

**CULVERT REPLACEMENTS
FERDINAND STATE FOREST
Dubois County**

**DNR PROJECT NUMBER:
ENG2609631099**

January 2026

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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. XXX-XXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

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- xxxxxxxx-xx-xxx-xx; - (Project Name) - (Your firm)”

Bid File (PDF) MUST be named-“(Bidding Firm name) Bid-xxxxxxx-xx-xxx-xx; - (Proj Name)” and not exceed 9Mb

Until 1:31 P.M (Indianapolis Time), (Day), (Date), 202?, after which all bids will be publicly opened and read online in a Microsoft Teams Live Event- *(PM to insert Teams Live event info/Link here-PM to set MS Live event for 30 mins following Bid due to allow time to verify certifications and permit electronic bids to clear IOT/State Virus Detection software)*

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 XXXXX, 2020 may be obtained from: Reprographix.com ePlanroom (Construction Document Distribution) link for a cost of \$XX.00 per set, or from the office of: (Insert designer’s contact information)

Bids shall be taken from Prime Contractors pre-qualified by the Public Works Certification Board in the following classification(s): XXXXXXXXXXXX, or xxxxxxxxxxxxxxxx

The Specified construction period is XXX calendar days. 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>

Project Manager:

Associate State XXXXXX DAPW

Director of Public Works:

Director

Pre-Bid Information XXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

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 Affirmation (DAPW 11) to Public Works Division, Indiana Department of Administration as part of the contract. The Domestic Steel Affirmation 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.

AFFIDAVIT OF SUBS EMPLOYED

Public Works Project Number: _____ Date: _____

Project Description: _____

Prime Contractor / Designer: _____

Form Submitted for Bid: _____ Contract: _____ or Payment No.: _____

The following companies are subcontractors on this project for the amount indicated:

Subcontractor Name	Subcontract For	Subcontract Amount	Revised Amount	DAPW Certified Y/N	MBE WBE IVOSB	On Site Y/N

_____ being duly sworn upon oath, deposes and says that they are _____ of the firm of _____ and is familiar with the affidavit herewith and that these entries are complete and true.

STATE OF _____ }
COUNTY OF _____ } SS:

_____ 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



GENERAL BID FOR PUBLIC WORKS - CONTRACTOR'S BID

State Form 34894 (03-25) / DAPW 13
Indiana Department of Administration – Public Works

INDIANA DEPARTMENT OF
ADMINISTRATION
DIVISION OF PUBLIC WORKS
402 West Washington Street
Room W462
Indianapolis, IN 46204

INSTRUCTIONS FOR BIDDERS:

Fill in all blank spaces and submit to the address located in the agency block on the top of this form. Please see the notice to bidders for the project in question for project-related information

Project Number:		Project Description / Title:	
Class of Work Bid Submitting For:			
Contractor Email Address		Contractor Cell Phone #	
Sum of Bid <i>Please Enter Amount in Text Format</i>		Sum of Bid <i>Please Enter Amount in Number Format</i>	
Federal ID Number (EIN) or Last 4 of Social Security	<i>Employer Identification Numbers, or EINs, are provided by the Internal Revenue Service when registering your company. Please see https://www.irs.gov/businesses/small-businesses-self-employed/apply-for-an-employer-identification-number-ein-online for more information</i> <i>Please Do NOT include full Social Security Numbers</i>	Bidder ID Number	<i>Bidder Identification Numbers are provided by the Indiana Department of Administration. If you do not have a Bidder ID Number, you can obtain one at https://www.in.gov/idoa/procurement/supplier-resource-center/requirements-to-do-business-with-the-state/bidder-profile-registration/</i>

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

Designer Name		Designer Phone #	
Designer Address			

Alternate Bids

Instructions:

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 to the right for each listed alternate

Alternate Number		Add		Deduct		No Change		Dollar Amount	
Alternate Number		Add		Deduct		No Change		Dollar Amount	
Alternate Number		Add		Deduct		No Change		Dollar Amount	
Alternate Number		Add		Deduct		No Change		Dollar Amount	
Alternate Number		Add		Deduct		No Change		Dollar Amount	
Alternate Number		Add		Deduct		No Change		Dollar Amount	
Alternate Number		Add		Deduct		No Change		Dollar Amount	
Alternate Number		Add		Deduct		No Change		Dollar Amount	
Alternate Number		Add		Deduct		No Change		Dollar Amount	
Alternate Number		Add		Deduct		No Change		Dollar 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 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 a 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.

Non-Discrimination Compliance

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.

Addenda Recognition

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

Sole Proprietor Signature

In testimony whereof, the Bidder (a sole proprietor has hereunto set his or her hand on the date marked below.

Proprietorship (Company Name)		Bidder (Owner) Name	
Date (MM-DD-YYYY)		Bidder (Owner) Signature	

Partnership Signatures

In testimony whereof, the Bidder (a partnership) has here unto set their hands on the date marked below.

Company Name		Date (MM-DD-YYYY)	
Partner Name		Partner Signature	
Partner Name		Partner Signature	

Corporate Signatures

In testimony whereof, the Bidder (a corporation) has caused this proposal to be signed by its President or other authorized signatory and Secretary on the date marked below.

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.

Corporation Name		Date (MM-DD-YYYY)	
President or Authorized Signatory Name		President or Authorized Signature	
Secretary Name		Secretary Signature	

Ferdinand State Forest

Culvert Replacements

SUPPLEMENTAL UNIT PRICE

The contractor agrees to accept the following unit prices to adjust the amount of the contract, if actual site conditions or later changes in the design require additional work. Each of the unit costs listed below shall be for the full work required to locate, modify, relocate, and test so that the given facility is completed to full operation. These unit prices shall be submitted with the lump sum bid.

1. RELOCATION OF UNDERGROUND TELECOMMUNICATIONS FACILITY

\$ _____ / LFT

2. RELCOATION OF WATERMAIN

\$ _____ / LFT

Name of bidder: _____

Date: _____

SIGNATURE AFFIDAVIT

PROJECT NO: _____

STATE OF _____ }
COUNTY OF _____ } SS:
_____ }

Before me, the undersigned notary public, appeared _____ and being duly
(name of bidder)

sworn, on his oath says that he/she is _____
(president, general partner, owner)

of _____, bidder on Project No. _____, and
(name of company)

Affirmed that:

1. This bid is submitted in good faith in the amount stated herein, and will be fulfilled according to the Contract Documents (contract, general and supplemental conditions, technical specification, drawings and addenda thereto), if this bid is accepted; and
2. The statements are true contained in the Non-Collusion Statement, and as applicable, the Contractor's Affidavit of Subs Employed and the MBE, WBE and IVOSB Participation Plan and Good Faith Efforts Worksheet.

By: _____
(Signature)

(Printed name)

(Printed or typed name of company)

(must be signed by principal of organization)

STATE OF _____ }
COUNTY OF _____ } SS:
_____ }

_____ 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:

NOTARY PUBLIC – SIGNATURE

NOTARY PUBLIC PRINTED NAME

(SEAL)

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)

MINORITY, WOMEN'S AND INDIANA VETERAN OWNED BUSINESS ENTERPRISES PARTICIPATION PLAN FOR PUBLIC WORKS PROJECTS

CONTRACT GOALS 7% MBE 5% WBE 3% IVOSB

When a bidder submits a Minority, Women's and Indiana Veteran Owned Business Enterprises Participation Plan (Plan) in accordance with IC 4-13-16.5, 25 IAC 5, 25 IAC 9, and the IDOA DSD [Public Works Construction Projects Policy](#), the bidder will be held to those commitments. The Plan must show that there are Minority Business Enterprises (MBE), Women's Business Enterprises (WBE), and Indiana Veteran Owned Small Business Enterprises (IVOSB), as listed in the Indiana Department of Administration's Division of Supplier Diversity's directory of certified firms, participating in the public works project. Bidders must indicate the name of the MBE, WBE and IVOSB subcontractor with which it will work, the contact name and phone number at the firm(s), the service(s) and/or supplies provided by the firm(s), the specific percentage of the bid that will be directed toward each firm, and the approximate dates for utilization these supplies and/or services. The Indiana Department of Administration reserves the right to verify all information included in the Plan.

All prime contractors, including MBE, WBE and IVOSB prime contractors, are expected to meet the contract goals through use of subcontractors. Per 25 IAC 9-4-1(c), "IVOSB primes shall receive credit toward the contract goal for the use of its own workforce." But, pursuant to 25 IAC 5-6-2(d), "MBE and WBE prime contractors will get no credit toward the contract goal for the use of their own workforce."

Bidders may contact the Division of Supplier Diversity ("DSD") if they have any questions regarding their Plan. A complete list of all currently certified MBEs, WBEs, and IVOSBs may be found using this link: <http://www.in.gov/idoa/mwbe/2743.htm>.

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 or bid, the bidder 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 DSD's Compliance Unit at 317/232-3061 or mwbecompliance@idoa.in.gov.

MBE/WBE and IVOSB PARTICIPATION PLAN

BID/PROJECT # _____ DUE DATE _____

BIDDER _____

ADDRESS _____

CITY/STATE/ZIP _____

EMAIL _____

PHONE () _____

The following DSD Certified Businesses will be participating in the public works project:

COMPANY NAME	MBE WBE IVOSB	Contact Name & PHONE	SCOPE OF PRODUCTS/SERVICES	UTILIZATION DATE (S)	% OF TOTAL BID

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

THIS DOCUMENT MUST BE INCLUDED IN YOUR BID PACKAGE ALONG WITH THE COMPLETED LETTER(S) OF COMMITMENT.

If the levels of participation do not reach the goals of the project, Bidder should continue to the Good Faith Efforts Worksheet and Request for GFE Review.

**Indiana Department of Administration, Public Works Division
PRIME BIDDER GOOD FAITH EFFORTS (GFE) WORKSHEET**

BIDDER NAME _____ BID/PROJECT NUMBER _____

BUSINESS ADDRESS _____

EMAIL _____

PHONE NUMBER _____

CONTRACT GOALS 7% MBE 5% WBE 3% IVOSB

This worksheet is to be used to assist you in meeting the subcontracting participation goals. If your bid does not meet the goals or partially meets the goals, this form, along with the **Request for GFE Review**, shall be submitted with your BID PACKAGE.

Company Name and Address	M B E	W B E	I V O S B	Date of Contact	Date of Response	Goods or Services Requested	Result (Include Price Quote)

DESCRIBE FURTHER EFFORTS:

DSD Assistance	Describe
Advertisement	Describe
Agency Assistance	Describe
Other Criteria	Describe

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

REQUEST FOR GOOD FAITH EFFORTS (GFE) REVIEW

BIDDER NAME _____ BID/PROJECT NUMBER _____

BUSINESS ADDRESS _____

EMAIL _____

PHONE NUMBER _____

BIDDER IS REQUESTING (check all that apply)☐ **MBE** – A review of Bidder's GFE toward the MBE goal for this solicitation is requested.☐ **Total**☐ **Partial** _____ %☐ **WBE** - A review of Bidder's GFE toward the WBE goal for this solicitation is requested.☐ **Total**☐ **Partial** _____ %☐ **IVOSB** – A review of Bidder's GFE toward the IVOSB goal for this solicitation is requested.☐ **Total**☐ **Partial** _____ %

Submission of this form constitutes the Bidder's acknowledgement and agreement to comply with the M/WBE and IVOSB requirements set forth in IC 4-13-16.5, 25 IAC 5, and 25 IAC 9.

I affirm, under penalties of perjury, the information contained in this form is true and accurate.**Signature:** _____**Printed name & title:** _____**FOR AUTHORIZED USE ONLY****Date received:** _____**Reviewed by:** _____**Date returned to bidder:** _____**GOOD FAITH EFFORTS** ☐ **Approved** ☐ **Not Approved****COMMENTS:** _____

**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:

<u>MBE/WBE</u>	<u>PHONE</u>	<u>COMPANY NAME</u>	<u>SCOPE OF PRODUCTS/SERVICES</u>	<u>UTILIZATION DATE</u>	<u>AMOUNT</u>
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The following IVOSBs listed in the IVOSB directory will be participating in the contract:

<u>IVOSB</u>	<u>PHONE</u>	<u>COMPANY NAME</u>	<u>SCOPE OF PRODUCTS/SERVICES</u>	<u>UTILIZATION</u>	<u>DATE</u>	<u>AMOUNT</u>
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***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.

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Domestic Steel Affirmation

State Form 12125, DAPW 11 (04-25)

Indiana Department of Administration – Public Works

Department of Administration

Public Works

402 West Washington Street, Room W462

Indianapolis, IN 46204

E-mail: publicworks@idoa.in.gov

Website: www.in.gov/idoa

Domestic Steel Affirmation

Project Number:

I hereby swear or affirm under the penalties of perjury that the steel products furnished for this project shall conform to the requirements of Indiana Code 5-16-8-1 and 5-16-8-2.

IC 5-16-8-1 Definitions

Sec. 1. (a) The definitions in this section apply throughout this chapter.

(b) "Foundry products" means products cast from ferrous and nonferrous metals by foundries in the United States.

(c) "Person" means a natural person, corporation, limited liability company, partnership, or other business unit or association.

(d) "Public agency" means:

(1) the state of Indiana;

(2) a department, agency, board, commission, or institution of the state of Indiana; or

(3) a county, city, township, school or conservancy district, or other governmental unit or district;

that receives public bids for construction or other public works under Indiana law.

(e) "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.

(f) "United States" refers to the United States of America. The term includes all territory, continental or insular, subject to the jurisdiction of the United States.

IC 5-16-8-2(a) Public agency contract provisions; rules for determining reasonable pricing.

Sec. 2. (a) Each public agency shall require that every contract for the construction, reconstruction, alteration, repair, improvement or maintenance of public works contain a provision that, if any steel or foundry products are to be used or supplied in the performance of the contract or subcontract, only steel or foundry products made in the United States shall be used or supplied in the performance of the contract or any of the subcontracts unless the head of the public agency determines, in writing, that the cost of steel or foundry products is considered to be unreasonable.

Signature of President:

Printed Name:

Date:

Printed Name of Company:

Attesting Signature of Vice President / Secretary/ Treasurer:

Date:

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

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

UNDER AUTOMOBILE LIABILITY POLICY OR POLICIES

- Does coverage shown above apply to non-owned and hired automobiles?..... _____
- 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 **XXXXXXXXXX** ("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
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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	\$ _____
<input type="checkbox"/> INCREASE/ <input type="checkbox"/> DECREASE THIS AMENDMENT	\$ _____
<input type="checkbox"/> INCREASE/ <input type="checkbox"/> 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
<hr/>				

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
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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: 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 *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

CONSTRUCTION CONTRACT CHANGE ORDER/AMENDMENT #

AMENDMENT # EXHIBIT B

See Documents to Follow for Exhibit



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)
(Shall be signed by same representative who signed Contract)

Date

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)
(Shall be signed by Designer of Record with Certification Responsibility to the State of Indiana)

Date

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
(Shall be signed by Director of Public Works as Owner's representative)

Date

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

SECTION 01010

GENERAL REQUIREMENTS

1.01 DESCRIPTION:

- A. This project consists of the replacement of four culverts with added scour protection to a fifth culvert along the primary access road at the Ferdinand State Forest, Dubois County. The project generally includes but is not limited to the following:
- Replacement of Culvert No. CV Ferdinand 0A with an 18" circular pipe
 - Adding scour protection to Culvert No. CV Ferdinand 1A
 - Replacement of Culvert No. CV Ferdinand 2 with a 5' span by 4' rise reinforced concrete box along with adding scour protection
 - Replacement of Culvert No. CV Ferdinand 3 with a 9' span by 5' rise reinforced concrete box along with adding guardrail and scour protection
 - Replacement of Culvert No. CV Ferdinand 4 with a 9' span by 5' rise reinforced concrete box along with adding guardrail and scour protection
- 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: Nick Batta at NBatta@cmtengr.com

DNR Project Manager: John Spears at JSpears@dnr.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: Jamie Winner, Property Manager, at 812-827-2857 or JWinner@dnr.in.gov.

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.

1.08 REMEDIATION ALLOWANCE:

Contractor shall include an allowance of **\$ 50,000.00** in the bid for remediation of unforeseen constraints. The Contractor shall provide unit costs on the Supplemental Unit Price worksheet.

Such constraints may include but are not necessarily limited to unforeseen subsurface conditions particular to this construction site; improperly recorded or unrecorded physical properties and conditions at the site; obstruction of or delays to reasonable work sequences by the Property, or the Owner; and conflict within or omissions from the Contract Documents.

All remediation work shall be authorized in writing prior to execution.

If any portion of the allowance is not used during the project, that portion will revert to the owner and will not be included in the contractor's final payment.

1.10 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.

1.11 PROGRESS MEETINGS

Progress meetings will be held throughout progress of the Work at intervals agreed to by Owner, Designer, and Contractor.

1.12 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.

1.13 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.

1.14 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, 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. Prior to mobilization, the Contractor shall furnish to the Owner and Engineer a high resolution, color, audio-video recording of all planned construction areas. The purpose of this recording is to document existing conditions and to provide a fair measurement of required restoration.
- C. 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.

1.16 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.

1.17 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.

1.18 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. Contractor shall comply with roadway weight restrictions including seasonal weight restrictions.
- C. The Contractor shall adhere to all conditions of approved permits.

USACE 404 and IDEM 401 Permits Apply. Permit conditions are attached to the end of this section.

1.19 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.

END OF SECTION

**CULVERT REPLACEMENTS
FERDINAND STATE FOREST
Dubois County**

**DNR PROJECT NUMBER:
ENG2609631099**

Special Provisions

STRUCTURE REPLACEMENT OF NO. 1B

Structure No. 1B is an 18" circular corrugated metal pipe, approximately 7' below the top of the roadway pavement, that is located approximately XX' west of No. 1A. This pipe was recently determined by regular inspections to be in need of replacement.

The Contractor is to replace Structure No. 1B with a new pipe of the same pipe opening and placed at the same upstream and downstream invert elevations and crossing skew as the existing. XX cubic yards of revetment rip rap is to be installed in each of the upstream and downstream structure ends. Headwalls and wingwalls do not exist presently and will not be needed. No guardrail is to be installed. Included with the costs to replace the pipe should include structure backfill to the bottom of the roadway pavement and HMA pavement patching to match the existing top of roadway profile elevation.

Structure 1B is only depicted in the plans on the Location Map in Sheet 1. No topographic survey information is available.

UTILITY EXPLORATION

A 4" watermain and underground telecommunications facility parallel the state forest access road in the vicinity of the culvert work. The watermain does not contain a tracer wire. The Contractor shall pothole these underground utilities in the areas of the work and communicate those findings to the Engineer. The Engineer, working in cooperation with the Contractor, will determine if either underground utility is free from conflicts, could be free from conflicts by modifying the scope of work, or require relocation. The costs of this exploration work shall be included in the lump sum bid.

If the underground telecommunications facility needs to be relocated, that work is to be performed by Contractor in accordance with 1.08 Remediation Allowance of Section 01010 of the contract documents. The State Forest property manager shall be notified at least two weeks prior to starting work so notifications can be posted by the property manager of potential outages.

If the watermain needs to be relocated, that work is to be performed by Contractor in accordance with 1.08 Remediation Allowance of Section 01010 and the supplemental specification title "Watermain Relocations".

GEOTECHNICAL EVALUATION

A geotechnical evaluation has been completed by Terracon Consultants, Inc. in August of 2025. The report is made available to bidders as additional information.

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Standard Specifications and Special Provisions, apply to this Section.

1.02 SUMMARY

- A. This section covers the work necessary to install and test watermain piping that may need to be relocated to avoid conflicting with the scope of work.
- B. Related Sections:
 - 1. INDOT Standard Specification Section 106 – Control of Materials
 - 2. INDOT Standard Specification Sections 203, 206, and 211
- C. Reference to Standards
 - 1. 10-States Standards: “Recommended Standards for Water Works” as issued by the Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, latest Edition.
 - 2. 10-States Standards: “Recommended Standards for Wastewater Facilities” as issued by the Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, latest Edition.
 - 3. Indiana Department of Transportation (INDOT): Standard Specifications for Road and Bridge Construction, latest edition.
 - 4. Occupational Safety and Health Administration (OSHA): Current OSHA Occupational Safety and Health Standards – Excavations, 29 CFR Part 1926, including any successor regulations.
 - 5. Fittings for Water, as published by American Water Works Association.
 - 6. ANSI/AWWA C105/21.5-99, American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems, as published by American Water Works Association.
 - 7. ANSI/AWWA C600, AWWA Standard for Installation of Ductile-Iron Water Mains and their Appurtenances, as published by American Water Works Association.
 - 8. ANSI/AWWA C605, AWWA Standard for Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water, as published by American Water Works Association.
 - 9. ANSI/AWWA C651, AWWA Standard for Disinfecting Water Mains, published by American Water Works Association.
 - 10. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
 - 11. ASTM D2774 – Standard Practice for Underground Installation of Thermoplastic Pressure Piping
 - 12. ASTM D3261 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing

13. ASTM F2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings
14. Ductile Iron Pipe Research Associate (DIPRA) "Polyethylene Encasement Installation Guide," latest edition.
15. Ductile Iron Pipe Research Associate (DIPRA) "Installation Guide for Ductile Iron Pipe," latest edition.
16. ASTM C1479 – Standard Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations
17. AWWA C800 – AWWA Standard for Underground Service Line Valves and Fittings
18. ASTM F1417 – Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
19. ASTM F2164 – Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping System Using Hydrostatic Pressure

1.03 SUBMITTALS

A. General:

1. Requirements in this section are in addition to any specific requirements for submittals specified in other Divisions and Sections of the Specifications. The Contractor shall be responsible for the accuracy and completeness of all information contained in each submittal.
 - a. Address all hard copies of submittals and correspondence to:
Indiana Department of Natural Resources
C/O Crawford, Murphy & Tilly, Inc.
915 Main Street, Suite 408
Evansville, IN 47635
 - b. Submit all technical submittals in Construction/Project Management software.
2. Submit descriptive information, which will enable the Engineer to advise the Owner whether the Contractor's proposed materials, equipment, or methods of work are in general conformance to the design concept and in compliance with the Drawings and Specifications.
3. Submit Shop Drawings and Product Data for all material and equipment to be incorporated into the Work, whether or not specifically called for elsewhere in these Contract Documents. The information to be submitted shall consist of drawings, specifications, descriptive data, certificates, samples, test results, design calculations, fabrication and installation drawings, and such other information, all as required by the Engineer to evaluate the material and equipment for compliance with the requirements of these Contract Documents.
4. Equipment and materials delivered without meeting the above requirements **will not** be considered for pay requests involving the installation of said equipment and materials until the above information is received, reviewed and approved by the Engineer.
5. The Contractor shall be responsible for the accuracy and completeness of the information contained in each and every submittal and shall assure that the material, equipment or method of work shall be as described in the

submittal. The Contractor shall indicate by a signed stamp on each submittal that:

- a. Contractor has checked and approved the submittal.
 - b. Material and equipment described in the submittal conforms to the requirements of the Specifications and Drawings.
 - c. Material and equipment described in the submittal have been checked for dimensions and coordination with other work.
6. If the information contained in a submittal shows deviations from the Specifications or Drawings, include in the submittal verification that there is no conflict with portions of the Work covered by other submittals and notify the Engineer in each and every case where the submittal may affect the work of another Contractor or the Owner.
 7. Ensure coordination of submittals among the related crafts and subcontractors.
 8. Should the Contractor fail to submit acceptable shop drawings on the second submittal, the cost of the Engineer's time to review subsequent submittals on the unacceptable item will be deducted from the Contract amount.
 9. Review, acceptance, or approval of schedules, shop drawings, lists of materials, and procedures submitted or requested by the Contractor shall not add to the Contract amount, and all additional costs which may result therefrom shall be solely the obligation of the Contractor.
 10. Shop Drawing submittals processed by the Engineer do not become Contract Documents and are not Change Orders. The purpose of the Shop Drawing review is to establish a reporting procedure and is intended for the Contractor's convenience in organizing his work and to permit the Engineer to monitor the Contractor's progress and understanding of the design.
 11. It shall not be the responsibility of the Owner to provide engineering or other services to protect the Contractor from additional costs accrued from such approvals.
 12. No equipment or material for which listings, drawings, or descriptive material is required shall be fabricated, purchased, or installed until the Engineer has on hand copies of such approved lists and the appropriately stamped final Shop Drawings.
 13. Submittals will be acted upon by the Engineer as promptly as possible, and returned to the Contractor not later than the time allowed for review in Shop Drawing Submittal Procedure. Delays caused by the need for resubmittals shall not constitute reason for an extension of Contract time.
 14. The Contractor's authorization stamp shall appear on each copy of each submittal and likewise the Engineer's review stamp shall appear on each copy of each submittal.
 15. For all materials and/or products falling under the jurisdiction of the American Iron and Steel requirements, a certification letter must be accompanied with the technical submittal before submittal will be reviewed and approved, refer to Sections 00 45 60B and 00 86 10A.

