONTRACTOR shall demonstrate the ability to use the tools without damaging the masonry as a test panel before starting work on the entire structure.
 3. The CONTRACTOR shall remove mortar from all bonding surfaces that will be salvaged so that fresh mortar can develop normal bond strengths.

3.02 CLEANING

- A. Cold-Weather Cleaning: The CONTRACTOR shall use liquid cleaning methods only when air temperature is 40°F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.
- B. Hot-Weather Requirements: The CONTRACTOR shall comply with hot-weather construction requirements contained in TMS 602.
- C. Masonry cleaning must follow the guidance provided in Preservation Brief #1, which is published by the National Park Service and available at <https://www.nps.gov/orgs/1739/preservation-briefs.htm>.

3.03 RESETTING

- A. The CONTRACTOR shall reset the existing limestone in such a manner that the visual appearance of the reset face shall match that of the original existing wall. If grout,

adhesive, or other anchoring material is found to be necessary on culvert faces that did not previously have such material, it shall be applied in a manner that does not damage the original material and is not visible.

- B. The CONTRACTOR shall reconstruct masonry to match original configuration, as specified on the plan.
- C. The CONTRACTOR shall clean any soiled fracture surfaces with specified cleaning materials to ensure adequate bond of the epoxy.
- D. The CONTRACTOR shall construct temporary formwork and shores as needed to support reinforced masonry elements during construction. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and that of other loads that may be placed on them during construction.
- E. The CONTRACTOR shall not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
- F. The CONTRACTOR shall comply with requirements in TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height. Limit height of vertical grout pours to not more than 60 in.
- G. The CONTRACTOR shall clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

3.04 FINAL CLEANING

- A. After mortar is thoroughly set and cured, the CONTRACTOR shall clean exposed masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain ENGINEER's approval of sample cleaning before proceeding with cleaning of masonry.
 - 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
 - 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.

5. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.

3.05 MASONRY WASTE DISPOSAL

- A. Excess limestone which is not needed for column restoration shall be offered to the owner. The CONTRACTOR shall contact the OWNER to verify and arrange for delivery. If the OWNER elects to receive the material, it shall be placed on the property at a location designated by the OWNER.
- B. Excess masonry materials not received by the OWNER shall be removed from the project site. The CONTRACTOR shall remove excess clean masonry waste and other masonry waste, and legally dispose of off OWNER's property.

3.06 APPROVAL OF FINISHES

- A. All concrete surfaces, when finished, will be inspected by the ENGINEER.
- B. Surfaces which, in the opinion of the ENGINEER, are unsatisfactory shall be refinished or reworked until accepted by the ENGINEER.

-END OF SECTION-

DIVISION 5
METALS

SECTION 05120 STRUCTURAL STEEL

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to install structural pipe arch structure for Culvert #3 in accordance with these Specifications.

1.02 RELATED WORK

- A. Not Used

PART 2 - PRODUCTS

2.01 STRUCTURAL PIPE ARCH

- A. The structural pipe arch shall be designed and fabricated in accordance with INDOT Standard Specification 717.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Unless otherwise specified, the applicable requirements of INDOT Standard Specification 717 shall apply for the construction of structural plate pipe and pipe arches.

-END OF SECTION-

DIVISION 6
WOOD, PLASTIC AND COMPOSITES

SECTION 06600
PLASTIC FABRICATIONS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment, and incidentals required to install a HDPE circular liner pipe for Culvert #4 in accordance with the plans and these Specifications.

1.02 RELATED WORK

- A. Not Used

PART 2 - PRODUCTS

2.01 LINER PIPE

- A. The HDPE Liner Pipe shall be designed and fabricated in accordance with INDOT Standard Specification 725.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Unless otherwise specified, the applicable requirements of INDOT Standard Specification 725 shall apply for the construction of the HDPE liner pipe at Culvert #4.

-END OF SECTION-

DIVISION 32
SITE IMPROVEMENTS

SECTION 32912 TURF AND GRASSES

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Final grading of topsoil for finish landscaping.

1.02 RELATED SECTIONS

- A. Section 02160 - EARTHWORK Section 02936 - SEEDING

PART 2 - PRODUCTS

- A. Topsoil: Excavated Material free of rocks, roots larger than 1/2-inch, subsoil, debris and large weeds.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that trench backfilling has been inspected.
- B. Verify substrate base has been contoured and compacted.