B. Transmittal Procedure:

1. General - Submit through Bluebeam Revu electronically utilizing Construction/Project Management software.
2. Submittal Numbering System - The submittal numbering system shall be coordinated with the Engineer's document control system. Each submittal shall be numbered in consecutive sequence starting with number 1, then number 2, etc. Resubmittals are to be numbered with the original submittal number and the appropriate alphabetic letter. Example: If submittal number 12 is to be resubmitted, the resubmittal will be number 12A (Consecutive Alphabetical Designation) until the submittal is "NO EXCEPTIONS TAKEN" or "EXCEPTIONS TAKEN AS NOTED".
3. Deviation From the Contract – There shall be no deviations from the Contract.
4. Submittal Completeness – Submittals which do not have all the information required to be submitted, including deviations, are not acceptable and will be returned without review. The practice of submitting incomplete or unchecked shop drawings for the Engineer to correct or finish will not be acceptable, and shop drawings which, in the sole opinion of the Engineer, clearly indicate that they have not been checked by the Contractor will be considered as not complying with the intent of the Contract Documents and will be returned to the Contractor without review for resubmission in the proper form. Should the Contractor submit incomplete or unchecked shop drawings on the second submittal they will be returned to the Contractor without review for resubmission in the proper form. The cost of the Engineer's time to review subsequent resubmittals will be deducted from the Contract amount.
5. Review Procedure - When the Contract Documents require a submittal, the Contractor shall submit sufficient copies such that the Engineer will retain three (3) copies of all submittal information following Shop Drawing approval. Unless otherwise specified, within thirty (30) calendar days after receipt of the submittal, the Engineer shall review the submittal. The returned submittal shall indicate one of the following actions:

- a. NO EXCEPTIONS TAKEN: If the review indicated that the material, equipment, or work method is in general conformance with the design concept and complies with the drawings and specifications, submittal copies will be marked "NO EXCEPTIONS TAKEN". In this event the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.
 - b. EXCEPTIONS TAKEN AS NOTED: If the review indicates limited corrections are required, copies will be marked "EXCEPTIONS TAKEN AS NOTED". The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated in O&M data, a corrected copy shall be provided.
 - c. RESUBMIT WITH CORRECTIONS: If the review reveals that the submittal is insufficient or contains incorrect data, or indicates that the material, equipment or work method is not in general conformance with the design concept or in compliance with the Drawings and Specifications, copies of the submittal will be marked "RESUBMIT WITH CORRECTIONS". Submittals with deviations which have not been identified clearly may be rejected. The Contractor shall not undertake work covered by such submittals until a new submittal is submitted and returned marked either "NO EXCEPTIONS TAKEN" or "EXCEPTIONS TAKEN AS NOTED".
 - d. The Engineer will not recommend payment for any work done without a submittal marked either "NO EXCEPTIONS TAKEN" or "EXCEPTIONS TAKEN AS NOTED".
6. Effect of Review of Contractor's Submittals: The review of Shop Drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of his responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the Engineer or the Owner, or by any officer or employee thereof, and the Contractor shall have no claim under the contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed.
 - a. A mark of "NO EXCEPTIONS TAKEN" or "EXCEPTIONS TAKEN AS NOTED" shall mean that the Owner has no objection to the Contractor, upon his own responsibility, using the plan or method of work proposed, or providing the materials or equipment proposed.
 - b. Submittals with deviations from the contract requirements which have not been clearly identified by the Contractor at the time the submittal is transmitted to the Engineer for review may be rejected by the Owner and/or Engineer at a later date, even though the submittal may have been marked "NO EXCEPTIONS TAKEN" or "EXCEPTIONS TAKEN AS NOTED".
- C. In addition, the following specific information shall be provided by the Contractor:
 1. Submit certification that each manufacturer meets the applicable manufacturer's qualifications stated in this section.
- D. Submit the following specific information for welded steel piping prior to the start of work:

1. Procedure specifications and qualification records of all welding procedures for all pipe and associated structural welding to be performed under this Section, in accordance with Section IX of the ASME Boiler and Pressure Vessel Code except as modified by the code listed in Code Requirements of this Section.
 2. Welders qualifications shall be submitted for each individual welder scheduled to execute welding work.
- E. Submit a copy of the most current published NSF 61 listing of each pipe type, diameter, and lining, to be furnished for potable water service.

1.04 QUALITY ASSURANCE

- A. The manufacturer shall have established an on-going program of quality assurance and shall, upon request, provide auditable records to the Engineer of quality control documentation for the specified materials and equipment through its manufacturing process.
- B. The pipe manufacturers shall have been in the design, manufacture, and testing of the specified type of pipe, fittings, supports and associated equipment for ten (10) years minimum.

1.05 WARRANTY

- A. The Contractor shall provide warranty for all items under this section for one year from the date of acceptance by the Owner. During that one year, the Contractor shall at his expense replace any part or parts which malfunction or corrode due to defective manufacture or installation.

1.06 DELIVERY, STORAGE AND HANDLING

- A. The ends of pipe shall be covered during shipping.
- B. If possible, store PVC and CPVC pipe inside. When this is not possible, store pipe on level ground which is dry and free from sharp objects.
 1. Store different schedules of PVC and CPVC pipe that are stacked together with the pipe with the thickest walls on the bottom.
 2. If the PVC and CPVC pipe is on pallets, the pallets should be stacked with the pallet boards touching, rather than pallet boards being placed on the pipe to prevent damage to or bowing of the pipe.
 3. If the PVC and CPVC pipe is stored in racks, it shall be continuously supported along its length. If this is not possible, the spacing of the supports shall not exceed three feet (3').
 4. The PVC and CPVC pipe shall be protected from the sun and be in an area with proper ventilation to lessen the effects of ultraviolet rays and help prevent heat build-up.

PART 2 PRODUCTS

2.01 GENERAL

- A. The materials to be used for each piping system are shown on the Drawings and as stated in this section.

- B. Bolts, nuts, and washers shall be stainless steel unless otherwise specified herein.

2.02 PIPE IDENTIFICATION

- A. Detectable line marking tape with No. 12 insulated copper wire shall be used on all lines. Water lines shall have tape that reads "WARNING: Water Line." Sewer lines shall have tape that reads "WARNING: Sewer Line." All tape shall be placed approximately 18" above the line.
- B. Pressures lines shall have a No. 12 insulated copper tracer wire run in the ditch, immediately above the pipe and a termination box placed at each end of the pipe run.

2.03 PIPING TRANSITION PROVISIONS

- A. For connecting two pipes of the same nominal size but with different O.D.'s, a solid-sleeve transition coupling shall be used with low alloy steel bolts and nuts where connecting to ductile iron pipe.
- B. Couplings shall be PowerSeal Model 3501, Ford Meter Box Model FC2A or equal.

2.04 WALL PENETRATIONS (RESERVED)

2.05 DUCTILE-IRON PIPE AND FITTINGS

- A. Buried Piping
 - 1. Material and Wall Thickness
 - a. Material and Wall Thickness – Ductile iron pipe shall conform to ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51. All pipe shall have a Brinell Hardness of less than 230 BHN.
 - i. Buried pipe 12-inch diameter and smaller shall be AWWA C151 Pressure Class 350.
 - ii. Buried pipe larger than 12-inch diameter shall be AWWA C151 Pressure Class 350.
 - 2. Joints
 - a. Push-On – Shall conform to ANSI/AWWA C111/A21.11, American Fastite Joint or Equal.
 - i. Tyton Joint complete with Tyton gasket and lubricant supplied by pipe manufacturer.
 - ii. Fastite Joint complete with Fastite gasket and lubricant supplied by pipe manufacturer.
 - b. Restrained Push- On – Shall conform to ANSI/AWWA C111/A21.11, American Fastite Joint or Equal with American Fast-Grip restraining gaskets, or equal with tools and lubricant included.
 - i. Tyton Joint complete with Field-Lok gasket and lubricant supplied by pipe manufacturer.
 - ii. Fastite Joint complete with Fast-Grip gasket and lubricant supplied by pipe manufacturer.
 - iii. Tyton Joint with Sure-Stop Gaskets

- c. Mechanical Joint – Shall conform to ANSI/AWWA C111/A21.11. Bolts and nuts shall be Alloy Steel (Corten or US alloy type) and be cathodic to ductile iron and cast iron. Mechanical glands shall provide pipe restraint and conform to the following: The restraining mechanism shall consist of individually actuated wedges that increase their resistance to pullout as pressure or external forces increase. The device shall be capable of full mechanical joint deflection during assembly and the flexibility of the joint shall be maintained after burial. Torque limiting twist-off nuts shall be used to insure proper actuation of the restraining wedges. The joint restraint ring and its wedging components shall be made of ductile iron conforming to ASTM A536. The wedges shall be ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell conforming to ANSI/AWWA C111/A21.11 and ANSI/AWWA C153/A21.53 of the latest revision. The mechanical joint restraint shall have a rated working pressure of 250 psi minimum. The devices shall be listed by Underwriters Laboratories up through the twenty-four inch (24") size. The MJ restraint shall be the Series 1100 Mega lug Restraint manufactured by EBBA Iron, Inc. or ROMAC RomaGrip.
- 3. Fittings
 - a. Unless otherwise shown on drawings, all fittings shall be cast iron or ductile iron with mechanical joints conforming to AWWA C110 or shall be compact fittings meeting AWWA 153. Fittings 24" in diameter and smaller shall be for 350 psi maximum working pressure. Fittings larger than 24" shall be for 250 psi maximum working pressure.
 - b. All mechanical joint fittings shall have Series 1100 Mega lug Restraint manufactured by EBBA Iron, Inc. or ROMAC RomaGrip MJ restraint.
- 4. Lining
 - a. Cement Linings: ANSI A21.4 or AWWA C104 unless otherwise indicated, all ductile iron pipe and fittings for wastewater applications located inside the plant site shall be cement lined. Pipe used for air service shall not be cement-lined.
 - b. Ceramic epoxy: utilize Protecto 401 corrosion lining on all Ductile-Iron pipe and fittings for sanitary and combined sewer service.
- 5. Exterior Coating
 - a. Bituminous coating as specified in AWWA C151.
- 6. Polyethylene Encasement
 - a. All buried ductile iron pipe, including all appurtenances (fittings, valves, etc.) shall have a polyethylene encasement meeting AWWA C105. Encasement shall be installed per the Ductile Iron Pipe Association (DIPRA) installation guide.

7. Boltless Restrained Joints
 - a. Joints shall conform to applicable sections of AWWA C111, shall be a boltless-type joint that is capable deflection after assembly. Restrained joints shall be one of the following:
 - i. Flex-Ring bell-ends and factory spigot-ends or Flex-Ring bell-ends and Field Flex Rings for field-cut pipe-ends, as manufactured by American Cast Iron Pipe Company.
 - ii. TR Flex bell-ends and factory spigot-ends or TR Flex bell-ends and TR Flex Gripper Rings for field-cut pipe-ends, as manufactured by United States Pipe and Foundry Company.
 - iii. SNAP-LOK – Tyton bell-ends and factory spigot-ends for 6-inch through 24-inch diameter piping. SNAP-LOK – Fastite bell-ends and factory spigot-ends for 30-inch through 48-inch diameter piping. SNAP-LOK FC – Tyton for 6-inch through 24-inch diameter field-cut pipe.
 - iv. Super-Lock bell ends and factory spigot ends or Super-Lock bell ends and Field Rings for field-cut pipe ends, as manufactured by Clow Water Systems Company
 8. Gaskets
 - a. For push-on, restrained push-on, mechanical, restrained mechanical, and boltless restrained joints shall be SBR, styrene butadiene rubber, conforming to AWWA C111. Where contaminated soil is encountered, elastomers that are compatible with and chemically resistant to the soil contaminants shall be provided. Gaskets for restrained push-on joints shall have stainless steel wedging elements manufactured as part of the gasket.
 - b. Gaskets shall be manufactured or supplied by the following pipe manufacturers:
 - i. American Cast Iron Pipe Company
 - ii. U. S. Pipe and Foundry Company
 - iii. Clow Water Systems Company
 - iv. No substitutions will be allowed
- B. Lubricant for piping shall be the pipe manufacturer's standard only, no substitutes will be permitted.

2.06 HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS

- A. Gravity Pipe
 1. Manufacturers - High Density Polyethylene (HDPE) Pipe for storm sewer applications shall be manufactured by one of the following:
 - a. ADS N-12 WT
 - b. Hancor Mega Green WT
 - c. Prinsco Goldflo WT
 - d. Or approved equal
 2. Material – HDPE pipe shall conform to ASTM F2306 and ASTM F2648. Pipe shall be dual-wall smooth interior/annular exterior unless otherwise shown on the Drawings.
 3. Joints – Bell and Spigot shall conform to ASTM D3212 with rubber gaskets that conform to ASTM F477.

B. Pressure Pipe

1. Manufacturers – High Density Polyethylene (HDPE) Pipe for pressure applications shall be manufactured by one of the following:
 - a. JM Eagle
 - b. Isco Pipe
 - c. WL Plastics
 - d. Or approved equal
2. Material and Wall Thickness
 - a. Pipe sizes 4" and larger: ASTM D3035, DR 11
 - b. Pipe O.D. sizes shall be ductile iron pipe sizes (DIPs)
 - c. The pipe material shall contain no recycled compounds except that generated in the manufacturer's own plant from resin of the same specification from the same raw material.
3. Joints – Heat butt fused joints per ASTM F2620 and per pipe manufacturer's recommendations. Jointing shall be carried out by certified operators with prior experience fusing polyethylene pipe with similar equipment.
4. Fittings – Butt fusion fittings per ASTM D3261
5. Accessories
 - a. Molded Butt Fusion MJ Adapter, SR 11, in nominal DIPs sizes shall be used to transition to other pressure pipe materials and to install ductile iron fittings. Adapters shall be manufactured by Integrity Fusion Products or approved equal.
 - b. Electrofusion Couplers shall be allowed only to make final tie-ins where it is impractical to have butt fusion equipment in the pipe trench. Couplers shall be SDR 11 in nominal DIPs sizes and shall be manufactured by Integrity Fusion Products or approved equal.

2.07 POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

A. Manufacturers - PVC Pipe shall be manufactured by one of the following:

1. Diamond Plastics.
2. CertainTeed Corporation
3. JM Eagle
4. North American Pipe Corporation
5. Or approved equal

B. Pressure Pipe

1. Material and Wall Thickness
 - a. Pipe sizes 4" and larger: AWWA C900, DR 18
 - b. For directional drilling applications, pipe shall be Certalok C905/RJ pipe by the North American Pipe or approved equal
 - c. Pipe designated for potable water lines shall be AWWA C900, DR 14
2. Joints: Push-on type with rubber gaskets meeting the requirements of ASTM D3139

- a. PVC pipe shall have rubber gasketed joints. Rubber gaskets shall meet ASTM Specification F477.
 - b. All pipe shall be furnished with a painted ring or other acceptable marking suitable for determining whether or not the pipe has been properly inserted into the coupling. Each pipe shall be clearly marked with the nominal diameter, manufacturer's name, class pressure rating and identification code.
 - c. Integral Restrained Joint for C905/RJ pipe shall be a restraining system manufactured integrally into the pipe bell and spigot.
3. Fittings: ANSI A21.11 (AWWA C153), ductile iron standard body mechanical joint type as specified herein. All fittings shall be restrained with the Series 1100 Mega lug Restraint manufactured by EBBA Iron, Inc. or RomaGrip as manufactured by Romac Industries, Inc. No substitutions will be allowed.
- a. Restraining Devices, where needed, shall be Series 2800 Bell Restraint Harness by EBAA Iron Inc., or approved equal.

C. Gravity Pipe

- 1. Material and Wall Thickness:
 - a. Pipe sizes 4" through 15" shall be ASTM D3034
 - i For sewers fifteen feet (15') deep or less, SDR 35
 - ii For sewers deeper than fifteen feet (15'), SDR 26
 - b. Pipe sizes 18" through 48" shall be ASTM F679
 - i For sewers fifteen feet (15') deep or less, PS 46
 - ii For sewers deeper than fifteen feet (15'), PS 115
 - c. Where required to meet the horizontal and vertical separation requirements for water mains and sewer construction, the sewer shall be constructed of AWWA C900, DR 18 pipe as specified herein
- 2. Joints: Push-on type with rubber gaskets meeting the requirements of ASTM D3212
 - a. PVC pipe shall have rubber gasketed joints. Rubber gaskets shall meet ASTM Specification F477.
 - b. All pipe shall be furnished with a painted ring or other acceptable marking suitable for determining whether or not the pipe has been properly inserted into the coupling. Each pipe shall be clearly marked with the nominal diameter, manufacturer's name, class pressure rating and identification code.

2.08 POLYVINYL CHLORIDE (PVC) SCHEDULE PIPE AND FITTINGS

- A. PVC Schedule pipe and fittings shall be used for PVC applications with pipes less than 4" in diameter.
 - 1. Non-pressure Applications: Schedule 40
 - a. Pressure Applications: Schedule 80
- B. PVC Schedule pipe and fittings shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds meeting the requirements of ASTM D1784, ASTM D1785, and ASTM D2665, and ANSI/NSF 61/14.
- C. PVC Schedule pipe shall be Iron Pipe Size (IPS)
 - 1. PVC Schedule 80 fittings shall conform to ASTM D 2467.

2. PVC Schedule 80 threaded fittings shall conform to ASTM D 2464.
 3. PVC Schedule 40 pipe shall be Iron Pipe Size (IPS) conforming to ASTM D 1785.
 4. PVC Schedule 40 fittings shall conform to ASTM D 2466.
 5. Unions and flanges meet the requirements of ASTM F 1970 with gasket that is compatible with intended service.
 6. Solvent cement and primer shall conform to ASTM D 2564 and shall be as recommended by the pipe and fitting manufacturer. Cement shall be listed by manufacturer for compatibility with specific chemical service. Cement for chemical piping systems shall be IPS Weld-On CPVC 724 or Ipex Zirtec 24 CPVC cement or shall be listed by manufacturer for compatibility with specific chemical service.
 7. Pipe and fittings shall be manufactured as a system and be the product of one manufacturer.
 8. All pipe and fittings shall be manufactured in the United States.
- D. Unless noted otherwise, provide solvent-cement joints, except where connecting to valves and equipment with flanged or threaded connections that may require future disassembly.
- E. Threaded joints shall be sealed with PTFE tape or non-hardening compound that is NSF 61 listed and compatible with the intended service conditions. Thread seal tape shall meet MIL spec T-27730A-rated and be TT50 260P Pink Plumbers Teflon Thread Seal Tape manufactured by Seal Fast, Inc., or equal. Joint compound shall meet Federal Spec. TT-S-1732 and be Real-Tuff manufactured by Hercules Chemical Company, Inc., or equal for water and compatible chemical service.

2.09 CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPE AND FITTINGS

- A. CPVC Pipe and fittings shall be manufactured from virgin rigid CPVC (chlorinated polyvinyl chloride) vinyl compounds with a Cell Class of 23447-B (Type IV, Grade 1) as identified in ASTM D 1784.
1. CPVC Schedule 80 pipe shall be Iron Pipe Size (IPS) conforming to ASTM F 441.
 2. CPVC Schedule 80 fittings shall conform to ASTM F 439.
 3. CPVC Schedule 80 threaded fittings shall conform to ASTM F 437.
 4. Unions and flanges meet the requirements of ASTM F 1970 with gasket that is compatible with intended service.
 5. Solvent cement and primer shall conform to ASTM F 493 and shall be as recommended by the pipe and fitting manufacturer. Cement shall be listed by manufacturer for compatibility with specific chemical service. Cement for chemical piping systems shall be IPS Weld-On CPVC 724 or Ipex Zirtec 24 CPVC cement or shall be listed by manufacturer for compatibility with specific chemical service.
 6. Pipe and fittings shall be manufactured as a system and be the product of one manufacturer.
 7. All pipe and fittings shall be manufactured in the United States.
 8. Pipe and fittings shall conform to NSF Standard 61 and NSF Standard 14.

- B. Provide solvent-cement joints, except where connecting to unions, valves, and equipment with flanged or threaded connections that may require future disassembly and where noted otherwise.
- C. Threaded joints shall be sealed with PTFE tape or non-hardening compound that is NSF 61 listed and compatible with the intended service conditions. Thread seal tape shall meet MIL spec T-27730A-rated and be TT50 260P Pink Plumbers Teflon Thread Seal Tape manufactured by Seal Fast, Inc., or equal. Joint compound shall meet Federal Spec. TT-S-1732 and be Real-Tuff manufactured by Hercules Chemical Company, Inc., or equal for water and compatible chemical service.

2.10 COPPER AND COPPER ALLOY PIPE AND FITTINGS

- A. Tubing: Copper, seamless, ASTM B88, type and temper as follows:
 - 1. Buried: Type K, annealed soft or hard, drawn, temper.
 - 2. Exposed: Type L, hard, drawn, temper.
- B. Fittings: Commercially pure wrought copper, socket joint, ASTM B75, dimensions conforming to ASME B16.22. Cast copper fittings shall conform to ASME B 16.18.
- C. Solder: 95-5 wire solder (95 percent tin, 5 percent antimony), ASTM B32, Grade 95 TA. Cored solder is unacceptable.

2.11 REINFORCED CONCRETE PIPE

- A. ASTM C76 Class III unless otherwise noted on the Drawings
 - 1. Joints: ASTM C-361, Bell and Spigot compressive type with resilient seals embedded in both ends and joined with rubber gaskets per ASTM C443.
 - 2. RCP shall not have lifting holes. RCP 42" and larger shall be supplied with Dayton Superior P-75 Utility Anchors or equivalent lifting anchors.
 - 3. Each concrete pipe section shall be tested at the manufacture site with low pressure air or equivalent vacuum test. The test shall be conducted in a manner using a cap, plug and gasket of the type and size to be used in the field to include the tongue and bell sealing surface. End to end testing using foam plates is not acceptable. Reference ASTM C924 Pipe passing the test shall be clearly marked "Air Tested."
 - 4. Provide spigot cap or bell plug per ASTM C-361 where called for on the drawings.
- B. Flared End Sections for concrete or HDPE pipe shall be per AASHTO M170.

2.12 CORRUGATED STEEL (METAL) PIPE (CSP OR CMP)

- A. Corrugated Steel (Metal) Pipe (CSP or CMP): ASTM A760, 16 gauge. Galvanized, aluminized (Type 1R), or bituminous coated as specified on Drawings. Corrugated steel pipe may be round pipe or arch pipe as indicated on Drawings.
 - 1. Pipe ends for CMP shall be re-corrugated and installed with semi-corrugated "Hugger" type bands and "O" ring gaskets in accordance with pipe manufacturer's installation requirements to assure a watertight joint.

2.13 STEEL CASING PIPE

- A. At the locations shown on the drawings, pipelines shall be installed in a steel casing pipe. The steel casing pipe shall be bituminous coated and shall be of leakproof

construction, capable of withstanding the anticipated loadings. The steel casing pipe shall have minimum yield strength of 35,000 psi and shall meet the requirements of ASTM A139, Grade B. Ring deflection shall not exceed 2% of the nominal diameter. The steel casing pipe shall be delivered to the jobsite with beveled ends to facilitate field welding. The minimum wall thickness of the steel casing pipe shall be as follows:

Steel Casing Minimum Diameter (Inches)	Wall thickness (Inches)
16" and smaller	0.250
18"	0.250
20"	0.281
22"	0.312
24"	0.344
26"	0.375
28" and 30"	0.469
32"	0.438
34" and 36"	0.469
38", 40" and 42"	0.500
48"	0.563
54"	0.625

- B. Casing pipe diameter shall be such that there is a minimum of 3" clearance between the largest diameter part of the carrying pipe being installed and minimum inside diameter of the casing pipe including welds. To facilitate the installation of the inner pipe, that pipe shall be fitted with at least three casing insulators per pipe length. The casing insulators shall be Model 4810 as manufactured by Power Seal Pipeline Products Corporation of Wichita Falls, Texas, Advance Products & Systems Model SSI, or equal.
- C. The ends of the casing pipes shall be sealed with rubber end seals by Advance Products & Systems or approved equal. End seals shall be installed per manufacturer's recommendations.

2.14 GLASS-FIBER-REINFORCED POLYMER MORTAR (GFRPM) PIPE

- A. Manufacturers - Pipe shall be manufactured by one of the following:
 - 1. Hobas Pipe USA, Houston TX
- B. Material – fiberglass sewer pressure pipe per ASTM D3754, stiffness class SN46, pressure class PN50 unless otherwise shown on the Drawings.
- C. Joints – push-on type coupling joints per ASTM D4161 with rubber gaskets per ASTM F477. Pipe shall be supplied with couplings factory installed.
- D. Closure Couplings – mechanical couplings shall have stainless steel bodies and fasteners with elastomeric sealing sleeves and as per pipe manufacturer's recommendations. Closure coupling working pressure shall meet or exceed the working pressure of the pipe.
- E. Fittings – Flanges, elbows, reducers, tees, wyes, laterals, and other fittings shall be GFRPM capable of withstanding all operating conditions when installed. They may be contact molded or manufactured from mitered sections of pipe jointed by glass-fiber-reinforced overlays.

- F. Concrete Encasement – concrete encasement for trust restraint is required at all GFRPM fittings as per the details contained within the Drawings. Concrete and reinforcing shall meet or exceed the requirements of the Division 3 specifications.

2.15 DOUBLE-WALL AND TRIPLE-WALL POLYPROPYLENE PIPE (PP)

- A. Manufacturer: pipe shall be manufactured by one of the following:
 - 1. Advanced Drainage System, Inc.
 - 2. Or Accepted Equal
- B. Material: Dual wall pipe and fittings 12 inch through 24 inch diameter and triple wall pipe 30 inch through 60 inch shall conform to ASTM F2764, except as otherwise specified herein. Dual wall polypropylene pipe shall have a smooth interior and annular exterior corrugations. Triple wall polypropylene pipe shall have a smooth interior and exterior with annular inner corrugations. Pipe shall have a minimum pipe stiffness of 46 psi when tested in accordance with ASTM D2412.
- C. Joints: Pipe shall be joined with an integral bell and spigot joint on all sizes. The joints shall be watertight in accordance with ASTM D3212. The spigot shall have two gaskets meeting the requirements of ASTM F477. The gaskets shall be installed by the pipe manufacturer and shall be covered with a removable, protective wrap to ensure the gaskets are free from debris. A joint lubricant shall be used on the gasket and pipe bell during assembly. Pipe shall have a reinforced bell with a polymer composite band installed by the manufacturer.
- D. Fittings: Fittings shall conform to ASTM F2764 and be capable of withstanding all operating conditions when installed. Fittings may be molded or fabricated. Fabricated fittings shall be welded at all accessible interior and exterior junctions.

2.16 SANITARY SERVICE LATERALS

- A. Service lateral connections to newly installed sanitary sewers shall be gasketed PVC tees or wye fittings meeting the specifications defined in ASTM D3034, as manufactured by NAPCO or approved equal.
- B. Service lateral connections to existing sanitary sewers shall be Inserta-Tee by Inserta Fittings Co.

2.17 VALVES

- A. Valves for buried service to be provided as noted on the plans.

2.18 FIRE HYDRANTS (RESERVED)

2.19 YARD HYDRANTS

- A. Woodford Model S3 and S4H (for ADA sites). Sanitary yard hydrants shall be self-draining, non-freezing with a 1" NST nozzle at a 3-foot bury depth. Hydrant shall be self-draining, non-freezing and are to be factory painted red. Hydrants shall be installed per manufacturer's recommendations and as specified in the Contract Documents. Install where indicated on the Drawings.

2.20 MONITOR HYDRANTS (RESERVED)

2.21 TAPPING SLEEVES

- A. Tapping sleeves shall be ductile iron body with bituminous coating meeting NSF-61 or epoxy coated carbon steel. Tapping sleeves shall be MJ outlet.
- B. Manufacturers:
 - 1. Smith-Blair MJ Outlet Tapping Sleeve
 - 2. Mueller H-615 MJ Tapping Sleeve
 - 3. American Series 2800-C Tapping Sleeve

2.22 REPAIR COUPLINGS

- A. Pressure piping systems – repair couplings for PVC and Ductile Iron piping systems under pressure shall be mechanical joint ductile iron solid sleeves as specified herein
- B. Gravity piping systems – shall be gasketed, solid-body PVC repair couplings meeting the specifications defined in ASTM D3034, as manufactured by NAPCO or approved equal. Fernco style couplings are not acceptable.

PART 3 EXECUTION

3.01 GENERAL

- A. Proper and suitable tools and appliances for the safe and convenient handling and placing of the pipes shall be used. All pieces shall be carefully examined for defects and no piece shall be laid which is known to be defective. If any defective piece should be discovered after having been laid, it shall be removed and replaced with a sound piece, in a satisfactory manner, by the Contractor at his own expense.
- B. The pipes shall be thoroughly cleaned before they are placed, shall be kept clean until they are accepted in the completed work, and when laid shall conform accurately to the lines and elevations given by the Engineer, or as specified.

3.02 PIPE PREPARATION AND HANDLING

- A. Each pipe and fitting shall be carefully inspected before the buried pipe or fitting is lowered into the trench. Clean ends of pipe thoroughly. Remove foreign matter and dirt from inside of pipe and keep clean during and after laying.
- B. Use proper implements, tools, and equipment for the safe and proper protection of the pipe. Carefully handle pipe in such a manner as to avoid any physical damage to the pipe and coatings. Do not drop or dump pipe into trenches under any circumstances.
- C. Ream, clean, and remove burrs from piping before making up joints.
- D. Cut copper pipe square and remove burrs. Clean both inside of copper fittings and outside of pipe before sweating. Take care to prevent annealing of fittings and hard-drawn tubing when making connections.
- E. Bends in soft temper copper pipe shall be long sweep, wherever possible. Bends shall be shaped with bending tools and shall be made without appreciable flattening, buckling, or thinning of the tube wall at any point.

3.03 INSTALLATION OF BURIED PIPING

A. General

1. Buried piping shall be installed in accordance with the "Standard Specifications for Water and Sewer Construction in Indiana", "10-States Standards", "IEPA Technical Policy Statements", "IEPA Recommended Standards for Sewage Works", AWWA C600 and AWWA C605, ASTM D3221 and ASTM D2774, ASTM C1479, and the DIPRA Installation Guide for Ductile Iron Pipe. Contractor shall install buried piping according to the above listed standards except for requirements regarding measurement and payment and as modified herein.
2. Assembly of buried pipe and fittings shall be in accordance with the manufacturer's written instructions and recommendations.
3. Field cut pipe shall be cut square, beveled, field-gauged, and rounded in accordance with manufacturers written instructions and recommendations.
4. D.I.P. solid sleeves shall be installed with buried piping where proposed piping connects to existing site piping. Provide a make-up pipe spacer to fill the gap between pipe ends covered by the sleeve. The pipe spacer shall be cut from the same pipe material as adjacent pipe and shall be cut to length such that all adjacent joints remain fully seated.
5. All buried piping shall be uniformly sloped and installed to the line and grade indicated on the drawings. Minimum depth of cover shall be 4'-0" unless noted otherwise.
6. If a grade conflict is determined, the Contractor shall notify the Engineer, who shall then determine what adjustments are required.

B. Excavation, bedding, and backfill – Backfill requirements under pavement shall extend five feet (5') beyond the edge of pavement.

C. Thrust block all crosses, tees, wyes, bends, plugs, fire hydrants and valves against undisturbed earth as detailed in the drawings. Backfill thrust blocks a minimum of 24 hours after placement. Thrust blocks or misplaced concrete shall not contact the bell face or fasteners of any pipe, fitting, or valve.

D. Ductile-Iron Pipe

1. Care shall be taken not to damage the cement lining when handling the pipe. Cut pipe with milling type cutter, rolling pipe cutter, or abrasive saw cutter. Do not flame cut. Dress cut ends of pipe in accordance with the type of joint to be made. Dress cut ends of push-on joint pipe by beveling, as recommended by the pipe manufacturer. Dress cut ends of pipe for flexible couplings and flanged coupling adapters as recommended by the coupling or adapter manufacturer.
2. Push-On and Restrained Push-on pipe joint assembly shall conform to AWWA C111, Appendix B. Join pipe in accordance with the manufacturer's written instructions and recommendations. Provide all special tools and devices, such as special jacks, chokers, and similar items required for proper installation. Lubricant for the pipe gaskets shall be furnished by the pipe manufacturer, and no substitutes will be permitted.
3. Mechanical and Restrained Mechanical joint assembly shall conform to AWWA C111, Appendix A. Join pipe in accordance with the manufacturer's written instructions and recommendations. Provide all special tools and

devices, such as special jacks, chokers, and similar items required for proper installation. Lubricant for the pipe gaskets shall be furnished by the pipe manufacturer, and no substitutes will be permitted. Torque-limiting wrenches shall be used to ensure uniform bolt tightening.

E. PVC Pipe

1. Buried plastic pipe shall be installed in trench bottoms which are smooth and regular in either undisturbed soil or a layer of compacted backfill. The trench bottom should be smooth, free of rocks and debris, continuous, and provide uniform support. If ledge rock, hardpan or large boulders are encountered, the trench bottom should be padded with bedding of compacted granular material to a thickness of at least four inches.
2. Plastic pipe subject to freezing should be installed below the frost level which is 3-feet 6-inches of cover. The minimum cover for lines not subject to freezing but subject to heavy overhead traffic is 24-inches.
3. A smooth trench bottom is necessary to support the pipe over its entire length on firm stable material. Pipe must lie evenly on this surface throughout the entire length of its barrel. Blocking should not be used to change pipe grade or to intermittently support pipe over low sections in the trench.
4. Buried plastic pipe shall be laid by snaking the pipe from one side of the trench to the other. Offset shall be as recommended by the manufacturer for the maximum temperature variation between time of solvent welding and during operation.
5. Install plastic pipe in accordance with ASTM D 2321 "Underground Installation of Thermoplastic pipe for sewers and other gravity-flow applications."

3.04 TESTING

A. General:

1. Conduct pressure and leakage tests on all newly installed pipelines or segments of pipelines. Furnish all necessary equipment and material and make all permanent or temporary connections or plugs to the pipe, as required to perform testing on pipe segments. Properly restrain all segments to be tested. The Engineer will monitor the tests. Test pressures and type of test shall be as specified and as shown on the Drawings.
2. Testing New Pipe Which Connects to Existing Pipe: New pipelines which are to be connected to existing pipelines shall be tested by isolating the new pipe with special valves or blind flanges as necessary. Costs of valves and blind flanges used for this testing shall be incidental to new pipeline being tested.

B. Sanitary Sewer Testing - shall be per the Standard Specifications for Water & Sewer Construction in Indiana, latest edition, provisions and as specified herein.

1. The Contractor shall be required to test all the sanitary sewers and gravity drain lines installed on this project and all sections will be required to pass testing as outlined.
2. Leakage tests shall be performed after the lines have been cleaned and the trench backfilled.
3. All gravity sanitary sewers and gravity drain lines shall be tested by

exfiltration of water or exfiltration of air. Along the section of sewer to be tested, the Contractor shall determine the groundwater level at each end manhole and at all intermediate manholes. The groundwater level outside each manhole shall be measured outside the manhole by excavating down to the sewer to be tested or shall be measured in the manhole by the use of clear tubing and piping which extends through the manhole wall at or below the top of the sewer pipe to be tested. The hole through the manhole shall be sealed following successful completion of all leakage testing.

a. Exfiltration of water:

Test shall be conducted on accordance with the Standard Specifications for Water and Sewer Construction in Indiana, latest edition. The Contractor shall furnish the water to be used during the test when the water exfiltration method of testing is used. If a public water system is used, all water shall be metered and the Contractor shall pay the utility according to their current rates. All sewers shall be required to meet allowable leakage criteria. If any section fails to meet the tests, the section shall be repaired or replaced at the Contractor's expense and retested until it meets the leakage limits. Pressure grout or concrete encasement will not be acceptable methods of repair of joints.

b. Exfiltration of air:

If used, the air test shall, as a minimum, conform to the test procedure described in Section 31-1.11B of the Standard Specifications for Water and Sewer Main Construction in Indiana. The specifications shall require that the time required for a pressure drop from 3.5 to 2.5 PSIG not be less than the time specified in the Air Test Table in Appendix C.

6. Deflection Testing:

a. The Contractor shall be required to conduct deflection testing on each type of flexible sewer pipe or drain pipe. Sections of flexible pipe to be tested shall be tested no sooner than 30 days after the sewer has been installed. Where feasible testing shall be initiated at the downstream sections of the sewer and be followed by the upstream sections. Testing shall be performed by pulling through the sewer by hand a mandrel having an outside diameter equal to 95% of the base inside diameter of the pipe as established in the ASTM Standard D3034.

b. Deflection of flexible pipe shall not exceed 5% of the base inside diameter.

c. Where deflection is found to be in excess of 5% of the original pipe diameter, the Contractor shall excavate to the point of excess deflection and carefully compact around the point where excess deflection was found. The line shall then be retested for deflection. However, should after the initial testing the deflected pipe fail to return to the original size (inside diameter) the line shall be replaced.

C. Pressure Tests for Pressure Pipe

1. All buried piping shall be subject to pressure tests as specified herein. After the pipe had been laid and backfilled, the pipe shall be subjected to

hydrostatic pressure tests in accordance with Section 41-2.12A and 41-2.12B of the "Standard Specifications for Water and Sewer Main construction in Illinois", latest edition. The test pressure shall be a minimum of 1.5 times the maximum operating pressure of the pipe system.

2. The duration of each pressure test shall be for a period of not less than two hours and not more than six hours. The basic provisions of AWWA C600 shall be applicable.
3. Each section of pipe to be tested shall be slowly filled with water and the specified test pressure shall be applied by means of a pump connected to the pipe in a satisfactory manner. The pump pipe connection and all necessary apparatus including gauges and meters shall be furnished by the Contractor. Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, taps shall be made, if necessary, at points of highest elevation and afterwards tightly plugged. Any cracked or defective pipes, fittings, valves, or hydrants discovered in consequence of this pressure test shall be removed and replaced by the Contractor at the Contractor's expense with sound material and the test shall be repeated until satisfactory to the Engineer.

D. Leakage Tests for Pressure Pipe

1. Concurrently with the pressure test, a leakage test shall be conducted to determine the quantity of water lost by leakage under the specified test pressure. Applicable provisions of AWWA C600 shall apply. Duration of each leakage test shall be a minimum of two hours. Allowable leakage is defined in AWWA C600.

E. Joint Tests

1. On pipe sizes 48" and larger, joint testing may be performed in lieu of pressure tests and leakage tests.
2. The Contractor shall follow all procedures outlined by the testing equipment manufacturer and the pipe manufacturer, including but not limited to:
 - a. Safety procedures
 - b. Minimum and maximum test pressures
 - c. Duration of the test procedure
 - d. Allowable leakage rates
3. Joint testing shall be conducted immediately following backfilling and shall progress as the pipe installation progresses.
4. Any joints that fail the test shall be removed and replaced by the Contractor at the Contractor's expense in order to create a sound joint and the test shall be repeated until satisfactory to the Engineer.

F. Test Records: Records shall be made of each piping system installation during the test and recorded on a form. These records shall include but not limited to the following:

1. Date of test.
2. Description and identification of piping tested.
3. Test fluid.
4. Test pressure.
5. Remarks, to include such items as:

- a. Leaks (type, location).
- b. Repairs made on leaks

6. Certification by Contractor and signed acknowledgement by Engineer.

3.05 DISINFECTION

- A. Before being placed in service, all new pipelines which will carry potable water or any valved sections thereof shall be disinfected to guard against a contaminated water supply.
- B. Disinfection shall be accomplished in accordance with the provisions of AWWA Specifications C-651, latest revisions and the Standard Specification for Water and Sewer Main Construction in Indiana, latest edition. Where conflicts between two specifications exist, the more stringent specification shall apply.
- C. In the process of disinfecting newly laid pipe, valves and other appurtenances shall be operated while the pipeline is filled with the disinfection agent. Following disinfection, all treated water shall be thoroughly flushed from the newly laid pipe at the extremity until the replacement water throughout its length shall, upon test, both chemically and bacteriologically, be proved equal to the water quality served the public from the existing water supply.
- D. Repetition of Procedure: Should the initial treatment fail to result in satisfactory results, as specified above, the original disinfection procedure will be repeated until satisfactory results are obtained. The Results of Laboratory examination by Indiana Environmental Protection Agency or other State certified laboratory shall be conclusive in determining whether the water quality is acceptable.

3.06 FINAL CLEANING

- A. Following assembly and testing and prior to final acceptance, all pipelines installed under this section, except plant process air lines and instrument air lines, shall be flushed with water and all accumulated construction debris and other foreign matter removed. Cone strainers shall be inserted in the connections to attached equipment and left there until cleaning has been accomplished to the satisfaction of the Engineer. Accumulated debris shall be removed through drains 2-inch and larger or by removing spools and valves.

3.07 CORROSION PROTECTION FOR EXPOSED PIPE

- A. All exposed steel or ductile iron pipe piping shall be painted in accordance with the manufacturer's recommendations.

END OF SPECIAL PROVISION

203-R-806 EXCAVATION AND EMBANKMENT

(Revised 10-16-25)

The Standard Specifications are revised as follows:

SECTION 203, BEGIN LINE 353, DELETE AND INSERT AS FOLLOWS:

~~Soils containing organic material greater than 6% by dry weight, or soils with a maximum dry density of less than 90 pcf shall not be incorporated in the embankment. Organic content will be determined in accordance with AASHTO T 267, and maximum dry density will be determined in accordance with AASHTO T 99.~~ *Soils meeting the following criteria will be allowed to be used in embankment:*

<i>Soil Property</i>	<i>Test Method</i>	<i>Requirements</i>
<i>Dry Weight Organic Material</i>	<i>AASHTO T 267</i>	$\leq 6 \%$
<i>Maximum Dry Density</i>	<i>AASHTO T 99</i>	$\geq 90 \text{ pcf}$
<i>Soluble Sulfate</i>	<i>ITM 510</i>	$\leq 1,000 \text{ ppm}$

~~Frozen materials, stumps, roots, all or parts of trees, brush, weeds, sod, all spongy, yielding, soft, and unstable materials, or other perishable materials shall not be incorporated in the embankment. Rocks greater than 3 in. in any dimension shall not be left within 18 in. of the finished subgrade.~~ *Removed materials may only be used in embankment construction if they are constructed in accordance with 203.23.* The original ground surface, or the surface of any lift in place shall not be frozen and shall be free of snow, ice, or mud.

~~All vegetation, all spongy, yielding, soft, and unstable materials, which are encountered, shall be removed as shown on the plans or as directed. Removed materials may only be used in embankment construction if they are constructed in accordance with 203.23.~~

After clearing of the embankment area and prior to embankment placement, all pronounced depressions left in the original ground shall be filled with suitable material and compacted in accordance with 203. Proofrolling of the natural ground surface shall be performed in accordance with 203.26 within all areas where new fill shall be placed.

If the original ground cannot be compacted to the required strength because of soft or unstable soils, the use of stabilizing materials consisting of coarse aggregate No. 52 encapsulated in geotextile, in accordance with 214.03(a), or soil ~~drying~~ *stabilizing* with a chemical modifier in accordance with 217.215 shall be used as directed. The coarse aggregate materials used for stabilization shall be 1 to 2 ft thick and shall allow the encapsulated material in the embankment to drain.

When free water is encountered, backfilling shall be accomplished using ~~B borrow~~ *sand or other approved material*, in accordance with ~~904.06~~ *903.02*. ~~with the exception that ACBF or GBF shall not be used in backfilling.~~ Backfilling using ~~B borrow~~ *sand or other approved material* shall occur to an elevation at least 2 ft above the free water level. ~~Compaction of the B borrow placed above the free water level shall be accomplished using heavy vibratory equipment.~~

The use of hydraulic methods to construct embankments will be allowed only when authorized in writing. Only ~~B-borrows~~ sand or other approved material without ACBF or GBF shall be placed below the free water level. Backfill at structures shall be in accordance with 211.04.

The embankment shall be kept drained at all times by keeping the center higher than the sides and uniformly graded. *Side ditches shall be constructed as directed prior to the construction of the embankment.*

Each embankment lift shall extend transversely over the entire area and shall be kept smooth. When fill materials are deposited in large masses onto the embankment, the materials shall be spread out in uniform lifts. *Rocks greater than 3 in. in any dimension shall not be left within 18 in. of the finished embankment.* Rock or shale used for embankment construction shall be in accordance with 203.20.

When grading operations are performed in non-daylight hours, artificial lighting shall be provided and maintained, to enable the construction and inspection of the operations.

When the embankment soils are granular, silty loam, sandy loam, or silts, ~~or when the plasticity index of the material is less than 8~~, the embankment shall be encased with materials consisting of silty clay loam, clay loam, sandy clay loam, or silty clay of 12 in. minimum depth measured perpendicular to the face of the slope. ~~The plasticity index for these materials shall be equal to or greater than 8 and the organic content shall not exceed 6%.~~ The surface of any necessary encasement shall meet the finished slope limits shown on the plans or as directed.

All slopes to be graded and not immediately stabilized with stormwater management control measures shall be roughened, as described herein, until stormwater management control measures are placed. The soil slopes shall be roughened to create a series of ridges and depressions parallel to the contour by making grooves at least 1 in. deep and not more than 15 in. apart. Slopes shall be stabilized in accordance with 205. Roughening shall take place each day after work is performed on the slopes, or as directed to re-establish the roughening.

Sufficient quantities of excavated materials suitable for the growth of vegetation shall be preserved from within the planned excavation area and used on constructed cut, fill, and shoulder slopes to help develop the growth of vegetation. Materials suitable for vegetative growth shall be at least 6 in. deep or as indicated within the contract documents and shall be measured perpendicular to the face of the slope. *This material shall have a pH value in accordance with 914.01 prior to placement.* Unless otherwise provided, no additional compensation will be allowed for this work, except payment will be made for the class of excavation involved for authorized undercutting of back slopes. Encasement of rock embankment and cut slopes will not be required unless otherwise directed. *The material placed on backslopes of cut sections shall be placed in accordance with 203.21.*

~~Material suitable for the growth of vegetation shall be in accordance with 914.01 prior to placement. The material placed on backslopes of cut sections shall be placed in~~

~~accordance with 203.21.~~

SECTION 203, BEGIN LINE 761, DELETE AND INSERT AS FOLLOWS:

203.18 Embankment Construction

Embankment construction shall consist of constructing roadway embankments, including preparation of the areas upon which they are to be placed, the construction of dikes within or outside the right-of-way, the placing and compacting of approved material within roadway areas where unsuitable material has been removed, and the placing and compacting of embankment material in holes, pits, and other depressions within the roadway area. Only approved materials shall be used in the construction of embankment backfill. Recycled concrete pavement processed into coarse aggregate shall be from past documented Department projects. RAP shall be the product resulting from the cold milling or crushing of an existing HMA pavement. Rocks, broken concrete, RAP, or other solid materials shall not be placed in embankment areas where piling, ~~and mechanically stabilized earth walls, soil nail walls, or~~ other foundations are to be placed or driven.