3.02 SUBSTRATE PREPARATION

- A. Eliminate uneven areas and low spots.
- B. Remove debris, roots, branches, stones, in excess of 1/2-inch in size. Remove subsoil.
- C. Scarify subgrade to depth of 3-inches where topsoil is scheduled. Scarify in areas where equipment is used for hauling and spreading topsoil and has compacted subsoil.

3.03 PLACING TOPSOIL

- A. Place topsoil in areas where seeding, planting are to occur to the thickness as scheduled. Place topsoil during dry weather.

- B. Fine grade topsoil eliminating rough or low areas. Maintain profile and contour of subgrade.
- C. Remove roots, weeds, rocks and foreign material while spreading.
- D. Manually spread topsoil close to trees, plants and building to prevent damage.
- E. Lightly compact placed topsoil.
- F. Remove surplus subsoil and topsoil from site.
- G. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.04 TOLERANCES

- A. Top of topsoil; Plus or minus 1/2-inch.

3.05 PROTECTION

- A. Protect landscaping and other features remaining as final work.
- B. Protect utilities and paving.

3.06 SCHEDULES

- A. Compacted topsoil thickness at the following areas:
 - 1. Seeded Grass: 3-inches.
 - 2. Sod: 2-inches.

-END OF SECTION -

SECTION 32920 SEEDING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Seeding, mulching.
- B. Maintenance.

1.02 RELATED SECTIONS

- A. Section 02160 - EARTHWORK
- B. Section 03291 - LANDSCAPE GRADING

1.03 DEFINITIONS

- A. Weeds: Includes Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimmer Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.04 MAINTENANCE DATA

- A. Includes maintenance instructions, cutting method and maximum grass height.

1.05 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

1.06 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for herbicide composition.
- B. Provide certificate of compliance from authority having jurisdiction indicating approval of seed mixture.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Division I.
- B. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

- C. Deliver fertilizers in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.08 MAINTENANCE SERVICE

- A. Maintain seeded areas immediately after placement until grass is well established and exhibits a vigorous growing condition for two cuttings.

PART 2 - PRODUCTS

2.01 SEED MIXTURES

- A. Permanent Seed Mixture: INDOT mixes Type U as specified in the plans, coordinate final seed mix with DNR Parks for compliance.
- B. Temporary Seed Mixture: (Refer to Erosion & Sediment Control Specifications)

2.02 ACCESSORIES

- A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are not acceptable. All mulching materials shall be net free.
- B. Water: Clean, fresh and free of substance of water or matter which could inhibit vigorous growth of grass.
- C. Erosion Fabric: Jute matting, open weave. Curlex Type 1 with Fibernet or equal. Shall be net free.
- D. Stakes: Softwood lumber, chisel pointed. String: Biodegradable.
- E. Fertilizer: 12-12-12 Commercial Mixture.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Lawn:
 1. Till soil thoroughly to a minimum depth of 2".
 2. Apply fertilizer to soil at a rate of 20 pounds per 1000 square feet immediately prior to seeding.
 3. Rake or lightly till fertilizer into soil.
 4. When topsoil is exceedingly dry, moisten to a depth of 4", 48 to 72 hours prior to

start of seeding.

5. Perform watering to prevent run off.

3.02 SEEDING:

- A. Sow seed uniformly over entire area in 2 operations at rate of 3 lbs. per 1000 sq. ft.
- B. Apply second seeding at right angles over the first.
- C. Seeding operation may be by broadcast method or drill equipment. Lightly cover seed by hand raking or dragging lawn areas to depth of 1/4".
- D. Smooth and firm seeded areas with a 200# roller and water with a fine spray.
- E. Cover all sloped areas (greater than 3 to 1 slopes) and other areas where erosion may occur with burlap erosion mat. Anchor securely in place.
- F. Mulch all seeded areas at a minimum rate of 1 Ton/acre. Mulch shall be held in place as CONTRACTOR will be responsible for replacing mulch which has blown away prior to adequate seeding germination. Mulch shall be held in place by one of the following methods. Means and methods must be coordinated with DNR Parks before installation.
 1. Tilling or punching mulch into the soil.
 2. Commercially produced mulch binder shall be net free.
 3. Commercially produced biodegradable (and net free) in place with wire staples.

3.03 LAWN ESTABLISHMENT

- A. CONTRACTOR shall provide the following:
 1. Provide daily maintenance until lawn is well established.
 2. Provide necessary lawn care including fertilizing, weed eradication, watering, mowing, removal of excess clippings and replacement of unsuitable sod.
 3. Seeded Lawns: extend until uniform stand of grass established over entire area.