Recycled concrete pavement measuring 12 in. or less in all directions may be incorporated into the embankment. Reinforcement shall not protrude from the recycled concrete pavement aggregate. Construction of embankment shall be in accordance with 203.20(a). Each layer shall be choked with broken concrete aggregates and be compacted to the required stiffness or as directed. The final ~~30~~24 in. of the embankment ~~just below~~and the subgrade shall be composed of material meeting the gradation requirements of coarse aggregate No. 53 in accordance with 904.01, ~~or B borrow in accordance with 904.06.~~ Construction requirements shall be in accordance with 211.03. *Recycled concrete pavement shall not be used within 2 ft of the water table.*

~~Only RAP particles measuring 2 in. or less in all directions shall be incorporated into the top 30 in. of the embankment. When an underdrain is specified, the RAP embankment shall be terminated below the bottom of the underdrain and the rest of the embankment shall be constructed with the coarse aggregate. RAP particles incorporated anywhere in the embankment shall be 5 in. or less. RAP shall be constructed in accordance with 203.24.~~

~~When two sizes are used for one embankment, materials shall be separated with a layer of geotextile in accordance with 918.02(c), Type 2A. Geotextile used between recycled material lifts shall be included in the cost of the embankment pay item.~~

RAP particles measuring 2 in. or less in all directions may be incorporated in embankments. Compacted lift thickness for RAP shall not be greater than 6 in. when the embankment is 5 ft or less. Where the depth of the embankment exceeds 5 ft, the compacted lift thickness for RAP shall not be greater than 12 in. RAP shall only be used below the elevation of the pavement underdrains. RAP shall be constructed in accordance with 203.24.

Recycled concrete pavement processed into coarse aggregate and RAP shall not be mixed together or *mixed* with other materials. When two or more approved materials are allowed for one embankment, materials shall be separated with a layer of geotextile in accordance with 918.02(c), Type 2A. Geotextile used between recycled material lifts shall be included in the cost of the embankment pay item.

~~Recycled concrete pavement processed into coarse aggregate or RAP shall only be used below the elevation of the pavement underdrains. Compacted lift thickness for RAP shall not be greater than 6 in. within the top 30 in. of the embankment. Where the depth of the embankment exceeds 5 ft, the compacted lift thickness for RAP shall not be greater than 12 in. Recycled concrete pavement and RAP shall not be used within 2 ft of the water table.~~

Proofrolling in accordance with 203.26 shall be performed over the entire grade at a maximum thickness of 5 ft of recycled concrete ~~or RAP~~ *prior to the placement of the next lift.*

~~A geotextile in accordance with 918.02(e), Type 2B shall be placed in accordance with 214 prior to the placement of sSubgrade treatment Type IC or Type II in accordance with 207 when shall be constructed on recycled concrete pavement processed into coarse aggregate or RAP is used for embankment construction. Recycled concrete pavement processed into coarse aggregate or RAP shall not be used for embankment construction when subgrade Type I, Type IBC, or Type IBL is specified. Geotextile shall be placed completely covering the top of the embankment. A minimum 24 in. soil encasement shall be constructed concurrently with the recycled concrete pavement processed into coarse aggregate or RAP lift. The soil encasement shall be suitable for vegetation growth and shall be constructed in accordance with 203.09.~~

SECTION 203, BEGIN LINE 853, DELETE AND INSERT AS FOLLOWS:

203.20 Rock and Shale Embankment

Utilization of these materials in embankment construction shall be in accordance with the following.

(a) Rock Embankment

~~Where~~*When* rock is used for embankment, no large stones shall be allowed to nest but shall be distributed over the area to avoid pockets. Voids shall be filled carefully with small stones. The final ~~2-ft~~*6 in.* of the embankment ~~just below the subgrade elevation shall be composed of suitable material placed in layers not exceeding 8 in. loose measurement and compacted to the required density. Shale or shale like materials shall not be incorporated in the upper 2 ft of the embankment.~~*shall be constructed with No. 53 aggregate in accordance with 301. A geotextile in accordance with 918.02(a), Type 2A shall be placed between the rock and No. 53 aggregate in the embankments described below. The geotextile shall be placed in accordance with 214.03. The rock embankment lift thickness shall not exceed 2 ft.*

~~Where~~*When* the depth of an embankment exceeds ~~5~~*10* ft, ~~and is to consist entirely of rock,~~ the rock size used in the top 10 ft of the embankment shall not exceed 1 ft in any dimension. For any portion of the embankment below the top 10 ft, the rock size shall be deposited in lifts not to exceed the top size of the material being placed, but in no event exceeding ~~4~~*2* ft in any dimension. The rock for any particular lift shall be deposited on and pushed over the end of the lift being constructed by means of ~~bulldozers~~*track mounted dozers* or other approved equipment. Depositing of rock over the end of any lift from hauling equipment will not be allowed. If the voids of the last lift are not closed sufficiently, they shall be choked with small broken stone or other suitable material and compacted as

~~directed~~ with a vibratory roller. The material shall be spread with a track mounted dozer or other equipment having a minimum effective weight of 40 t. This sequence of steps shall be repeated for the remaining sections of the embankment. The final 6 in. of the embankment shall be constructed using coarse aggregate No. 53 in accordance with 301. ~~A geotextile in accordance with 918.02(a), Type 2A shall be placed between the rock and the soil.~~

~~Where the depth of embankment is 5 ft or less, or where the material being placed does not consist entirely of rock, the material shall be placed in lifts not to exceed the top size of the rock being placed but not exceeding 2 ft. Each layer shall be choked thoroughly with broken stone or other suitable material and be compacted to the required density or as directed. A geotextile in accordance with 918.02(a), Type 2A shall be placed between the rock and the soil.~~ When the depth of an embankment is less than or equal to 10 ft, the rock size shall not exceed 1 ft in any dimension. The material shall be spread with a track mounted dozer or other equipment having a minimum effective weight of 40 t. The material shall be choked with small broken stone and compacted with a vibratory roller. This sequence of steps shall be repeated for the remaining sections of the embankment. The top 6 in. of the embankment shall be constructed using coarse aggregate No. 53 in accordance with 301.

Where a rock fill is to be placed over a structure, the structure shall first be covered with 2 to 4 ft of ~~earth~~ structure backfill or other approved material as directed, and properly compacted before the rock is placed. This covering shall be placed in accordance with 203.19. Structure backfill shall be constructed in accordance with 211.

~~Shale shall not be incorporated as rock embankment unless written permission is obtained. Proofrolling shall be performed on the final lift of the embankment in accordance with 203.26.~~

Payment for rock embankment construction will be in accordance with 203.28.

SECTION 203, BEGIN LINE 955, DELETE AND INSERT AS FOLLOWS:

203.21 Embankment on Hillsides or Slopes

The side ditches and drainage blankets shall be constructed prior to the embankment construction. Drainage blankets shall be in accordance with 214. Before an embankment is shall be placed on natural soil slopes or a drainage blanket when existing fill slopes of are 4:1 or flatter, the existing ground surfaces shall be plowed or deeply scarified or, if the nature of the ground indicates greater precautions should be taken for integrating the proposed fill materials with the existing slopes, benches shall be cut into the existing slopes before fill placement is started. All such precautionary work shall be done as directed. No direct payment will be made for plowing or scarifying, the cost thereof shall be included in the various pay items of the contract. Before an embankment is placed on natural soil slopes or existing fill slopes steeper than 4:1, benches a minimum of 10 ft wide, unless otherwise specified, shall be cut into the slopes prior to the placement of embankment fill when the existing fill slopes or natural soil slopes are steeper than 4:1. If benches are cut, the excavation involved will be paid for at the contract unit price per cubic yard for the class or classes of excavation encountered.

SECTION 203, BEGIN LINE 1028, DELETE AND INSERT AS FOLLOWS:

203.23 Embankment other than Rock, with Strength or Density Control

The compaction will be determined by DCP testing in accordance with ITM 509 and the moisture content in accordance with ITM 506. Soil classification will be performed ~~in accordance with the ITM 512~~ *by the Department.* and ~~the~~ The following DCP blow counts will be used for compaction control:

COHESIVE SOILS: A-4, A-5, A-6, and A-7					
Textural Classification	Maximum Dry Density (pcf)	Optimum Moisture Content Range (%)	Acceptable Minimum DCP value for 6 in. for 95% compaction	Acceptable Minimum DCP value for 12 in. for 95% compaction	Acceptable Minimum DCP value for 6 or 12 in. for 100% compaction
CLAY SOILS					
Clay	< 105	19 - 24	6		*
Clay	105 - 110	16 - 18	7		*
Clay	111 - 114	14 - 15	8		*
SILTY SOILS					
Silty	115 - 116	13 - 14		9	*
Silty	117 - 120			11	*
SANDY SOILS					
Sandy	121 - 125	8 - 12		12	*
Sandy	> 125			15	*
GRANULAR SOILS — STRUCTURE BACKFILL and A-1, A-2, A-3 SOILS					
No. 30				6	9
No. 4				7	10
1/2 in.				11	14
1 in.				16	19
* Test section required in accordance with ITM 513.					

<i>GRANULAR SOILS - STRUCTURE BACKFILL</i>		
<i>Textural Classification</i>	<i>Acceptable Minimum DCP value for 12 in. for 95% compaction</i>	<i>Acceptable Minimum DCP value for 12 in. for 100% compaction</i>
<i>No. 30</i>	<i>6</i>	<i>9</i>
<i>No. 4</i>	<i>7</i>	<i>10</i>
<i>1/2 in.</i>	<i>11</i>	<i>14</i>
<i>1 in.</i>	<i>16</i>	<i>19</i>

GRANULAR SOILS: A-1, A-2, and A-3

<i>AASHTO Classification</i>	<i>Maximum Dry Density (pcf)</i>	<i>Coefficient of Uniformity</i>	<i>Acceptable Minimum DCP value for 12 in. for 95% compaction</i>	<i>Acceptable Minimum DCP value for 12 in. for 100% compaction</i>
<i>A-1 Soils</i>	≤ 120		<i>13</i>	<i>*</i>
<i>A-2 Soils</i>			<i>12</i>	<i>*</i>
<i>A-1 Soils</i>	>120		<i>15</i>	<i>*</i>
<i>A-2 Soils</i>				<i>*</i>
<i>A-3 Soils</i>		<i>Cu ≤ 3.0</i>	<i>7</i>	<i>*</i>
		<i>Cu > 3.0</i>	<i>8</i>	<i>*</i>
<i>* Test section required in accordance with ITM 513.</i>				

~~Unless otherwise specified, all material directed to shall be compacted in accordance with 203.23 shall meet to the acceptable minimum DCP value for 95% compaction in accordance with 203.23 unless otherwise specified.~~ Subgrade shall meet the acceptable minimum DCP value for 100% compaction when required.

As an alternative, ~~all~~ the embankments shall be compacted to at least 95% of their maximum dry density, and ~~all~~ subgrade shall be compacted to at least 100% of their maximum dry density. In situ density will be determined in accordance with AASHTO T 191 and the moisture content as specified.

~~For clay, silty, and sandy soils compacted to 100% of their maximum dry density, a test section is required in accordance with ITM 513 for DCP testing.~~

Clay soils shall be constructed and tested with DCP in 6 in. lifts, whereas silty, sandy, and granular soils shall be constructed in 6 in. lifts and tested with DCP for 12 in.

621-R-800 SEEDING AND SODDING

(Adopted 07-17-25)

The Standard Specifications are revised as follows:

SECTION 621, BEGIN LINE 30, DELETE AND INSERT AS FOLLOWS:

621.03 Preparation of Ground Before Seeding

The area to be seeded shall be made smooth and uniform and shall be in accordance with the finished grade and cross-section shown on the plans or as otherwise designated and shall be trimmed in accordance with 210. The seed bed, if not loose, shall be loosened to a minimum depth of 36 in. before fertilizer or seed is applied. ~~In areas of excessive vehicular traffic, such as parking of construction equipment near a bridge repair, the soil shall be loosened to a minimum depth of 6 in.~~

Areas to be covered with topsoil shall be milled or disked slightly before the topsoil is placed. A disk, spike-toothed harrow, or other similar device may be used for this purpose. Such loosening will be required to ensure ~~bond~~ of the topsoil *bonds* with the surface on which it is placed and to form a uniform surface. The topsoil shall then be spread to a sufficient depth to produce the ~~thickness~~-specified *thickness* after it has been compacted lightly with an approved roller, tamping device, or other method. *The topsoil shall be loose enough that the tread of a person's boot shows when walking on the soil but shall not be so loose as to allow more than 1/2 in. of total compaction.*

SECTION 621, BEGIN LINE 54, DELETE AND INSERT AS FOLLOWS:

621.05 Applying Fertilizer, Seed, and Mulch

(a) Fertilizer

Fertilizer as specified shall be spread uniformly over the area to be seeded. Fertilizer shall be spread at the rate of ~~800~~400 lb/ac unless otherwise specified.

(b) Seed

~~Seed may be drilled in or mixed with water. The mixture shall be sprayed over the area to be seeded. An approved mechanical method which shall place the seed in direct contact with the soil may be used. In places inaccessible to mechanical equipment, or where the area to be seeded is small, a hand operated cyclone seeder or other approved equipment may be used. Seed of warm season grasses, forbs, or aquatic species shall not be covered more than 1/8 in. All other seed shall not be covered more than 1/2 in.~~ *Seed shall be applied in a manner that results in uniform distribution of seed in which seed to soil contact at the optimal seed depth is attained necessary for the germination of the species being planted.*

714-R-748 WATERPROOFING MEMBRANE FOR REINFORCED-CONCRETE BOX STRUCTURES
AND THREE-SIDED STRUCTURES

(Revised 05-01-25)

The Standard Specifications are revised as follows:

SECTION 714, AFTER LINE 21, INSERT AS FOLLOWS:

Fabric or Membrane for Waterproofing 918.06

SECTION 714, AFTER LINE 372, DELETE AND INSERT AS FOLLOWS:

The pipe joint sealant shall be applied to the bell or spigot section of the structure and applied prior to joining segments. The volume of pipe joint sealant applied shall be in accordance with the manufacturer's recommendations.

(b) Exterior Surface Treatment

After sealing with pipe joint sealant and assembling the box sections, the outside surfaces of the top slab and both walls of every joint between structure sections shall be covered with a joint membrane in accordance with 907.07 that is centered on the joint, *unless a waterproofing membrane is shown on the plans or in the Schedule of Pay Items*. The exterior concrete box surface shall be clean and dry before the joint membrane is applied. The outside surfaces of the top slab and both walls of every joint shall be completely covered for the entire length of each joint. Where joining two sections of joint membrane material, or where two ends meet, a 3 in. overlap shall be provided. The overlapping strip shall be firmly pressed onto the end of the underlying strip to seal the joint. Joints between structure sections and wingwalls, between wingwalls and spandrel walls, and between structure sections and headwalls or spandrel walls shall also be covered with joint membrane. The manufacturer's application instructions shall apply in addition to the above requirements.

The joint membrane shall be maintained in its installed location centered on the joint and shall not be damaged or dislodged during the backfilling operation.

714.11 Waterproofing Membrane

When a waterproofing membrane is shown on the plans or in the Schedule of Pay Items, joints, exterior vertical surfaces, and the exterior top horizontal surface shall be covered in their entirety with the membrane. A Type 2 waterproofing membrane shall be installed on all exterior vertical surfaces. If asphalt is placed directly on top of the waterproofing membrane, a Type 3 waterproofing membrane shall be installed otherwise a Type 2 membrane shall be installed.

(a) Preparation

Concrete surfaces shall be prepared in accordance with the waterproofing membrane manufacturer's recommendations and the following. Concrete surfaces shall be smooth and free from projections and holes. All sharp edges and metal protrusions shall be ground smooth. Immediately prior to application, the surface shall be dry and free of dust and loose materials. All joints and exterior corners shall be prepared in accordance with the waterproofing membrane manufacturer's recommendations.

Prior to installing a Type 2 waterproofing membrane a prime coat recommended by the waterproofing membrane manufacturer shall be applied to all exterior surfaces that will receive the waterproofing membrane. Waterproofing membranes shall be installed when the ambient temperature is 40°F or above unless lower temperatures are allowed in accordance with the waterproofing membrane manufacturer's recommendations.

Type 3 waterproofing membranes shall be installed when the ambient temperature is 40°F or above. The surface shall be sufficiently dry so as to prevent the formation of steam when the hot-applied prime coat is applied.

(b) Installation

The waterproofing membrane shall be installed prior to backfilling.

For waterproofing membrane material that does not cover the surface, an overlap of at least 3 in. shall be required on all edges. The Type 2 or Type 3 waterproofing membrane from the top horizontal surface shall overlap the membrane on the vertical surfaces on the outside by at least 12 in. The manufacturer's application instructions shall apply in addition to the above requirements.

1. Type 2 Waterproofing Membrane

For a Type 2 waterproofing membrane, the release liner shall be removed, and the adhesive side shall be placed on the prepared concrete surface. After application, the waterproofing membrane material shall be rolled to avoid wrinkling and ensure adhesion of the membrane to the concrete.

2. Type 3 Waterproofing Membrane

For a Type 3 waterproofing membrane, the prime coat shall be applied no farther than 5 ft in front of the membrane, using a squeegee to fill all voids and imperfections. The waterproofing membrane shall be applied from the low to the high side of the surface. An extra bead of prime coat material shall be applied at the edge of the waterproofing membrane.

Prime coat material and waterproofing membrane shall stop a uniform distance below the top surfaces and shall overlap the Type 2 waterproofing membrane a minimum of 12 in. The prime coat material shall not be splattered over or applied to surfaces or faces of concrete which subsequently are exposed in the finished structure. The waterproofing membrane shall be placed in V-strips at the joints to allow the movement of adjacent concrete sections without tearing the membrane. The waterproofing membrane shall be flashed at all exposed edges and laps sealed down. The waterproofing membrane shall not be damaged when backfill is placed. After installing the waterproofing membrane over the entire surface, all joints in the membrane shall be sealed by applying a prime coat and smoothing with a V-squeegee.

On structures with curbs, the waterproofing membrane shall be placed 3 in. up the curb face and the edge of the membrane shall be sealed in accordance with the waterproofing membrane manufacturer's recommendation.

Tack coat, in accordance with 406, shall be applied to a Type 3 waterproofing

membrane, without damaging the membrane at an application rate of 0.05 to 0.08 gal./sq yd before placing any asphalt pavement.

714.112 Method of Measurement

Precast reinforced concrete box structures or structure extensions, precast coated reinforced concrete box structures or structure extensions, precast headwalls, precast wingwalls, cast-in-place reinforced concrete box structures or structure extensions, cast-in-place coated reinforced concrete box structures or structure extensions, cast-in-place headwalls, and cast-in-place wingwalls will not be measured. The accepted quantities for payment will be the quantities shown on the plans.

Waterproofing membrane will not be measured. The accepted quantities for payment will be the quantities shown in the Schedule of Pay Items, which will be based on nominal surface area to receive the membrane as shown on the plans and described herein. No adjustments in quantities will be made to account of overlapping portions of membrane or changes in surface area due to variations between nominal plan and furnished structure geometry.

SECTION 714, BEGIN LINE 417, DELETE AND INSERT AS FOLLOWS:

714.1213 Basis of Payment

SECTION 714, AFTER LINE 448, INSERT AS FOLLOWS:

Waterproofing Membrane, _____ SFT
type

The cost of excavation except as provided in 206.11(a), expansion joint material, perpetuation of existing drains shown on the plans, removal of portions of existing structures, cleaning out old channels or structures, chemical anchor system, precast reinforced concrete structure joints, pipe joint sealant, joint membrane, and necessary incidentals shall be included in the cost of the structure or structure extension.

The cost of the prime coat shall be included in the cost of the waterproofing membrane.

SECTION 723, AFTER LINE 26, INSERT AS FOLLOWS:

Fabric or Membrane for Waterproofing 918.06

SECTION 723, BEGIN LINE 93, DELETE AND INSERT AS FOLLOWS:

723.03 General Requirements

Excavation and disposal shall be in accordance with the applicable requirements of 206. ~~Waterproofing membranes shall be in accordance with 714.11. Waterproofing of the designated areas shall be in accordance with 702.23.~~ 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 702.16. Handling of three-sided structures shall be in accordance with 907.05. Handling of wingwalls and spandrel walls shall be in accordance with 907.06.

SECTION 723, BEGIN LINE 434, DELETE AND INSERT AS FOLLOWS:

(b) Exterior Surface Treatment

After sealing with preformed flexible joint sealant or non-shrink grout as directed

above, and assembly of three-sided structure sections, all butt and keyway joints between structure sections shall be covered with a joint membrane in accordance with 907.07 and centered on the joint, *unless a waterproofing membrane is shown on the plans or in the Schedule of Pay Items.*

The exterior surface of the concrete sections shall be clean and dry before the joint membrane is applied. The outside surfaces of the top slab and both walls of every joint shall be completely covered for the entire length of each joint. Where joining two sections of joint membrane material, or where two ends meet, a 3 in. overlap shall be provided. The overlapping strip shall be firmly pressed onto the end of the underlying strip to seal the joint. Joints between structure sections and wingwalls, between wingwalls and spandrel walls, and between structure sections and headwalls or spandrel walls shall also be covered with a joint membrane.

The joint membrane shall be maintained in its installed location centered on the joint. It shall not be damaged during the backfilling operation.

When shown on the plans or in the Schedule of Pay Items, all joints, exterior vertical surfaces, and exterior top surfaces shall be covered in their entirety with a waterproofing membrane in accordance with 714.11.

723.15 Backfilling

Waterproofing membrane shall be applied prior to backfilling. Structure backfill shall be placed and compacted in accordance with 211. Structure backfill shall be placed and compacted on each side of the structure to the fill line shown on the plans. During the backfill operation, the difference in elevations of the fill on each side of the structure shall not exceed 24 in.

SECTION 723, AFTER LINE 499, INSERT AS FOLLOWS:

Waterproofing membrane will not be measured. The accepted quantity for payment will be in accordance with 714.12.

SECTION 723, AFTER LINE 518, INSERT AS FOLLOWS:

Waterproofing membrane will be paid for in accordance with 714.13.

SECTION 918, BEGIN LINE 109, DELETE AND INSERT AS FOLLOWS:

918.06 Fabric or Membrane for Waterproofing

~~Fabric for~~ Type 1 waterproofing membrane shall ~~be~~ consist of a Utility Asphalt, UA-1 in accordance with 902.01(d) and a fabric consisting of treated cotton in accordance with ASTM D173, woven glass in accordance with ASTM D1668, or glass fiber mat in accordance with ASTM D2178. A Type C certification in accordance with 916 shall be provided for the ~~fabric~~ Type 1 material.

Type 2 waterproofing membrane shall consist of a rubberized asphalt and peel-and-stick membrane. Membrane materials shall be stored indoors and at temperatures not to exceed 120°F.

PROPERTY	TEST METHOD	REQUIREMENTS
Thickness	ASTM D1777 or	60 mils, min.

	<i>ASTM D3767</i>	
<i>Width</i>		<i>24 in., min.</i>
<i>Pliability</i>		<i>Shall be installed over 40 °F</i>
<i>Elongation</i>	<i>ASTM D412 (Die C)</i>	<i>300%, min.</i>
<i>Puncture Resistance – Membrane</i>	<i>ASTM E154</i>	<i>35 lb min.</i>
<i>Permeance</i>	<i>ASTM E96, Method B</i>	<i>0.05 Perms, max.</i>
<i>Water Absorption, % by Weight</i>	<i>ASTM D570</i>	<i>0.2, max.</i>
<i>Adhesion to concrete</i>	<i>ASTM D903</i>	<i>5.0, min.</i>

Type 3 waterproofing membrane shall consist of a hot-applied joint prime coat in accordance with ASTM D6690 and a membrane consisting of a high-density asphalt mastic between two layers of polymeric fabric. The membrane and prime coat materials shall be kept dry prior to installation.

<i>PROPERTY</i>	<i>TEST METHOD</i>	<i>REQUIREMENTS</i>
<i>Thickness, min.</i>	<i>ASTM D1777</i>	<i>0.135 in.</i>
<i>Width, min.</i>		<i>24 in.</i>
<i>Weight, min.</i>		<i>0.8 lb/sq ft</i>
<i>Tensile strength, machine direction</i>	<i>ASTM D882, Modified^[1]</i>	<i>275 lb/in. 2,000 psi</i>
<i>Tensile strength, 90 ° to machine direction</i>	<i>ASTM D882, Modified^[1]</i>	<i>150 lb/in. 1,000 psi</i>
<i>Elongation at break</i>	<i>ASTM D882, Modified^[1]</i>	<i>100% min.</i>
<i>Brittleness</i>	<i>ASTM D517</i>	<i>Pass</i>
<i>Softening point (mastic)</i>	<i>ASTM D36</i>	<i>200 °F min.</i>
<i>Peel adhesion</i>	<i>ASTM D413^[1]</i>	<i>2.0 lb/in.</i>
<i>Cold flex</i>	<i>ASTM D146 2 x 5 in. specimen</i>	<i>180 ° bend over 2-in. mandrel with no cracking</i>
<i>Heat stability</i>	<i>2 x 5 in. specimen</i>	<i>vertically suspended in a mechanical convection oven 2 hr @ 190 °F with no dripping or delamination</i>
<i>[1] 12 in. per minute test speed and 1 in. initial distance between the grips.</i>		

A Type B Certification in accordance with 916 shall be provided for the Type 2 and Type 3 materials.

714-R-801 REINFORCED CONCRETE BOX STRUCTURES

(Adopted 06-19-25)

The Standard Specifications are revised as follows:

SECTION 714, BEGIN LINE 241, INSERT AS FOLLOWS:

(b) Wingwall Placement

Each wingwall that is not precast as one unit with the footing shall be set on *high strength plastic*, masonite, or steel shims. A minimum gap of 1/2 in. shall be provided between the footing and the bottom of each wingwall. Once the wingwalls are placed, the space underneath the wingwall section to the top of the keyway sides shall be filled with prepackaged grout in accordance with ASTM C1107, or conventional or self-consolidating fine grout in accordance with ASTM C476, except as modified herein. If conventional fine grout is used, it shall be troweled into the keyway and mounded on one side of the wingwall. The mound of conventional fine grout shall be vibrated until it passes through to the other side of the wingwall. After completing this process on one side, if the conventional fine grout has not passed through to the other side, the process shall be repeated on the other side. Conventional or self-consolidating fine grout shall be from a prepackaged source or composed of one of the following mixtures.



XW20-1A (36"x36")
XW20-1 (48"x48")
XW20-1-A (60"x60")

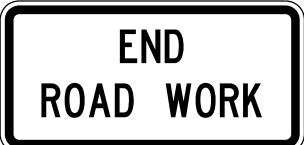


XG20-2 (60"x24")

OBSOLETE SIGNS



XW20-1A (36"x36")
XW20-1 (48"x48")
XW20-1-A (60"x60")



XG20-2A (36"x18")
XG20-2 (48"x24")

REPLACEMENT SIGNS

NOTES:

1. The XW20-1 and XG20-2 series signs depicted in the following Standard Drawings shall be superseded by the replacement signs shown on this sheet and further detailed in the FHWA Standard Highway Signs, 2024 edition.

713-TCTR-03	801-TCSC-02
801-TCCO-01	801-TCSC-03
801-TCFO-02	801-TCSC-04
801-TCFO-03	801-TCSC-05
801-TCFO-04	801-TCSC-06
801-TCFO-05	801-TCTC-02
801-TCFO-06	801-TCTC-03
801-TCLC-02	801-TPAR-02
801-TCLC-03	801-TPAR-03
801-TCLC-04	801-TPAR-04
801-TCLC-05	801-TPAR-05
801-TCLC-06	801-TPAR-06
801-TCLC-07	801-TPAR-07
801-TCLC-08	801-TPAR-08

801-TCLC-09	801-TPAR-09
801-TCLC-10	
801-TCLC-11	
801-TCLC-12	

2. A "ROAD CONSTRUCTION AHEAD" or "ROAD CONSTRUCTION X FT" sign shown on the plans shall be replaced with a "ROAD WORK AHEAD" or "ROAD WORK X FT" sign.
3. An "END CONSTRUCTION" sign shown on the plans shall be replaced with an "END ROAD WORK" sign.

INDIANA DEPARTMENT OF TRANSPORTATION
ROAD CONSTRUCTION AND ROAD WORK AHEAD SIGNS Sheet 01 of 01

801-T-246 ROAD WORK AHEAD SIGNS

(Adopted 10-16-25)

The Standard Specifications are revised as follows:

SECTION 619, BEGIN LINE 119, DELETE AND INSERT AS FOLLOWS:

Construction signs in accordance with 801.04 shall be furnished and placement at each project site shall be as shown in the QCP. However, a “Bridge Painting Ahead” sign may be used in place of the “Road ~~Construction~~ Work Ahead” sign.

SECTION 801, BEGIN LINE 233, DELETE AND INSERT AS FOLLOWS:

(a) Type A

A Type A sign shall consist of a construction sign as detailed in the MUTCD or on the standard drawings which is 98 sq ft or more in area.

(b) Type B

A Type B sign shall consist of a construction sign as detailed in the MUTCD or on the standard drawings which is less than 98 sq ft in area.

(c) Type C

A Type C sign shall consist of a construction sign which is not detailed in the MUTCD or on the standard drawings and which is 98 sq ft or more but less than 33 sq ft in area.

(d) Type D

A Type D sign shall consist of a construction sign which is not detailed in the MUTCD or on the standard drawings and which is less than 98 sq ft.

INDEX

SHEET NO.	SUBJECT
1	Index and General Notes
2	Traffic Control Signs
3	Traffic Control Signs
4	Traffic Control Sign Design Details
5	Traffic Control Sign Design Details
6	Traffic Control Sign Design Details
7	Temporary Panel Sign Post Installation
8	Temporary Panel Sign Post Selection and Connection Details

This sheet replaces Standard Drawing E 801-TCSN-01

GENERAL NOTES:

1. The minimum vertical and horizontal clearances for construction signs shall be as shown on Standard Drawing E 801-TCDV-06.
2. See Standard Drawing E 801-TCDV-09 for U-Channel Steel Post Splice Detail.

INDIANA DEPARTMENT OF TRANSPORTATION

INDEX AND GENERAL NOTES



XW20-1
XW20-1-A



XW21-8
XW21-8-A



XW21-Y8b
XW21-Y8b-A



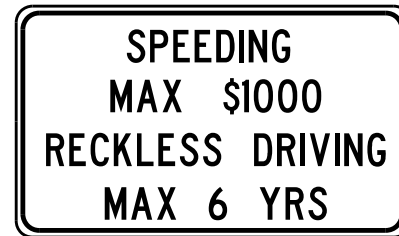
XW2-6b
XW2-6b-A
XW2-6b-B



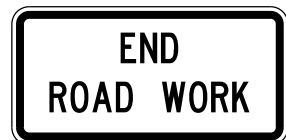
XW2-6a
XW2-6a-A
XW2-6a-B



XW26-1



XW2-6
XW2-6-A



XG20-2



XW3-4S



XG20-1

This sheet replaces Standard Drawing E 801-TCSN-02

NOTES:

- ① Sign shall be removed, covered, or turned to face away from the roadway during non-working hours.
- ② Sign may be ordered to read "500 FT" or "1000 FT" in place of the word "AHEAD". Such signs may be used in place of or in conjunction with the indicated sign.
- ③ Shaded text indicates message content that must be varied to reflect site conditions.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGNS



XW20-YWR(A)



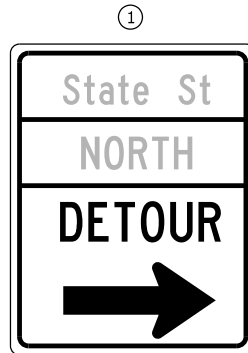
XW20-YWR(B)



XW20-YWR(C)



XM4-9d



XM4-9e



XW9-7



E5-1



E5-2



E5-2a

This sheet replaces Standard Drawing E 801-TCSN-03

NOTE:

- ① Shaded text indicates message content that must be varied to reflect site conditions.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGNS

This sheet replaces Standard Drawing E 801-TCSN-04

NOTES:

- ① Spacing between letters of this word or line shall be reduced by this percentage as shown in the FHWA document, *Standard Highway Signs*.
2. All dimensions are in inches.
3. The minimum depth for wood or steel posts shall be 4 ft.

SIGN NUMBER	IMUTCD CODE	SIGN MESSAGE	POST DESIGN TYPE			SIGN SIZE	SIGN COLOR		BORDER WIDTH	MARGIN WIDTH	LETTER HEIGHT SERIES - LINE 1	LETTER HEIGHT SERIES - LINE 2	LETTER HEIGHT SERIES - LINE 3	WORD OR LINE	PCT.	CORNER RADIUS	NO. OF POSTS	
			4 X 4 WOOD	U-CHANNEL	SQUARE POST		BACKGROUND	COPY									1	2
R2-1	R2-1	Speed Limit _____	*	A	1	24 X 30	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R2-1-B	R2-1	Speed Limit _____	*	B	2	48 X 60	White	Black	See FHWA publication Standard Highway Signs for fabrication details									X
R3-2-A (R or L)	R3-2	(Movement Prohibition)	*	A	1	30 X 30	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R3-2-C (R or L)	R3-2	(Movement Prohibition)	*	B	2	48 X 48	White	Black	See FHWA publication Standard Highway Signs for fabrication details									X
R4-1	R4-1	Do Not Pass	*	A	1	24 X 30	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R4-1-B	R4-1	Do Not Pass	*	B	2	48 X 60	White	Black	See FHWA publication Standard Highway Signs for fabrication details									X
R5-1-A	R5-1	Do Not Enter	*	A	1	36 X 36	Red	White	See FHWA publication Standard Highway Signs for fabrication details								X	
R5-1-B	R5-1	Do Not Enter	*	B	2	48 X 48	Red	White	See FHWA publication Standard Highway Signs for fabrication details									X
R6-1 (R or L)	R6-1	One Way (Inside White Arrow)	*	A	1	36 X 12	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R6-2-A (R or L)	R6-2	One Way (Above White Arrow)	*	A	1	24 X 30	Black & White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R9-8	R9-8	Pedestrian Crosswalk	*	A	1	36 X 18	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R9-9	R9-9	Sidewalk Closed	*	A	1	24 X 12	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R9-10	R9-10	Sidewalk Closed Use Other Side	*	A	1	24 X 12	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R9-11	R9-11	Sidewalk Closed Ahead Cross Here	*	A	1	24 X 18	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R9-11a	R9-11a	Sidewalk Closed Cross Here	*	A	1	24 X 12	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R9-12	R9-12	Bike Lane Closed	*	A	1	24 X 12	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R11-2	R11-2	Road Closed	*	B	1	48 X 30	White	Black	See FHWA publication Standard Highway Signs for fabrication details									X
R11-3	R11-3	Road Closed - Local Traffic Only	*	B	2	60 X 30	White	Black	See FHWA publication Standard Highway Signs for fabrication details									X
R11-4	R11-4	Road Closed to Thru Traffic	*	B	2	60 X 30	White	Black	See FHWA publication Standard Highway Signs for fabrication details									X
R12-1	R12-1	Weight Limit _____ Tons	*	A	1	24 X 30	White	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
R12-1-A	R12-1	Weight Limit _____ Tons	-	B	2	36 X 48	White	Black	See FHWA publication Standard Highway Signs for fabrication details									X
S4-4	S4-4	When Flashing Plaque	*	-	-	48 X 20	White	Black	See FHWA publication Standard Highway Signs for fabrication details								-	-
XW1-1-A (R or L)	W1-1	(Turn Symbol)	*	A	1	36 X 36	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details									X
XW1-1-B (R or L)	W1-1	(Turn Symbol)	*	B	2	48 X 48	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
XW1-2-A (R or L)	W1-2	(Curve Symbol)	*	A	1	36 X 36	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
XW1-2-B (R or L)	W1-2	(Curve Symbol)	*	B	2	48 X 48	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details									X
XW1-3-A (R or L)	W1-3	(Reverse Turn Symbol)	*	A	1	36 X 36	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
XW1-3-B (R or L)	W1-3	(Reverse Turn Symbol)	*	B	2	48 X 48	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details									X
XW1-4-A (R or L)	W1-4	(Reverse Curve Symbol)	*	A	1	36 X 36	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
XW1-4-B (R or L)	W1-4	(Reverse Curve Symbol)	*	B	2	48 X 48	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
XW1-6	W1-6	(Single Headed Arrow)	*	B	1	48 X 24	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details								X	
XW1-6-A	W1-6	(Single Headed Arrow)	*	B	2	60 X 30	Orange	Black	See FHWA publication Standard Highway Signs for fabrication details									X
XW2-6	XW2-6	Worksite Added Penalty	*	B	2	60 X 36	Orange	Black	7/8	5/8	5 - Series C	5 - Series C	5 - Series C	5 - Series C		2 1/4	X	
XW2-6-A	XW2-6	Worksite Added Penalty	*	B	2	78 X 42	Orange	Black	7/8	5/8	6 - Series D	6 - Series D	6 - Series D	6 - Series D		2 1/4	X	
XW2-6a	XW2-6a	Speeding Max \$1000	*	A	1	30 X 30	Orange	Black	3/4	1/2	4 - Series C	4 - Series C				1 7/8	X	
XW2-6a-A	XW2-6a	Speeding Max \$1000	*	A	1	36 X 36	Orange	Black	7/8	5/8	5 - Series C	5 - Series C				2 1/4	X	
XW2-6a-B	XW2-6a	Speeding Max \$1000	*	B	2	48 X 48	Orange	Black	1 1/4	3/4	6 - Series D	6 - Series D				3	X	
XW2-6b	XW2-6b	Reckless Driving Max 6 Yrs	*	A	1	30 X 30	Orange	Black	3/4	1/2	4 - Series C	4 - Series C				1 7/8	X	
XW2-6b-A	XW2-6b	Reckless Driving Max 6 Yrs	*	A	1	36 X 36	Orange	Black	7/8	5/8	5 - Series C	5 - Series C				2 1/4	X	
XW2-6b-B	XW2-6b	Reckless Driving Max 6 Yrs	*	B	2	48 X 48	Orange	Black	1 1/4	3/4	6 - Series D	6 - Series D				3	X	

*Wood post permitted.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGN DESIGN DETAILS

This sheet replaces Standard Drawing E 801-TCSN-05

① ①

NOTES:

- ① Spacing between letters of this word or line shall be reduced by this percentage as shown in the FHWA document, *Standard Highway Signs*.
2. All dimensions are in inches.
3. The minimum depth for wood or steel posts shall be 4 ft.

SIGN NUMBER	IMUTCD CODE	SIGN MESSAGE	POST DESIGN TYPE			SIGN SIZE	SIGN COLOR		BORDER WIDTH	MARGIN WIDTH	LETTER HEIGHT SERIES - LINE 1	LETTER HEIGHT SERIES - LINE 2	LETTER HEIGHT SERIES - LINE 3	WORD OR LINE	PCT.	CORNER RADIUS	NO. OF POSTS	
			4 X 4 WOOD	U-CHANNEL	SQUARE POST		BACKGROUND	COPY									1	2
XW3-4S	-	Overhead Sign Installation	*	B	2	60 X 24	Orange	Black	1/2	3/8	6 - Series C	6 - Series C				1 1/2		X
XW3-5-A	W3-5	(Reduced Speed Limit Ahead)	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW3-5-B	W3-5	(Reduced Speed Limit Ahead)	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW3-5a-A	W3-5	(Reduced Speed Limit Ahead)	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW3-5a-B	W3-5	(Reduced Speed Limit Ahead)	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW4-2 (R or L)	W4-2	(Lane Ends Merge Symbol)	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW4-2-A (R or L)	W4-2	(Lane Ends Merge Symbol)	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW6-2a-A	W6-2	(Divided Highway Ends Symbol)	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
WX6-2a-B	W6-2	(Divided Highway Ends Symbol)	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW6-3-B	W6-3	(Two Way Traffic Symbol)	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW8-1-A	W8-1	Bump	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW8-1-B	W8-1	Bump	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW8-2-A	W8-2	Dip	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW8-2-B	W8-2	Dip	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW8-3-A	W8-3	Pavement Ends	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW8-4-A	W8-4	Soft Shoulder	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW8-4-B	W8-4	Soft Shoulder	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW8-6-A	W8-6	Truck Crossing	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW8-6-B	W8-6	Truck Crossing	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW9-1-A (R or L)	W9-1	Lane Ends	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW9-1-B (R or L)	W9-1	Lane Ends	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW9-2-B (R or L)	W9-2	Lane Ends Merge	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW9-7	W9-7	Right Lane for Exit Only	6 X 6	-	-	132 X 72	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW12-1-C	W12-1	Double Arrow	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW13-1-A	W13-1	Advisory Speed Plaque	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details						-	-
XW20-1-A	W20-1	Road Work Ahead	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW20-1	W20-1	Road Work Ahead	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW20-2	W20-2	Detour Ahead	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW20-3	W20-3	Road Closed Ahead	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW20-4	W20-4	One Lane Road Ahead	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW20-5 (R, C, or L)	W20-5	Lane Closed Ahead	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW20-7-A	W20-7	Flagger Symbol	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW20-YWR(A)	-	Wide Load Restriction Miles	*	B	2	48 X 48	Orange	Black	1 1/4	3/4	6 - Series D	6 - Series D	6 - Series D			3		X
XW20-YWR(B)	-	Wide Load Over ft Must Exit	*	B	2	48 X 48	Orange	Black	1 1/4	3/4	6 - Series C	6 - Series C	6 - Series C	6 - Series C		3		X
XW20-YWR(C)	-	No Loads Over ft Wide	*	B	2	48 X 48	Orange	Black	1 1/4	3/4	6 - Series D	6 - Series D	6 - Series D	6 - Series D		3		X

*Wood post permitted.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGN DESIGN DETAILS

This sheet replaces Standard Drawing E 801-TCSN-06

NOTES:

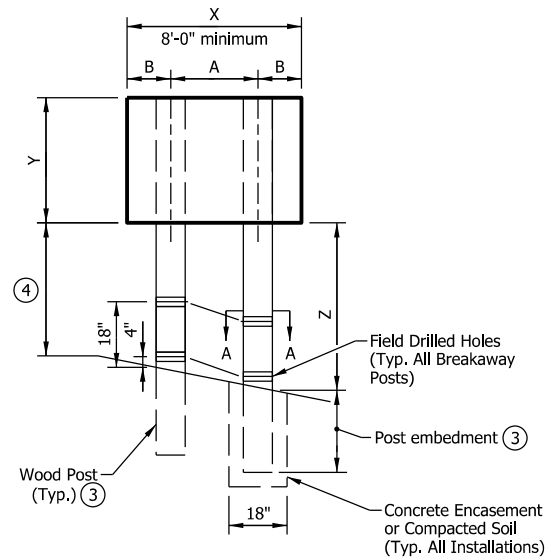
- ① Spacing between letters of this word or line shall be reduced by the percentage shown in the FHWA document, *Standard Highway Signs*.
2. All dimensions are in inches.
3. The minimum depth for wood or steel posts shall be 4 ft.

SIGN NUMBER	IMUTCD CODE	SIGN MESSAGE	POST DESIGN TYPE			SIGN SIZE	SIGN COLOR BACKGROUND	COPY	BORDER WIDTH	MARGIN WIDTH	LETTER HEIGHT SERIES - LINE 1	LETTER HEIGHT SERIES - LINE 2	LETTER HEIGHT SERIES - LINE 3	WORD OR LINE	PCT.	CORNER RADIUS	NO. OF POSTS	
			4 X 4 WOOD	U-CHANNEL	SQUARE POST												1	2
XW21-1-A	W21-1	Workers Symbol	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW21-2	W21-2	Fresh Oil	*	A	1	30 X 30	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details						X	
XW21-2-A	W21-2	Fresh Oil	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW21-3-A	W21-3	Road Machinery Ahead	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW21-5-A	W21-5	Shoulder Work	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW21-6-A	W21-6	Survey Crew	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW21-7	W21-7	Utility Work Ahead	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW21-7-A	W21-7	Utility Work Ahead	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW21-Y8b	-	Mowing Next X Miles	*	A	1	36 X 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C	6 - Series C			2 1/4	X	
XW21-Y8b-A	-	Mowing Next X Miles	*	B	2	48 X 48	Orange	Black	1 1/4	3/4	8 - Series C	8 - Series C	8 - Series C			3	X	
XW21-8	W21-8	Mowing Ahead	*	A	1	36 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW21-8-A	W21-8	Mowing Ahead	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XW26-1	W26-1	Watch for Stopped Traffic	*	B	2	48 X 48	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XG20-1	G20-1	Road Work Next ____ Miles	*	B	1	48 X 24	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XG20-2	G20-2	End Road Work	*	B	1	48 X 24	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
XG20-4	G20-4	Pilot Car Follow Me	-	-	-	36 X 18	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details						-	-
XG20-5	-	(Route Number or Lane Closed On or After ____)	*	B	2	60 X 36	Orange	Black	3/4	1/2	6 - Series C	6 - Series C	6 - Series C			2 1/4	X	
XG20-5P	XG20-5P	Worksite Plaque	-	-	-	48 X 16	Orange	Black	1/2	3/8	8 - Series C					1 1/2	-	
XW20-6	-	Lane Restrictions On or After ____	*	B	2	60 X 36	Orange	Black	3/4	1/2	5 - Series C	5 - Series C	4 - Series C			1 7/8	X	
XW20-6A	-	Lane Restrictions On or After ____	*	B	2	72 X 36	Orange	Black	7/8	5/8	6 - Series C	6 - Series C	5 - Series C			2 1/4	X	
XM4-9 (R or L)	M4-9	Detour (Above Black Arrow)	*	A	1	30 X 24	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details						X	
XM4-9-B (R or L)	M4-9	Detour (Above Black Arrow)	*	B	2	48 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
M4-Y9	-	Temporary Path with Arrow	*	A	1	24 X 12	Orange	Black	5/8	3/8	3 - Series C	3 - Series C (Arrow is 6x4)		2		1 1/2	X	
XM4-Y9d	-	____ St / Detour Arrow	*	B	2	L X 36	Orange	Black	1/2	3/8	4 - Series C	6 - Series C		1	30	1 1/2	X (L ≤ 42)	
XM4-Y9e	-	____ St / Direction / Detour Arrow	*	B	2	L X 48	Orange	Black	1/2	3/8	4 - Series C	6 - Series C	6 - Series C	1	30	1 1/2	X (L ≤ 36)	
XM4-10 (R or L)	M4-10	Detour (Inside Orange Arrow)	*	B	1	48 X 18	Black & Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
E5-2a	-	Exit Closed	*	B	2	48 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
E5-2	-	Exit Open	*	B	2	48 X 36	Orange	Black			See FHWA publication Standard Highway Signs for fabrication details							X
E5-1c	E5-Y1c	Exit (Above Arrow)	6x6	B	2	48 X 84	Green	White	1 1/2	0	12 - Series E	18 - Series E	(Arrow is 10-13.4)			6	X	

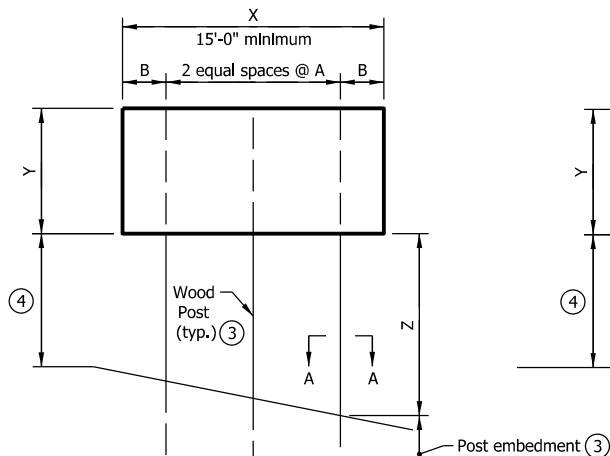
*Wood post permitted.