-END OF SECTION-

DIVISION 33
UTILITIES

SECTION 33822 FIBER COMMUNICATIONS

PART 1 - GENERAL

1.01 WORK INCLUDED

This work shall consist of providing and installing an outdoor-rated, single-mode, armored, fiber optic cable of the number of fibers specified, in accordance with 105.03 and as shown on the plans at Culverts #2 and #3 or as directed by the Engineer.

PART 2 - PRODUCTS

2.01 CONDUIT

- A. The properties and dimensions shall be in accordance with ASTM F 2160 standard specification for "Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD)".

2.02 FIBER

- A. The fiber optic cable shall match the existing and consist of a 48 strand singlemode fully waterblocked loose tube, all dielectric gel free design, 250u micron, 10.5 mm outer diameter, and suitable for Gigabit Ethernet and 10 Gigabit Ethernet. The cable shall be flame-retardant with no grounding or bonding required.
- B. The cable shall be new, unused, and of current design and manufacture.
- C. The cable shall withstand a minimum-bending radius of 15 times its outer diameter during operation and 10 times its outer diameter during installation without changing the characteristics of the optical fibers.
- D. Environmental Requirements:
 - 1. The cable shall meet all the specified environmental requirements under the following conditions:
 - a. Shipping/storage temperature: -40°F to +158°F
 - b. Installation temperature: -30°F to +158°F
 - c. Operating temperature: -40°F to +158°F
 - d. Relative humidity from 0% to 95%, non-condensing.

2.03 VAULT:

- A. The vault shall match the existing and consist of CHANNELL, part #EN124-B125, TIER 22, grade level box or equivalent as shown on the plans.

PART 3 - EXECUTION

3.01 EXCAVATION

- A. Vacuum excavate direct buried cable as shown on the plans.
- B. Trench new conduit to a minimum depth of 36 in.

3.02 INSTALLATION

A. Experience Requirements:

1. CONTRACTOR personnel involved in the installation, splicing, and testing of the fiber optic cables shall meet the following requirements:
 - a. Shall have installed two systems where fiber optic cables are outdoors in conduit and where the systems have been in continuous satisfactory operation for at least two years. The Contractor shall submit as proof, photographs or other supporting documents, and the names, addresses, and telephone numbers of the operating personnel who can be contacted regarding the installed fiber optic systems.
 - b. A minimum of two years of experience in the installation of fiber optic cables, including fusion splicing, terminating, and testing single mode fibers.
 - c. Installers shall be familiar with the cable manufacturer's recommended procedures for installing the cable. This shall include knowledge of splicing procedures for the fusion splicer being used on this project and knowledge of all hardware such as breakout, furcation, kits and splice closures. The Contractor shall submit documented procedures to the Engineer for approval and to be used by Construction inspectors.
 - d. Personnel involved in testing shall have been trained by the manufacturer of the fiber optic cable test equipment to be used in fiber optic cable testing procedures. Proof of this training shall be submitted to the Engineer for approval. In addition, the Contractor shall submit documentation of the testing procedures for approval by the Engineer.

B. Installation in Conduit:

1. The Contractor shall provide a cable-pulling plan, identifying where the cable will enter the underground system and the direction of pull. This plan shall address locations where the cable is pulled out of a handhole, coiled in a figure eight, and pulled back into the handhole. The plan shall address the physical protection of the

cable during installation and during periods of downtime. The cable-pulling plan shall be provided to the Engineer for approval a minimum of 10 working days prior to the start of installation.

2. Fifty feet of slack fiber shall be installed at all locations where splices are being made, 50 ft on each side of the splice enclosure and tie-wrapped and coiled in the splice enclosure.
3. The pulling tension shall be continuously measured and shall not be allowed to exceed the maximum tension specified by the manufacturer of the cable.

C. SPLICING:

1. Splices shall be made at locations shown on the plans. Any other splices will be allowed only with the written approval of the Engineer.

3.03 TESTING

- A. A CONTRACTOR Certified Technician utilizing an Optical Time Domain Reflectometer and Optical Source/Power Meter shall conduct the installation test.
- B. The CONTRACTOR Technician shall conduct the test using the standard operating procedures defined by the manufacturer of the test equipment. All fibers installed shall be tested in both directions.

-END OF SECTION-