INDIANA DEPARTMENT OF TRANSPORTATION

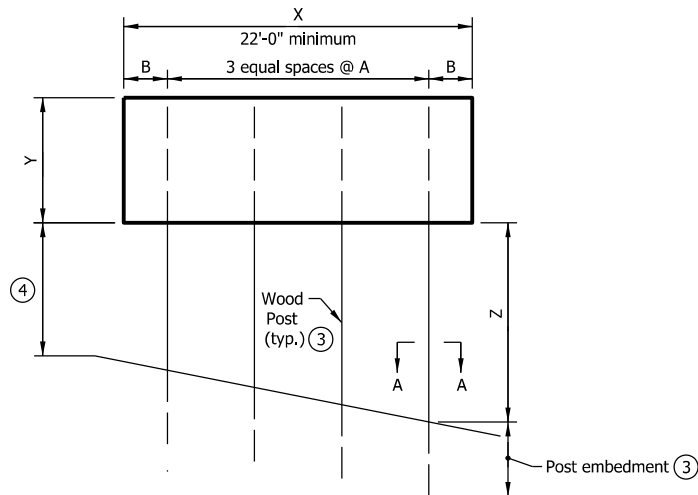
TRAFFIC CONTROL SIGN DESIGN DETAILS

**2-POST INSTALLATION**

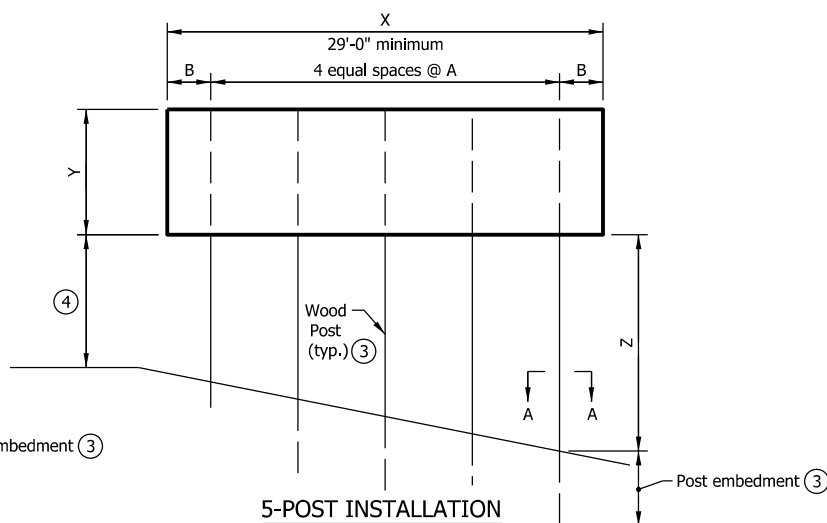
$$A = (X-2B)$$

**3-POST INSTALLATION**

$$A = (X-2B)/2$$

**4-POST INSTALLATION**

$$A = (X-2B)/3$$

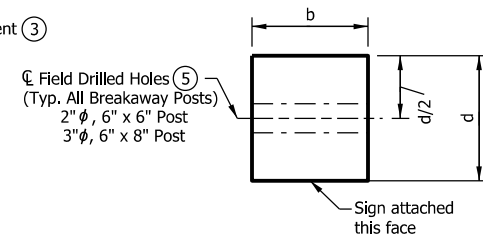
**5-POST INSTALLATION**

$$A = (X-2B)/4$$

This sheet replaces Standard Drawing E 801-TCSN-07

NOTES:

1. The minimum post spacing (A) shall be 7'-0" and the maximum spacing shall be 15'-0". The minimum overhang width (B) shall be 6 inches and the maximum width shall be $A/2$.
2. X and Y dimensions shall be in increments of 6 inches. The Z dimension shall be rounded up to the nearest 6 inch increment.
3. For post selection and post embedment depth, see table on Standard Drawing E 801-TCSN-08.
4. The minimum vertical clearance shall be as shown on Standard Drawing E 801-TCOV-06.
5. Field drilled holes through post shall be parallel to sign face.

**SECTION A-A**

INDIANA DEPARTMENT OF TRANSPORTATION

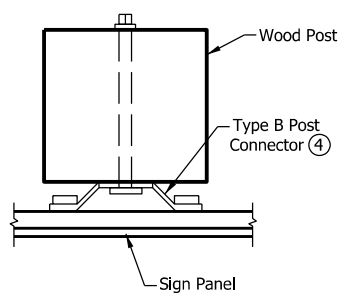
TEMPORARY PANEL SIGN
POST INSTALLATION

This sheet replaces Standard Drawing E 801-TCSN-08

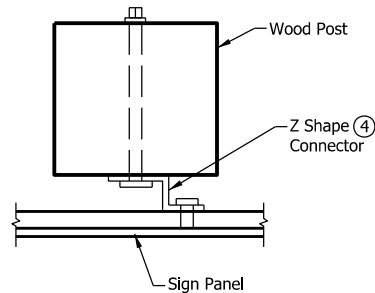
NOTES:

1. Post material shall be dense southern pine select natural.
2. See Standard Drawing E 801-TCSN-07 for X, Y and Z dimensions.
3. The table is valid for dimensions within the following range:
Sign Width (X) between 8'-0" and 45'-0"
Sign Height (Y) between 4'-0" and 20'-0"
Clear Height (Z) between 7'-0" and 15'-0"
- ④ The length of the connector shall be equal to the sign height Y.
- ⑤ Non-breakaway posts shall be placed outside the clearzone or behind barrier or guardrail. The edge of the panel sign adjacent to traffic shall be at least 6 feet from the face of the barrier or guardrail.
- ⑥ At exterior posts, the Angle Connector shall be installed on the outside face of the post.

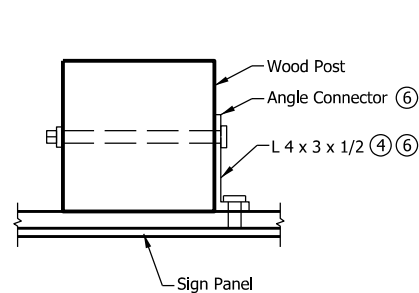
TEMPORARY PANEL SIGN WOOD POST SELECTION TABLE						
Post Description	Nominal Post Size (b x d)	(X * Y * Z) in ft ³ (Maximum)				Post Embedment
		Number of Posts				
		2	3	4	5	ft
Breakaway Post	6" x 6"	363	681	1000	1318	5
	6" x 8"	479	899	1319	1739	6
Non-Breakaway Post ⑤	6" x 6"	389	730	1071	1412	5
	6" x 8"	615	1154	1693	2232	6
	8" x 8"	755	1416	2078	2739	7
	8" x 10"	1007	1941	2848	3754	8
	10" x 10"	1279	2399	3519	4639	9



TYPE B POST CONNECTION



Z SHAPE CONNECTION



ANGLE SHAPE CONNECTION

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY PANEL SIGNS
WOOD POST SELECTION TABLE

904-M-073 AGGREGATES

(Revised 10-16-25)

The Standard Specifications are revised as follows:

SECTION 904, BEGIN LINE 207, DELETE AS FOLLOWS:

(a) Classification of Aggregates

Characteristic Classes	AP	AS	A	B	C	D	E	F
Quality Requirements:								
Freeze and Thaw Beam Expansion, % max. (Note 1)060							
Los Angeles Abrasion, % max. (Note 2).....	40.0	30.0	40.0	40.0	45.0	45.0	50.0	
Freeze and Thaw, AASHTO T 103, Procedure A, % max. (Note 3).....	12.0	12.0	12.0	12.0	16.0	16.0	20.0	25.0
Sodium Sulfate Soundness, % max. (Note 3)	12.0	12.0	12.0	12.0	16.0	16.0	20.0	25.0
Brine Freeze and Thaw Soundness, % max. (Note 3).....	30	30	30	30	40	40	50	60
Absorption, % max. (Note 4).....	5.0	5.0	5.0	5.0	5.0			
Additional Requirements:								
Deleterious, % max.								
Clay Lumps and Friable Particles.....	1.0	1.0	1.0	1.0	2.0	4.0		
Non-Durable (Note 5).....	4.0	2.0	4.0	4.0	6.0	8.0		
Coke.....					(See Note 6)			
Iron					(See Note 6)			
Chert (Note 7).....	3.0	3.0	3.0	5.0	8.0	10.0		
Weight per Cubic Foot for Slag, lb, min.	75.0		75.0	75.0	70.0	70.0	70.0	
Crushed Particles, % min. (Note 8)								
Compacted Aggregates			20.0	20.0	20.0	20.0		
Notes:								
1. Freeze and thaw beam expansion shall be tested and re-tested in accordance with ITM 210.								
2. Los Angeles abrasion requirements shall not apply to BF.								
3. Aggregates may, at the option of the Engineer, be accepted by the Sodium Sulfate Soundness or Brine Freeze and Thaw Soundness requirements.								
4. Absorption requirements apply only to aggregates used in PCC and HMA mixtures except they shall not apply to BF. When crushed stone coarse aggregates from Category I sources, in accordance with ITM 203, consist of production from ledges whose absorptions differ by more than two percentage points, the absorption test will be performed every three months on each size of material proposed for use in PCC or HMA mixtures. Materials having absorption values between 5.0 and 6.0 that pass AP testing may be used in PCC. If variations in absorption preclude satisfactory								

production of PCC or HMA mixtures, independent stockpiles of materials will be sampled, tested, and approved prior to use.

5. Non-durable particles include: a) soft particles as determined by ITM 206, b) other particles which are structurally weak, such as soft sandstone, shale, limonite concretions, coal, weathered schist, cemented gravel, ocher, shells, and wood, and c) other objectionable material. Determination of non-durable particles shall be made from the total weight (mass) of material retained on the 3/8 in. (9.5 mm) sieve. Scratch Hardness Test shall not apply to crushed stone coarse aggregate.
6. ACBF and SF coarse aggregate shall be free of objectionable amounts of coke, iron, and lime agglomerates.
7. The bulk specific gravity of chert shall be based on the saturated surface dry condition. The amount of chert less than 2.45 bulk specific gravity shall be determined on the total weight (mass) of material retained on the 3/8 in. (9.5 mm) sieve for sizes 2 through 8, ~~43~~, 53, and 73 and on the total weight (mass) of material retained on the No. 4 (4.75 mm) sieve for sizes 9, 11, 12, and 91.
8. Crushed particle requirements apply to gravel coarse aggregates used in compacted aggregates. Determination of crushed particles shall be made from the weight (mass) of material retained on the No. 4 (4.75 mm) sieve in accordance with ASTM D5821.

SECTION 904, BEGIN LINE 275, DELETE AS FOLLOWS:

(e) Sizes of Coarse Aggregates

Sieve Sizes	COARSE AGGREGATE SIZES (Percent Passing)											
	Coarse Graded										Dense Graded	
	2	5	8	9	11, SC 11 ⁽⁵⁾	12, SC 12 ⁽⁵⁾	SC 16 ⁽⁵⁾	43 ⁽⁴⁾	91	93PG ⁽⁶⁾	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	100	35 - 50		98 - 100	55 - 80	60 - 90
3/8 in. (9.5 mm)		15 - 45	20 - 50	30 - 60	75 - 95	95 - 100	94 - 100			75 - 100		
No. 4 (4.75 mm)		0 - 15	0 - 15	0 - 15	10 - 30	50 - 80	15 - 45	20 - 40		10 - 60	35 - 60	35 - 60
No. 8 (2.36 mm)		0 - 10	0 - 10	0 - 10	0 - 10	0 - 35		15 - 35		0 - 15	25 - 50	
No. 16 (1.18 mm)							0 - 4					
No. 30 (600 µm)						0 - 4		5 - 20		0 - 5	12 - 30	12 - 30
No. 200 (75 µm) ⁽²⁾								0 - 6.0			5.0 - 13.0 ⁽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	0 - 2.0		
Decant (SC)					0 - 1.5	0 - 1.5	0 - 1.5					
<p>(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.</p> <p>(2) Includes the total amount passing the No. 200 (75 µm) sieve as determined by AASHTO T 11 and AASHTO T 27.</p> <p>(3) Decant may be from 0 to 2.5 for stone and slag.</p> <p>(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.</p> <p>(5) Seal coat (SC) aggregates shall be 85% one face and 80% two face crushed. The Flakiness Index in accordance with ITM 224 shall be a maximum of 25%.</p> <p>(6) Pea gravel shall be generally uncrushed gravel, with a maximum of 20% crushed particles, and shall meet the gradation requirements of 93PG. Determination of crushed particles shall be made from the weight (mass) of material retained on the No. 4 (4.75 mm) sieve in accordance with ASTM D5821.</p>												

SECTION 904, BEGIN LINE 395, DELETE AS FOLLOWS:

(c) Exceptions to AASHTO T 27 for *Fine and Coarse Aggregates*

The *dry mass* size of test samples for coarse *and fine* aggregate shall be as follows:

Aggregate Size	Mass of Test Sample
No. 2	11.3 kg min.
No. 5, 8, 43 , 53, 73, and 91.....	6.0 - 8.0 kg
No. 9	4.0 - 6.0 kg
<i>No. 11</i>	<i>2.0 kg min.</i>
<i>No. 12 and No. 16</i>	<i>1.0 kg min.</i>
<i>No. 23 and No. 24</i>	<i>300 g min.</i>
Structure Backfill	
2 in.	11.3 kg min.
1 1/2 in. and 1 in.	6.0 - 8.0 kg
1/2 in.	4.0 - 6.0 kg
No. 4 and No. 30	300 g <i>min.</i>

918-M-072 GEOGRID

(Revised 10-16-25)

The Standard Specifications are revised as follows:

SECTION 918, BEGIN LINE 85, DELETE AND INSERT AS FOLLOWS:

The geogrid shall be in accordance with the property requirements for the type specified as follows:

(a) Type IA, ~~and Type IB~~, and Type IC

Property	Test Method	Unit	Type IA Value, min.	Type IB Value, min.	Type IC Value
Aperture Area	Calibered	sq in.	≤ 1.3	≤ 1.3	≤ 1.3
Open Area	COE, CW02215	%	$> 50.0 \leq 80.0$	$> 50.0 \leq 80.0$	$> 50.0 \leq 80.0$
Junction Strength, <i>min.</i>	ASTM D7737	lb/ft	-----	788	1,200
Tensile Modulus ¹ Strength, <i>min.</i> , machine direction cross machine direction	ASTM D6637 ^{2,3}	lb/ft lb/ft	10,000 500 ¹ 10,000 500 ¹	10,000 500 ¹ 10,000 500 ¹	400 ⁴ 600 ⁴
Ultimate Strength, <i>min.</i> , machine direction cross machine direction	ASTM D6637 ^{2,3}	lb/ft lb/ft	800 800	800 800	1,300 1,900
Ultraviolet Stability	ASTM D4355	-----	-----	70% at 500 hrs	90% at 500 hrs
¹ Secant modulus Tensile strength at 5% elongation. ² Results for machine direction, MD, and cross machine direction, CMD, are required. ³ Minimum average roll values shall be in accordance with ASTM D4759. ⁴ Tensile strength at 2% elongation.					

GEOTECHNICAL EVALUATION

**FERDINAND STATE FOREST CULVERT REPLACEMENTS
STRUCTURE ID: CV FERDINAND 2, CV FERDINAND 3,
AND CV FERDINAND 4
DES NO.: CDC24009631045
DUBOIS COUNTY, INDIANA**

Prepared for:

**CRAWFORD, MURPHY & TILLY, INC.
8790 PURDUE ROAD
INDIANAPOLIS, IN 46268**

By

**TERRACON CONSULTANTS, INC.
7770 WEST NEW YORK STREET
INDIANAPOLIS, INDIANA 46214-2988**

August 28, 2025

August 28, 2025



Mr. Rajesh Kaphle
Crawford, Murphy & Tilly (CMT)
8790 Purdue Road
Indianapolis, IN 46268

Re: Geotechnical Evaluation
Ferdinand State Forest Culvert Replacements
Structure ID:
CV Ferdinand 2, CV Ferdinand 3, and CV Ferdinand 4
Des No.: CDC24009631045
Dubois County, Indiana
Terracon Project No. CJ235502

Dear Rajesh,

We have completed the geotechnical evaluation for the proposed culvert replacement project. Refer to the attached Exploratory Location Plan (Drawing No. CJ235502.B1) for the project location. The opinions and recommendations herein are based, in part, on our interpretation of the subsurface information at the exploratory locations as indicated on the attached plan. This report does not reflect variations in subsurface conditions between or beyond these locations. Variations in these conditions should be expected, and fluctuation of the groundwater levels will occur with time. Other important limitations of a geotechnical report are attached.

Project Description

We understand that representatives of the Indiana Department of Natural Resources (IDNR) are planning to replace three culverts in the Ferdinand State Forest. Roadway improvements consisting of full depth pavement replacement and widening to accommodate compacted aggregate shoulders are planned within the project limits. Additionally, incidental construction consisting of mill and overlay of the existing roadway is planned on both ends of each culvert. Additionally, Class 2 riprap is planned on the upstream end and revetment riprap is planned at the downstream end of each culvert.

Based on our correspondence with CMT, we understand that INDOT Design Memorandum No. 22-03 will be used for the pavement design for the proposed roadway improvements. Earth cuts and fills of up to 5 ft are planned to accommodate the widening at each structure. Based on our review of the preliminary cross-sections, we understand that the existing sideslopes are planned to be re-established at 3H:1V or flatter. We understand that maintenance of traffic (MOT) is planned to utilize a road closure with a detour. The scope of this report is to provide discussions and geotechnical recommendations for the replacement of the culverts. The table provided below summarizes details of the culverts planned to be replaced and provides the associated exploratory locations from our geotechnical evaluation.

Table 1: Summary of Culvert Details

Structure ID	Station Line "PR-Access Rd"	Box Size (ft)	Approx. Invert Elev.	Associated Borings	Associated Hand Auger Borings
CV Ferdinand 2	20+80	5 x 4	501-506	CB-1/PC-1	HA-1 through HA-4
CV Ferdinand 3 (With Wingwalls)	29+33	9 x 5	482-484	CB-2/PC-2	HA-5 through HA-7
CV Ferdinand 4	30+93	9 x 5	482-485	CB-3/PC-3	HA-8 through HA-10

Refer to the attached Drawing No. CJ235502.B1 for the location of the test borings and hand auger borings corresponding to the proposed culverts.

Exploratory Program

The subsurface conditions at the proposed culverts were explored by performing one boring and a pavement core near each culvert (designated CB-1/PC-1, CB-2/PC-2, and CB-3/PC-3) to depths of about 15, 25, and 15 ft, respectively. Hand auger borings (designated HA-1 through HA-10) were performed in/near the tributary and toe of existing embankments. Topsoil samples were collected from each quadrant of the existing culverts. Exploratory locations and depths were identified in the field by Terracon Consultants, Inc. (Terracon) personnel referencing features shown on the plans. Details of drilling and sampling procedures are attached along with boring logs and laboratory results and reports.

Soil descriptions on the boring logs are in general accordance with the AASHTO Soil Classification System [AASHTO designation, e.g. A-4(3)] and the INDOT Standard Specifications (ISS¹) (textural classification, e.g., clay loam). The boring logs represent our interpretation of the individual samples and field logs and results of the laboratory tests. The stratification lines on the boring logs represent the approximate boundary between soil types; although, the in-situ transitions may be more gradual.

Discussion of Observations

Surface Conditions

The surface conditions at the boring locations consisted of about 6 to 7½ in. of asphaltic concrete (HMA) underlain by about 4 in. of granular subbase (sand and gravel). The hand auger borings performed at the toe of the embankments exposed about 3 in. of surficial soil with root matter over cohesive soils with moisture contents in the range of 17 to 42 percent. The hand auger borings performed in the channels exposed predominantly cohesive soils with moisture contents in the range of 23 to 35 percent. Refer to the attached Summary of Hand Auger Borings.

Subsurface Conditions

Structure ID CV Ferdinand 2

The subsurface conditions observed at Boring CB-1/PC-1 performed near Structure ID CV Ferdinand 2 consisted of sand and gravel fill underlain by cohesive A-4 clay loam to El. 501. These soils were underlain by shale to the maximum depth explored.

¹References the Indiana Department of Transportation (INDOT) Standard Specifications.

The relative density of the near-surface fill was loose based on SPT N-value criteria. The consistency of the cohesive soil was observed to be stiff to hard based on hand penetrometer readings. The moisture contents of the cohesive soil were observed to be in the range of 13 to 19 percent. Results of the Atterberg limits indicated that the cohesive soil is of medium plasticity based on a plasticity index (PI) of 8 and a liquid limit (LL) of 26 percent. In addition, an unconfined compression test (UCT) performed on a split spoon sample of the cohesive soil indicated an undrained shear strength of 1.92 tons per square foot (tsf). The dry unit weight of this soil was observed to be 111 lbs. per cubic ft (pcf). The shale observed below EL. 501 was described as highly weathered.

Structure ID CV Ferdinand 3

The subsurface conditions observed at Boring CB-2/PC-2 completed near Structure ID CV Ferdinand 3 consisted of sand and gravel fill underlain by cohesive A-4 clay loam to El. 481. These soils were underlain by cohesive A-2-4 sandy loam that transitioned to granular sandy loam near El. 472.

The relative density of the near-surface fill was medium dense. The consistency of the cohesive soils was observed to be medium stiff to stiff. The moisture contents of the cohesive soils were observed to be in the range of 15 to 26 percent. Results of the Atterberg limits indicated that the cohesive soils are of slight plasticity based on a PI of 3 and a LL of 20 percent.

Structure ID CV Ferdinand 4

The subsurface conditions observed at Boring CB-3/PC-3 near Structure ID CV Ferdinand 4 consisted of cohesive A-4 clay loam and silty loam to the maximum depth explored.

The consistency of the cohesive soils was of medium stiff to stiff. The moisture contents of these soils typically were observed to be in the range of 12 to 29 percent. Results of the Atterberg limits indicated that the A-4 silty loam soil is of slight plasticity based on a PI of 4 and a LL of 22 percent.

Groundwater conditions

Table 2 summarizes the groundwater conditions observed at each culvert.

Table 2: Summary of Groundwater Conditions at Test Borings

Structure ID	Boring Groundwater Depth (ft)	Boring Groundwater El.	Tributary Flowline El.
CV Ferdinand 2	Not observed	N/A	502 - 507
CV Ferdinand 3	9 - 11	479 - 481	485 - 483
CV Ferdinand 4	Not observed	N/A	483 - 486

Additionally, our review of the *Soil Survey of Dubois County* indicated that the project area is prone to a seasonal high groundwater level within 1½ ft of the naturally occurring ground surface. It should be recognized that groundwater levels will fluctuate due to changes in precipitation, infiltration, surface run-off, flow of the tributary, and other hydrogeological factors.

Geotechnical Recommendations

Based on our understanding of the planned improvements and information obtained from the exploratory locations, it is our opinion that the subsurface conditions are conducive for the support of the culverts and associated roadway improvements provided the foundation soil is prepared in accordance with the ISS and improved, where necessary, via the recommendations provided herein.

Foundation Soil Preparation for Pavement & Fill Considerations

As mentioned earlier, roadway improvements consisting of full depth pavement replacement and widening to accommodate compacted aggregate shoulders are planned. In addition, the existing sideslopes are planned to be re-established at 3H:1V or flatter. Earth cuts and fills of up to 5 ft are planned to accommodate the widening.

In areas to receive new pavement components and embankment fill, we recommend that all surficial soil, existing pavement components, and wet or soft near-surface soils be removed from within the construction limits. Where utilities are relocated, abandoned, or perpetuated, we recommend that the resulting excavations be backfilled with B borrow in accordance with Section 203.09 of the ISS.

After the removal of near-surface soils and existing pavement components, we anticipate that predominantly loose to medium dense granular soils or stiff cohesive soils will be exposed. Given the nature of the project (i.e., short length for structure replacement with narrow widening) and that the pavement subgrade for most of the new roadway is to be backfill placed above the new culverts, we do not anticipate proofrolling to be practical. Other means of foundation soil evaluation (e.g., dynamic cone penetrometer) could be utilized in the areas of new pavement components and fill.

Relatively stiff cohesive foundation soils will deteriorate when exposed to excessive moisture and repeated construction traffic, so consideration should be given to the timing of the removal of these surface components and soil relative to the preparation of the foundation soils and sequencing of other activities. We recommend that the pavement components and new fill be placed soon after the foundation soils are evaluated to reduce the risk of the foundation soil deterioration.

From the hand auger borings, we anticipate the presence of soft soils to a depth of 5 ft at the toe of the existing embankment. Additionally, soils exhibiting elevated moisture should be anticipated at the toe (ditch bottom) of the existing embankment. Based on these subsurface conditions, we recommend that the quantities for foundation soil improvement in the areas of the proposed fill consist of removal and replacement of soft soils with INDOT No. 8 stone wrapped in Type 2A geotextile, in accordance with ISS 918.02(a), for a maximum undercut depth of 12 in. For your estimating purposes, we recommend that these quantities of foundation soil improvements (i.e., 12 in. of undercut and replacement with crushed stone wrapped in Type 2A geotextile), equal to the total area between the existing embankment toe and the proposed embankment toe along the entire length of fill planned be included in the contract. The final decision regarding the undercut depths be made at the time of construction based on the actual observed conditions after removal of the surficial elements and results of dynamic cone penetrometer test.

Fill Placement Considerations

Standard embankment construction practices outlined in the ISS should provide an adequate foundation for embankment construction provided the subgrade is prepared as discussed above. In addition, we recommend that the fill used to raise grades be placed in loose lift thicknesses not exceeding 8 in. We recommend that the fill placed to raise the grades be compacted to 95 percent of the maximum density obtained in accordance with AASHTO T 99 as specified in the ISS. Based on our review of the plans, we anticipate that imported borrow may be required for embankment fill placement. The quality and source of the borrow will be evaluated in the field by others. In addition, we recommend benches be cut into any existing slopes steeper than 6H:1V before fill placement to key the new fill into the existing slope. In our opinion, benches having a minimum width of 10 ft should be cut into the slope before new fill is placed. Where 10-ft wide benches are not feasible due to shallow embankment heights, we recommend a minimum of 4-ft wide benches be cut in accordance with ISS 203.22.

Culvert Considerations

Structure IDs CV Ferdinand 2 and CV Ferdinand 3

The upstream and downstream inverts for the proposed culverts are shown in Table 1. Based on our observations at the test boring locations, the subsurface conditions observed at the proposed base of the culverts consist of stiff to hard cohesive soils. The moisture contents of these soils were in the range of 16 to 19 percent. However, from the hand auger borings, we anticipate the presence of soft soils to a depth of 2 ft in the existing channel. These conditions are anticipated to be adequate for support of the culvert provided the foundation soil is prepared as discussed below.

We recommend that the base of the excavation be exposed immediately prior to the placement of the culvert (i.e., not left open for an extended period). We recommend that 6 in. of INDOT No.8 crushed stone encapsulated in Type 2A geotextile (ISS 918.02a) be placed below the entire base area of the culvert to provide a uniform surface for the culvert placement.

Weathered shale was observed near El. 501, near at the base of the planned excavation for CV Ferdinand 2. Additionally, hand auger refusal was noted at the downstream end of the culvert approximately 2 ft below the existing surface. Based on these observations, there is a risk that shale will be present in the lower half of the culvert. If shale is exposed at the base of the culvert, we recommend supporting the culvert directly on the shale without overexcavation to allow the 6 in. INDOT No. 8 bedding layer. If soil is exposed at the foundation grade, we recommend the use of a bedding layer. However, where rock is exposed in the excavation for the structure, we recommend the base of the excavation be leveled with concrete, cement mortar, or grout as specified in ISS 206.08. We also recommend including quantities of rock excavation per ISS 203.03 for at least half of the culvert length in the contract.

We do not anticipate yielding soil will be encountered at the base of the culverts. However, if yielding soils are encountered, we recommend the yielding soil be undercut to a depth of 12 in. below the bottom of the bedding layer and replaced with INDOT No. 8 coarse aggregate encapsulated with Type 2A geotextile (918.02a). For estimation purpose, we recommend a quantity of this foundation soil improvement for 20 percent of the total base area of the culverts be included in the contract.

Structure ID CV Ferdinand 4

Based on our observations at Boring CB-3/PC-3 near Structure ID CV Ferdinand 4, the subsurface conditions observed at the proposed base of the culvert consist of soft cohesive soils. The moisture contents of these soils were in the range of 25 to 29 percent. In addition, from the hand auger borings, we anticipate the presence of soft soils to a depth of at least 5 ft in the existing channel.

Because of these conditions we anticipate yielding soil will be encountered at the base of the culvert. We recommend the yielding soil be undercut to a depth of 18 in. below the bottom of the culvert and replaced with INDOT No. 8 coarse aggregate encapsulated with Type 2A geotextile (918.02a) under the entire base area of the culvert. Note that soft soils are still anticipated to be present at the undercut grade; however, we anticipate that the crushed stone will help bridge the conditions.

General Culvert Recommendations

The area around and above the culvert should be backfilled in accordance with ISS Section 714. Hand- or remote-guided vibratory compactors are recommended for compacting the bedding material and material on either side of the culvert. Furthermore, we recommend the first several lifts of backfill over the culvert be compacted with small vibratory compactors to assure proper compaction is achieved and to prevent damage to the culvert from heavier, high-energy compactors. Hand- or remote-guided vibratory compactors are recommended for compacting the bedding

material. Where riprap is planned to be placed at the culvert ends, we recommend that Type 1A (ISS 918.02a) geotextile be placed under the riprap.

Wingwall Considerations

Wingwalls are planned for Structure ID CV Ferdinand 3 at both ends of the structure. Based on the plans, the upstream and downstream flowlines are near El. 485 and El. 483, respectively. In accordance with Section 408-2.04(01) of the INDOT Design Manual, we recommend the bottom of the footings be placed a minimum of 4 ft below the flowline elevations (i.e., near El. 481 and El. 479).

The subsurface conditions near the footing grades anticipated to consist of stiff A-4 cohesive soils. The moisture contents and SPT N-values near the footing grades were observed to be in the range of 17 to 19 percent and 6 to 11 blows/ft, respectively.

The subsurface conditions are generally conducive for the support of the culverts provided the foundation soils are prepared as discussed herein. In accordance with ISS 714.05, 8 in. of INDOT No. 8 stone should be placed below the footings. The soil parameters in Table 3 may be considered for the wingwall design.

Table 3: Summary of Soil Parameters for Structure and Wingwall Design

Foundation Bearing Soil Type	A-2-4 Sandy Loam
Friction Angle between Wingwall and Backfill ¹ (deg)	20
Estimated Unit Weight of Structure Backfill, $\gamma_{\text{moist/saturated}}$ (pcf)	120
Angle of Friction between Footing and Crushed Stone (δ , deg)	26
Undrained Cohesion of Foundation Soil (s_u , psf) (A-2-4 Sandy Loam)	1,000
Adhesion of Foundation Soil (C_a , psf) (A-2-4 Sandy Loam)	1,000
Drained Internal Friction Angle of Foundation Soil (ϕ' , deg) (A-2-4 Sandy Loam)	30
Factored Bearing Resistance (psf) ²	2,500
Resistance Factor (ϕ)	0.45
Nominal Bearing Resistance (psf) ²	5,500
1. Using Structure Backfill Type 2	
2. Calculated based on undrained cohesion	

The area around and above the wingwalls should be backfilled in accordance with ISS 714. All backfill behind the wingwalls should be placed to a minimum of 95 percent of the maximum dry density as determined by AASHTO T 99 (standard Proctor). In addition, in accordance with IDM 203-2.06(04), the granular soils used as backfill should extend horizontally from the bottom of the wingwall a distance equal to the wall height (i.e., 1H:1V slope of the backfill behind wingwall). Furthermore, compaction of backfill within 3 ft of the walls should be performed with a hand-guided compactor to avoid over-stressing.

Excavation and Dewatering Considerations

Excavations made for the project will require: 1) cut slopes adequate to prevent cave-ins/subsidence; or 2) braced excavations for safe construction operation. All excavations should conform with Occupational Safety and Health Administration (OSHA) requirements (i.e., 29 CFR Part 1926). The Contractor is solely responsible for constructing and maintaining stable excavations. Additionally, soil should not be stockpiled immediately adjacent to the top of the excavation.

Weathered shale was observed near El. 501, near at the base of the CV Ferdinand 2. Rock excavation will be required for the construction of the culvert. Based on our observations, we anticipate that the weathered shale will be rippable using conventional equipment. As such, we recommend that rock excavation per ISS 203.03 be included in the contract.

Since the subgrade primarily consists of cohesive soils, conventional dewatering methods (e.g., sumps with filtered pumps, possibly in conjunction with collection trenches) will likely be necessary to keep the excavations "in the dry". Construction of the culverts is anticipated to require pumping around the tributary. Depending on the tributary's flow at the time of construction, the use of temporary earthen berms or cofferdams will likely be required. We recommend that the groundwater level be lowered a minimum of 2 ft below the planned excavation base prior to the excavation activities. The scope of this evaluation was not to provide dewatering recommendations for contractors. Dewatering is a responsibility of the contractor based on their means and methods. It may be necessary for the dewatering contractor to obtain additional subsurface information to assist with the design of their dewatering plan.

Concluding Remarks

We appreciate the opportunity to provide our services to you on this project. Please contact our office if you have any questions or need further assistance with the project.

Sincerely,

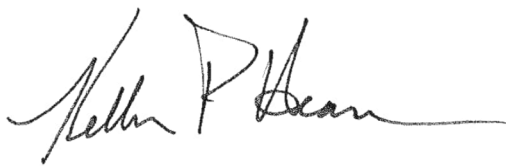
TERRACON CONSULTANTS, INC.



Belayneh Desta, Ph.D., P.E.
Project Engineer



Matt J. Melton, P.E.
Senior Engineer



Kellen P. Heavin, P.E.
Principal

Attachments –

- Important Information About This Geotechnical Engineering Report
- Field Methods for Exploring and Sampling Soils and Rock
- Exploratory Location Plan (Drawing Nos. CJ235502)
- Log of Test Boring - General Notes
- Log of Test Boring (3)
- Grain Size Distribution Test Reports (2)
- Unconfined Compression Test Result
- Summary of Pavement Cores
- Pavement Core Logs (3)
- Summary of Hand Auger Borings
- Summary of Existing Topsoil Test Results for Use with Plant Growth Layer
- Bearing Resistance Analysis

Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer

will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the “Findings” Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site’s subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual site-wide subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report’s Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals’ misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals’ plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note*

conspicuously that you’ve included the material for information purposes only. To avoid misunderstanding, you may also want to note that “informational purposes” means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled “limitations,” many of these provisions indicate where geotechnical engineers’ responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a “phase-one” or “phase-two” environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer’s services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer’s recommendations will not of itself be sufficient to prevent moisture infiltration.* Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. *Geotechnical engineers are not building-envelope or mold specialists.*



GEOPROFESSIONAL
BUSINESS
ASSOCIATION

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FIELD METHODS FOR EXPLORING AND SAMPLING SOILS AND ROCK

A. Boring Procedures Between Samples

The boring is extended downward, between samples, by a hollow stem auger (AASHTO* Designation T251), continuous flight auger, driven and washed-out casing, or rotary boring with drilling mud or water.

B. Standard Penetration Test and Split-Barrel Sampling of Soils

(AASHTO* Designation: T206)

This method consists of driving a 2-in. outside diameter split-barrel sampler using a 140-lb weight falling freely through a distance of 30 in. The sampler is first seated 6 in. into the material to be sampled and then driven 12 in. The number of blows required to drive the sampler the final 12 in. is recorded on the Log of Test Boring and known as the Standard Penetration Resistance or N-value. Recovered samples are first classified as to texture by the field personnel. Later in the laboratory, the field classification is reviewed by a geotechnical engineer or a qualified person under their direction who observes each sample.

C. Thin-walled Tube Sampling of Soils

(AASHTO* Designation: T207)

This method consists of hydraulically pushing a 2-in. or 3-in. outside diameter thin wall tube into the soil, usually cohesive types. Relatively undisturbed samples are recovered.

D. Soil Investigation and Sampling by Auger Borings

(ASTM Designation: D1452)

This method consists of augering a hole and removing representative soil samples from the auger flight or bucket at 5-ft intervals or with each change in the substrata. Relatively disturbed samples are obtained, and its use is therefore limited to situations where it is satisfactory to determine the approximate subsurface profile.

E. Diamond Core Drilling for Site Investigation

(AASHTO* Designation: T225)

This method consists of advancing a hole in rock or other hard strata by rotating downward a single tube or double tube core barrel equipped with a cutting bit. Diamond, tungsten carbide, or other cutting agents may be used for the bit. Wash water is used to remove the cuttings. Normally, a 3-in. outside diameter by 2-in. inside diameter coring bit is used unless otherwise noted. The rock or hard material recovered within the core barrel is examined in the field and laboratory. Cores are stored in partitioned boxes and the length of recovered material is expressed as a percentage of the actual distance penetrated.

* American Association of State Highway and Transportation Officials, Washington D.C.

** American Society for Testing and Materials

LOG OF TEST BORING – GENERAL NOTES

DESCRIPTIVE CLASSIFICATION

GRAIN SIZE TERMINOLOGY

Soil Fraction	Particle Size	US Standard Sieve Size
Boulders	Larger than 75 mm	Larger than 3"
Gravel	4.76 mm to 75 mm	#10 to 75 mm
Sand: Coarse	2.00 to 4.76 mm	#40 to #10
Fine	0.075 to 0.42 mm	#200 to #40
Silt	0.002 to 0.075 mm	Smaller than #200
Clay	Smaller than 0.002 mm	Smaller than #200

GENERAL TERMINOLOGY

Physical Characteristics
 - Color, moisture, grain shape
 fineness, etc.
 Major Constituents
 - Clay silt, sand, gravel
 Structure
 - Laminated, varved, fibrous,
 stratified, cemented, fissured,
 etc.
 Geologic Origin
 - Glacial, alluvial, eolian,
 residual, etc.

RELATIVE PROPORTIONS OF COHESIONLESS SOILS

Term	Defining Range by % of Weight
Trace	1 – 10%
Little	11 – 20%
Some	21 – 35%
And	36 – 50%

ORGANIC CONTENT BY COMBUSTION METHOD

Soil Description	LOI
w/ organic matter	4 – 15 %
Organic Soil (A-8)	16 – 30%
Peat (A-8)	More than 30%

The penetration resistance, N, is the summation of the number of blows required to effect two successive 6-in. penetrations of the 2-in. split-barrel sampler. The sampler is driven with a 140-lb weight falling 30 in. and is seated to a depth of 6 in. before commencing the standard penetration test.

RELATIVE DENSITY

Term	"N" Value
Very loose	0 – 5
Loose	6 – 10
Medium dense	11 – 30
Dense	31 – 50
Very Dense	51+

CONSISTENCY

Term	"q _p "
Very soft	0.0 – 0.25
Soft	0.25 – 0.5
Medium	0.5 – 1.0
Stiff	1.0 – 2.0
Very Stiff	2.0 – 4.0
Hard	4.0+

PLASTICITY

Term	Plastic Index
None to slight	0 – 4
Slight	5 – 7
Medium	8 – 22
High/Very High	Over 22

SYMBOLS

DRILLING AND SAMPLING

AS	– Auger Sample
BS	– Bag Sample
C	– Casing Size 2½", NW, 4", HW
COA	– Clean-Out Auger
CS	– Continuous Sampling
CW	– Clear Water
DC	– Driven Casing
DM	– Drilling Mud
FA	– Flight Auger
FT	– Fish Tail
HA	– Hand Auger
HSA	– Hollow Stem Auger
NR	– No Recovery
PMT	– Borehole Pressuremeter Test
PT	– 3" O.D. Piston Tube Sample
PTS	– Peat Sample
RB	– Rock Bit
RC	– Rock Coring
REC	– Recovery
RQD	– Rock Quality Designation
RS	– Rock Sounding
S	– Soil Sounding
SS	– 2" O.D. Split-Barrel Sample
2ST	– 2" O.D. Thin-Walled Tube Sample
3ST	– 3" O.D. Thin-Walled Tube Sample
VS	– Vane Shear Test
WPT	– Water Pressure Test

LABORATORY TESTS

q _p	– Penetrometer Reading, tsf
q _u	– Unconfined Strength, tsf
W	– Moisture Content, %
LL	– Liquid Limit, %
PL	– Plastic Limit, %
PI	– Plasticity Index
SL	– Shrinkage Limit, %
LOI	– Loss on Ignition, %
γ _d	– Dry Unit Weight, pcf
pH	– Measure of Soil Alkalinity/Acidity

WATER LEVEL MEASUREMENT

BF	– Backfilled upon Completion
NW	– No Water Encountered

Note: Water level measurements shown on the boring logs represent conditions at the time indicated and may not reflect static levels, especially in cohesive soils.



LOG OF TEST BORING

Project **Ferdinand State Forest Culvert Replacements**
Location **Dubois Co., IN**
Client **Crawford, Murphy and Tilly, Inc.**
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. **CB-1/PC-1**
Elevation **513**
Datum **WGS 84**
Proj. No. **CJ235502**
Sheet **1** of **1**

Project No. **CDC2409631045** Station **20+57** Weather **Cloudy** Driller **D.C.**
Struct. No. **CV-FERDINAND 2** Offset **2 ft Lt. Line: "PR-Access Rd"** Temp. **85° F** Inspector **--**

SAMPLE					DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES							
No.	Type	Rec %	N Value	Depth ft Elev		q _p tsf	q _u tsf	γ _d pcf	W %	LL %	PL %	PI %	
					4-4								
SS-1	X	20	7		ASPHALTIC CONCRETE GRANULAR SUBBASE, (sand and gravel)								
					SAND AND GRAVEL, loose, moist, brown (fill; visual)								
SS-2	X	20	9			1½			12.3				
				5									
SS-3	X	65	12			1¼ 2¼	1.92	110.5	17.2 17.7	26	18	8	
					CLAY LOAM, stiff to hard, moist, brown, with cobbles near 11 ft, A-4(3)								
SS-4	X	100	26			2½ 2¼			18.8				
				10									
SS-5	X	100	45			1¼ >4½			15.8				
SS-6	X	80	72		HIGHLY WEATHERED SHALE, stiff to hard, moist, brown								
				500									
				15	End of Boring at 15 ft								

WATER LEVEL OBSERVATIONS

Depth ft ▽ While Drilling ▼ Upon Completion ▽ BF After Drilling
To Water **NW** **NW**
To Cave-in **12**

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start **8/1/24** End **8/1/24** Rig **CME 55**
Drilling Method **3¼" I.D. HSA** Truck
Remarks **Backfilled with auger cuttings and concrete patch near the surface.**



LOG OF TEST BORING

Project **Ferdinand State Forest Culvert Replacements**
Location **Dubois Co., IN**
Client **Crawford, Murphy and Tilly, Inc.**
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. **CB-2/PC-2**
Elevation **490**
Datum **WGS 84**
Proj. No. **CJ235502**
Sheet **1** of **1**

Project No. **CDC2409631045** Station **29+58** Weather **Cloudy** Driller **D.C.**
Struct. No. **CV-FERDINAND 3** Offset **5 ft Rt. Line: "PR-Access Rd"** Temp. **86° F** Inspector **--**

SAMPLE				DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES							
No.	Type	Rec %	N Value		Depth ft Elev	q _p tsf	q _u tsf	γ _d pcf	W %	LL %	PL %	PI %
					ASPHALTIC CONCRETE							
SS-1	X	10	17		GRANULAR SUBBASE, (sand and gravel)							
					SAND AND GRAVEL, medium dense, moist, dark brown (fill; visual)							
SS-2	X	35	7	5 485		1 1/4 2		14.7				
					CLAY LOAM, stiff, moist, brown, A-4							
SS-3	X	65	8			1 1/4		16.1				
SS-4	X	65	6	10 480		1		17.0				
SS-5	X	80	11			1		18.8	20	17	3	
					SANDY LOAM, with some gravel, stiff, moist, brown, A-2-4(0)							
SS-6	X	90	19	15 475		2		15.0				
SS-7	X	90	9			1		26.3				
SS-8	X	100	27	20 470						NP	NP	NP
					SANDY LOAM, with some gravel, medium dense, wet, brown, A-2-4(0)							
SS-9	X	100	29	25 465								
					End of Boring at 25 ft							
WATER LEVEL OBSERVATIONS					GENERAL NOTES							
Depth ft					While Drilling	Upon Completion	BF After Drilling	Start 8/1/24 End 8/1/24 Rig CME 55				
To Water					11	9		Drilling Method 3 1/4" I.D. HSA Truck				
To Cave-in						10		Remarks Backfilled with auger cuttings and concrete patch near the surface.				
The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.												

LOG OF TEST BORING

Project **Ferdinand State Forest Culvert Replacements**
 Location **Dubois Co., IN**
 Client **Crawford, Murphy and Tilly, Inc.**
 7770 West New York Street - Indianapolis, Indiana 46214
 317-273-1690 / 317-273-2250 (Fax)

Boring No. **CB-3/PC-3**
Elevation **491**
Datum **WGS 84**
Proj. No. **CJ235502**
Sheet **1** of **1**

Project No.	CDC2409631045	Station	31+10	Weather	Cloudy	Driller	D.C.
Struct. No.	CV-FERDINAND 4	Offset	1 ft Lt. Line: "PR-Access Rd"	Temp.	90° F	Inspector	--

SAMPLE					DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES							
No.	Type	Rec %	N Value	Depth ft Elev		q _p tsf	q _u tsf	γ _d pcf	W %	LL %	PL %	PI %	
				490	ASPHALTIC CONCRETE								
SS-1	X	65	18		GRANULAR SUBBASE, (sand and gravel)	2			11.5				
					CLAY LOAM, stiff, moist, brown and red, with brick fragments (fill; visual)								
SS-2	X	65	14	5	CLAY LOAM, medium stiff to stiff, moist, brown and gray, A-4	1¼			26.8				
SS-3	X	80	14	485	SILTY LOAM, soft to stiff, moist, gray, A-4(1)	½			29.0				
SS-4	X	100	6	10		¼			25.1	22	18	4	
SS-5	X	100	10	480	CLAY LOAM, stiff, moist, brown, A-4	1½			23.0				
SS-6	X	100	13	15		1½			16.2				
					End of Boring at 15 ft								

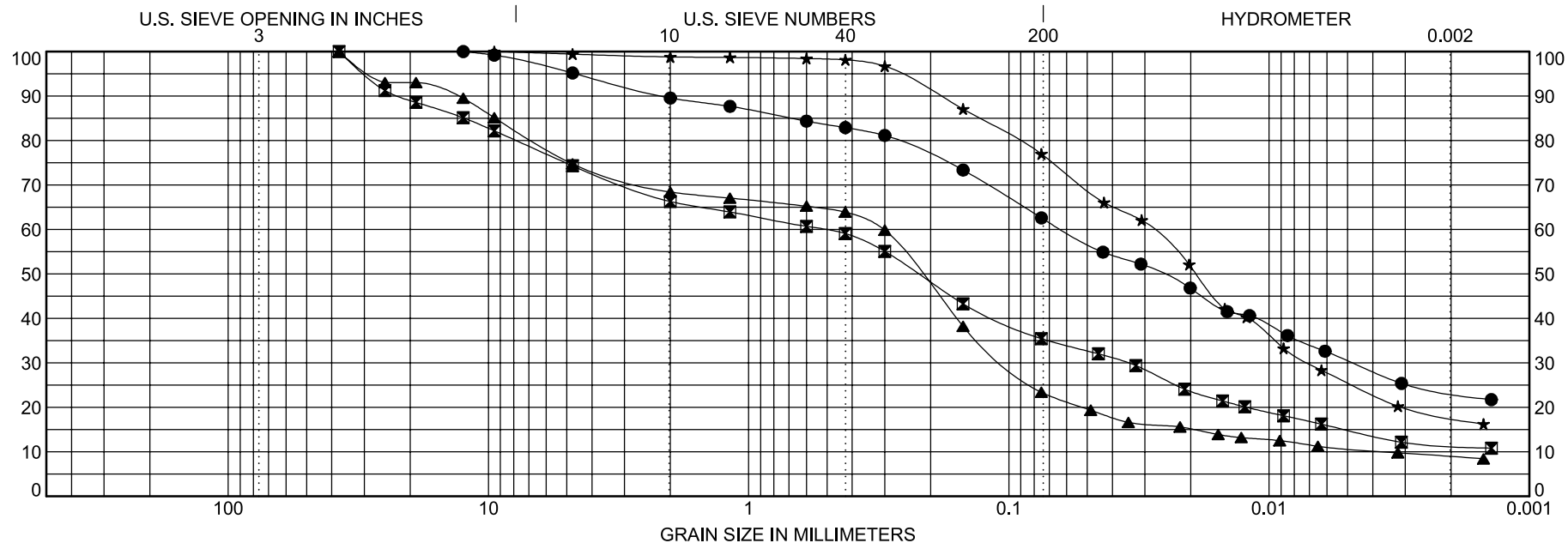
WATER LEVEL OBSERVATIONS

Depth ft	While Drilling	Upon Completion	BF After Drilling
To Water	NW	NW	
To Cave-in		9	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 8/1/24 End 8/1/24 Rig CME 55
Drilling Method 3 1/4" I.D. HSA Truck
Remarks Backfilled with auger cuttings and
concrete patch near the surface.



BOULDERS	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Lab No.	Boring	Station/Offset/Line	Sample No.	Depth ft	Classification	% Passing			% Gravel	% Sand	% Silt	% Clay	% Coll.	LL	PL	PI	Opt. Moist.	ϕ _{max} pcf	* CBR at	
						No.10	No.40	No.200											93%	97%
●	CB-1/PC-1	20+57 2 ft Lt. Line: "PR-Access Rd"	SS-3	6.0 - 7.5	CLAY LOAM A-4 (3)	89.5	82.9	62.6	10.5	26.9	39.2	23.4		26	18	8				
⊠	CB-2/PC-2	29+58 5 ft Rt. Line: "PR-Access Rd"	SS-5	11.0 - 12.5	SANDY LOAM with some GRAVEL A-2-4 (0)	66.3	59.1	35.4	33.7	30.8	24.0	11.4		20	17	3				
▲	CB-2/PC-2	29+58 5 ft Rt. Line: "PR-Access Rd"	SS-8	18.5 - 20.0	SANDY LOAM with some GRAVEL A-2-4 (0)	68.4	63.9	23.4	31.6	45.0	14.5	8.9		NP	NP	NP				
★	CB-3/PC-3	31+10 1 ft Lt. Line: "PR-Access Rd"	SS-4	8.5 - 10.0	SILTY LOAM A-4 (1)	98.8	98.1	77.0	1.2	21.8	59.2	17.8		22	18	4				



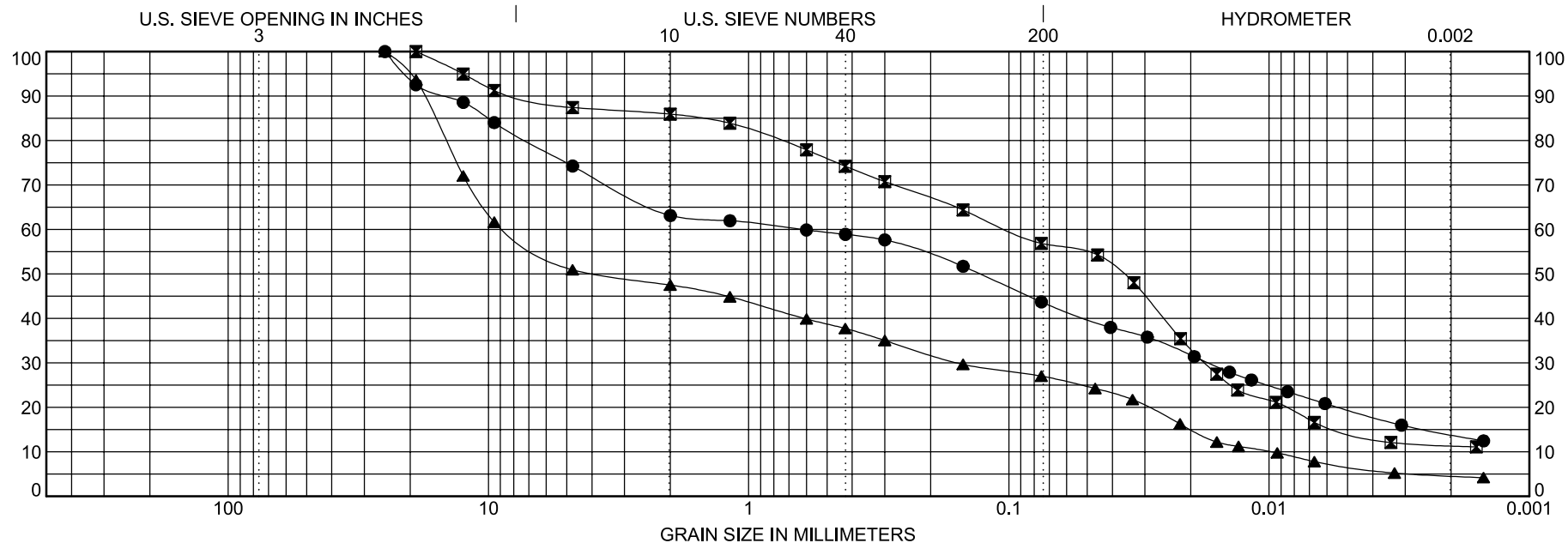
Client Project No. CDC2409631045
 Structure No. CV-FERDINAND 4
 Project No. CJ235502

Project Location Ferdinand State Forest Culvert Replacements
 Dubois Co., IN
 Client Crawford, Murphy and Tilly, Inc.

SUMMARY OF CLASSIFICATION TEST RESULTS

Terracon Consultants, Inc.
 7770 West New York Street Indianapolis, Indiana 46214
 317-273-1690 / 317-273-2250 (Fax)

* See text for recommended values.



BOULDERS	GRAVEL	SAND		SILT	CLAY
		coarse	fine		

Lab No.	Boring	Station/Offset/Line	Sample No.	Depth ft	Classification	% Passing			% Gravel	% Sand	% Silt	% Clay	% Coll.	LL	PL	PI	Opt. Moist.	ϕ _{max} pcf	* CBR at	
						No.10	No.40	No.200											93%	97%
●	CB-1TS	20+57 2 ft Lt. Line: "PR-Access Rd"	TS-1	0.0 - 1.5	SANDY LOAM and GRAVEL with ORGANIC MATTER A-7-5 (3)	63.1	58.9	43.7	36.9	19.4	29.9	13.9		43	30	13				
⊠	CB-2TS	29+58 5 ft Rt. Line: "PR-Access Rd"	TS-1	0.0 - 1.5	LOAM with ORGANIC MATTER A-7-5 (6)	85.9	74.2	56.9	14.1	29.1	45.5	11.4		52	41	11				
▲	CB-3TS	31+10 1 ft Lt. Line: "PR-Access Rd"	TS-1	0.0 - 1.5	ORGANIC SOIL A-8	47.5	37.7	27.0	52.5	20.5	22.4	4.6		NP	NP	NP				



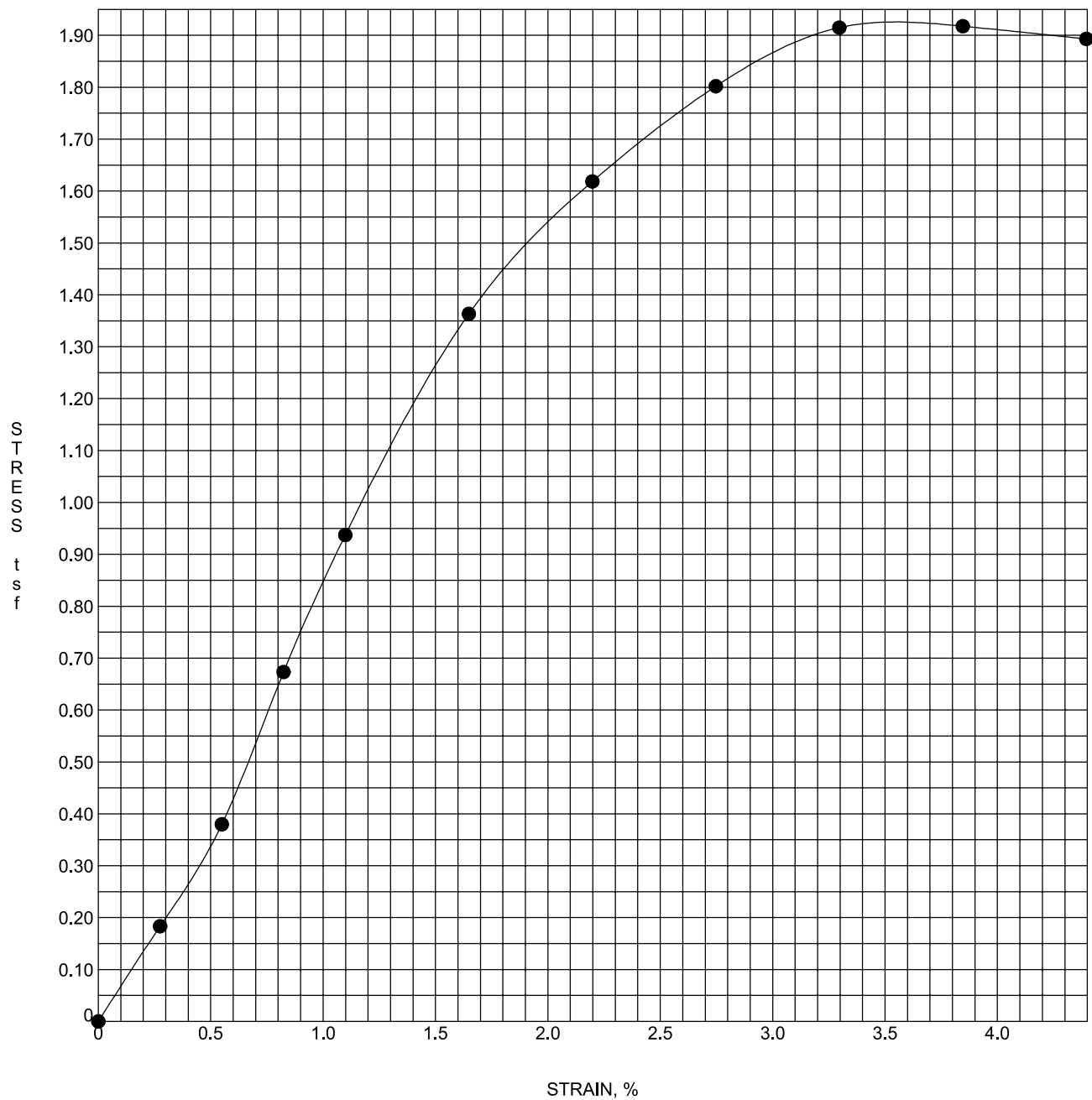
Client Project No. CDC2409631045
 Structure No. CV-FERDINAND 4
 Project No. CJ235502

Project Location Ferdinand State Forest Culvert Replacements
 Dubois Co., IN
 Client Crawford, Murphy and Tilly, Inc.

SUMMARY OF CLASSIFICATION TEST RESULTS

Terracon Consultants, Inc.
 7770 West New York Street Indianapolis, Indiana 46214
 317-273-1690 / 317-273-2250 (Fax)

* See text for recommended values.



Sample Identification			Station / Offset / Line			Depth, ft		Classification	
●	CB-1/PC-1	SS-3	20+57 2 ft Lt. Line: "PR-Access Rd"			6.0 - 7.5		CLAY LOAM A-4 (3)	
Lab No.	Sample Ht., mm	Sample Diam., mm	Initial M.C., %	Initial Wet Den, pcf	Initial Dry Den, pcf	Sat., %	Unc. Comp. Strength, tsf	Failure Strain, %	Rate of Strain to Failure, %
	64.7	36.3	17.2	129.5	110.5	88.5	1.92	3.8	1.1



Project No. CDC2409631045 **Project** Ferdinand State Forest Culvert Replacements
Structure No. CV-FERDINAND 2 **Location** Dubois Co., IN
TCI Proj. No. CJ235502 **Client** Crawford, Murphy and Tilly, Inc.

UNCONFINED COMPRESSION TEST

Terracon Consultants, Inc.
 7770 West New York Street, Indianapolis, IN 46214
 317-273-1690 / 317-273-2250 (Fax)

Summary of Pavement Cores
Ferdinand State Forest Culvery Replacements
Terracon Project No. CJ235502
Dubois Co., Indiana

Core	Latitude	Longitude	Station, Line "PR-Access Rd"	Offset	Direction	Lane	Date	Overall Thickness (in)	Overall Type	Layer 1 Thickness (in.)	Layer 1 Type	Subbase Type	Subbase Thickness (in.)
CB-1/PC-1	38.25747	-86.78485	20+57	4 ft Lt	Westbound	Driving	8/1/24	6.0	HMA	6.0	HMA	Sand and gravel	4
CB-2/PC-2	38.25760	-86.78172	29+58	3 ft Rt	Eastbound	Driving	8/1/24	7.0	HMA	7.0	HMA	Sand and gravel	4
CB-3/PC-3	38.25769	-86.78120	31+10	3 ft Lt	Westbound	Driving	8/1/24	7.5	HMA	7.5	HMA	Sand and gravel	4

Note: While the measurements of layer and overall core thicknesses are reported to the nearest tenth of an inch, an inherent variation in the pavement thickness will occur due to the size of the aggregate. Depending on the aggregate size, the variation in measurements could be 1/2 to 3/4 in.

PAVEMENT CORE LOG NO. CB-1/PC-1

Page 1 of 1

PROJECT: Ferdinand State Forest Culvert Replacements

CLIENT: Crawford Murphy & Tilly, Inc.

SITE: Dubois Co., Indiana

GRAPHIC LOG	Latitude: 38.2575° Longitude: -86.7849°		Station: 20+57 Offset: 2 ft Lt. Line: "PR-Access Rd"		DEPTH (in.)
			Direction: Westbound	Lane: Driving	
DEPTH					
		<u>HMA</u> , 9.5 mm surface, delaminated			1
	1.8	<u>HMA</u> , 9.5 mm surface, partially stripped			2
	3.0	<u>HMA</u> , 9.5 mm surface, delaminated			3
	4.3	<u>HMA</u> , 12.5 mm intermediate, partially stripped			4
	6.0	Pavement Core terminated at 6 inches			5
					6



7770 W New York St
Indianapolis, IN

Coring Started: 8/1/2024

Drill Rig: Core Machine

Project No.: CJ235502

Coring Completed: 8/1/2024

Driller: D.C

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_PAVEMENT_CORES.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/26/25

PAVEMENT CORE LOG NO. CB-2/PC-2

Page 1 of 1

PROJECT: Ferdinand State Forest Culvert Replacements

CLIENT: Crawford Murphy & Tilly, Inc.

SITE: Dubois Co., Indiana

GRAPHIC LOG	Latitude: 38.2576° Longitude: -86.7817°		Station: 29+58 Offset: 5 ft Rt. Line: "PR-Access Rd"		DEPTH (In.)
			Direction: Eastbound	Lane: Driving	
	DEPTH				
		<u>HMA</u> , 9.5 mm surface, delaminated			1
	2.0	<u>HMA</u> , 9.5 mm surface, delaminated, partially stripped			2
	3.5	<u>HMA</u> , 9.5 mm intermediate, delaminated, partially stripped			3
	5.3	<u>HMA</u> , 12.5 mm intermediate, partially stripped			4
	7.0	<u>Granular Subbase</u> , sand and gravel			5
					6
					7
					8
					9
					10
	11.0	Pavement Core terminated at 11 inches			11



7770 W New York St
Indianapolis, IN

Coring Started: 8/1/2024

Coring Completed: 8/1/2024

Drill Rig: Core Machine

Driller: D.C

Project No.: CJ235502

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. PAVEMENT_CORE_PAVEMENT_CORES.GPJ INDOT_PAVEMENT_TEMPLATE.GDT 8/26/25

PAVEMENT CORE LOG NO. CB-3/PC-3

Page 1 of 1

PROJECT: Ferdinand State Forest Culvert Replacements

CLIENT: Crawford Murphy & Tilly, Inc.

SITE: Dubois Co., Indiana

GRAPHIC LOG	Latitude: 38.2577° Longitude: -86.7812°		Station: 31+10 Offset: 1 ft Lt. Line: "PR-Access Rd"		DEPTH (In.)
	Direction: Westbound Lane: Driving				
	DEPTH				
	1.3	<u>HMA</u> , 9.5 mm surface, delaminated		1	
	2.8	<u>HMA</u> , 9.5 mm surface, delaminated, partially stripped		2	
	4.1	<u>HMA</u> , 12.5 mm intermediate, delaminated, partially stripped		3	
	5.4	<u>HMA</u> , 12.5 mm intermediate		4	
	6.8	<u>HMA</u> , 12.5 mm intermediate, voided		5	
	7.5	<u>HMA</u> , 12.5 mm intermediate		6	
	11.5	<u>Granular Subbase</u> , sand and gravel		7	
	Pavement Core terminated at 11.5 inches				8
					9
					10
					11



Landscape photo not available



7770 W New York St
Indianapolis, IN

Coring Started: 8/1/2024

Coring Completed: 8/1/2024

Drill Rig: Core Machine

Driller: D.C

Project No.: CJ235502

SUMMARY OF HAND AUGER BORINGS

Project: Ferdinand State Forest Small Structure Replacements
Location: Dubois County, IN
Client: Crawford, Murphy & Tilly, Inc.
Terracon Project No.: CJ235502

Boring No.	Station, Line "PR-Access Rd"	Offset	Approx. Ground Surface Elevation	Depth Interval (ft)	Description - All Classifications are visual
HA-1	20+58	28 ft Rt	505	0 – ¼ ¼ – 2½	Topsoil Clay Loam, soft to stiff below 1 ft, moist, brown (MC = 21.1%) Hand auger refusal near 2½ ft
HA-2	20+79	27 ft Lt	511	0 – 2	Clay Loam, soft, moist, brown (MC = 23.4%) Hand auger refusal near 2 ft
HA-3	20+81	45 ft Rt	502	0 – ½	Sandy Loam, with some gravel, soft, moist, brown Hand auger refusal near ½ ft
HA-4	21+07	26 ft Rt	505	0 – ¼ ¼ – 2	Topsoil Clay Loam, soft, moist, brown (MC = 16.5%) Hand auger refusal near 2 ft
HA-5	29+01	25 ft Rt	488	0 – ¼ ¼ – 1 1 – 5	Topsoil Clay Loam, soft, moist, brown (MC = 37.3%) Sandy Loam, with some gravel, soft, moist, brown (MC = 34.3%)
HA-6	29+35	38 ft Lt	487	0 – 2	Sandy Loam, with some gravel, soft, wet, brown Hand auger refusal near 2 ft
HA-7	29+32	30 ft Rt	481	0 – 2	Sandy Loam, with some gravel, soft, wet, brown Hand auger refusal near 2 ft
HA-8	31+01	44 ft Lt	487	0 – 5	Clay Loam, soft, moist, brown (MC = 35.2%)
HA-9	30+87	46 ft Rt	482	0 – 5	Clay Loam, soft, moist, brown (MC = 35.3%)
HA-10	31+26	28 ft Rt	485	0 – ¼ ¼ – 2	Topsoil Clay Loam, soft, moist, brown (MC = 42.0 %) Hand auger refusal near 2 ft

Note: Consistency description based on ability to advance ½-in. diameter steel rod probe
 MC = Moisture Content

TERRACON CONSULTANTS, INC.
INDIANAPOLIS OFFICE



Summary of Existing Topsoil Test Results for Use with Plant Growth Layer

Rev 11/21

Date: 8/12/2024

Des. No.:

Project: Ferdinand State Forest Culvert Replacements

Location: Dubois County, IN

			ANALYSIS							
REF.	LOCATION		AASHTO T 289	AASHTO T 88 and T 89	AASHTO T 88 and T 89	AASHTO T 88 and T 89	AASHTO T 88 and T 89	AASHTO T 267 and T 21 ³	Bray P-1 Equivalent	NCRRP 221, Chapt 7 ⁴
Boring ¹	Sample	Tested Depth	pH	Gravel ²	Sand	Silt	Clay	Organic Content (% by Wt)	Phosphorus (ppm)	Potassium (ppm)
				(% by Weight)						
CB-1TS	TS-1	0 - 0.25'	7.9	36.9	19.4	29.9	13.9	5.2	7	86
CB-2TS	TS-1	0 - 0.25'	8.0	14.1	29.1	45.5	11.4	10.4	26	61
CB-3TS	TS-1	0 - 0.25'	8.3	52.5	20.5	22.4	4.8	18.2	14	90
Acceptable Ranges per RSP 629-R-630 =			6.0 - 7.3	N/A	5 - 50%	30 - 80%	5 - 30%	3 - 10% ³	20 - 80	105 - 250

1 Topsoil collected from off the pavement nearest the boring referenced.
2 For informational purposes only
3 In Daviess, Gibson, Knox, Pike, Posey, and Vanderburgh Counties, AASHTO T 21 shall also be performed. Acceptable range is 4 - 10%
4 North Central Regional Research Publication 221, Chapter 7
Note: All existing topsoil test results presented herein are for information only.

Bearing Resistance Analysis

(AASHTO LRFD, 9th Edition)

Project Number: CJ235502

Date: 10/4/2024

Boring Numbers: CB-2

Project Name:

Ferdinand State Forest Culvert Replacements

Bearing Soil: Silty Clay Loam

Location:

Dubois County, Indiana

Footing Elevation:

N-Value: 6 to 11

Comments: Wingwall Footing

Soil Parameters

Cohesion (C) = **1000** psf **1.000** ksf
 Friction Angle (ϕ_f) = degrees
 Unit Weight Above Footing (γ_q) = **120** pcf **0.120** kcf
 Unit Weight Below Footing (γ_f) = **120** pcf **0.120** kcf
 Groundwater Depth (D_w) = **0** ft
 Bearing Resistance Factor (ϕ_b) = **0.45**

Punching Shear:**Select**

$c^* = 0.67c$ (ksf) $c^* = 1.00$
 $\phi_f^* = \tan^{-1}(0.67 \tan \phi_f)$ $\phi_f^* = 0$

Depth Factor Applicable:**No** $32^\circ \leq \phi_f \leq 42^\circ$

No

 $1 \leq D_f/B \leq 8$

Yes

Footing Parameters

Length (L) = **12** ft
 Width (B) = **3** ft
 Depth of Footing (D_f) = **4** ft

Contingent on maintenance of planned riprap thickness
 for scour protection over wall design life and a minimum
 footing width of 3 ft

Calculations

$N_{cm} = N_c s_c$		$N_{cm} = 5.397$
		$N_c = 5.14$
$\phi_f = 0$	$s_c = 1 + \left(\frac{B}{5L}\right)$	$s_c = 1.050$
$\phi_f > 0$	$s_c = 1 + \left(\frac{B}{L}\right) \left(\frac{N_q}{N_c}\right)$	
$N_{qm} = N_q s_q d_q$		$N_{qm} = 1.000$
		$N_q = 1$
$\phi_f = 0$	$s_q = 1$	$s_q = 1.000$
$\phi_f > 0$	$s_q = 1 + \left(\frac{B}{L} \tan \phi_f\right)$	
$d_q = 1 + 2 \tan \phi_f (1 - \sin \phi_f)^2 \arctan\left(\frac{D_f}{B}\right)$		$d_q = 1.000$
$N_{ym} = N_y s_y$		$N_{ym} = 0.000$
		$N_y = 0$
$\phi_f = 0$	$s_y = 1$	$s_y = 1.000$
$\phi_f > 0$	$s_y = 1 - 0.4 \left(\frac{B}{L}\right)$	
$0 \leq D_w \leq D_f$	$c_{wq} = \frac{0.5 D_w}{D_f} + 0.5$	$C_{wq} = 0.50$
$D_w > D_f$	$C_{wq} = 1$	
$D_w < D_f$	$C_{wy} = 0.5$	$C_{wy} = 0.50$
$D_f \leq D_w \leq 1.5B + D_f$	$c_{wy} = \frac{0.5(D_w - D_f)}{1.5B} + 0.5$	
$D_w > 1.5B + D_f$	$C_{wy} = 1$	
$q_n = c N_{cm} + \gamma_q D_f N_{qm} C_{wq} + 0.5 \gamma_f B N_{ym} C_{wy}$		$q_n = 5.64$ kcf

Results

Nominal Resistance (q_n) **5.64 ksf** **5,637 psf**
Factored Resistance (qR) **2.54 ksf** **2,537 psf**