

BIDDING DOCUMENTS
FOR THE
CARRIAGE LANE ROAD
STORM SEWER AND ROADWAY IMPROVEMENTS
IN
PORTER COUNTY, INDIANA

12/08/2023

DECEMBER 2023

PREPARED BY:
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900 RIDGE ROAD, STE L
MUNSTER, IN 46321
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Appendices of Technical and Other Data

- A Geotechnical Report Titled, "Report of Geotechnical Engineering Exploration: Proposed Storm Sewers on Carriage Lane Road, Carriage Hills Residential Subdivision", Dated May 18, 2023, Consisting of 21 Pages, Prepared by Advanced Engineering Services
- B Construction Plans Titled, "Carriage Lane Road – Storm Sewer and Roadway Improvements", Dated December 8, 2023, Consisting of 21 Pages, Prepared by DLZ Indiana.

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INVITATION TO BID

OWNER: Porter County Department of Development & Storm Water Management
155 Indiana Ave., Ste. 311
Valparaiso, IN 46383
P: (219) 465-3530

CONTACT: Chelsey R. Gordon, PE
E: chelsey.gordon@porterco.org
P: (219) 465-3652

ENGINEER: DLZ Indiana LLC
900 Ridge Road, Suite L
Munster, Indiana 46321

CONTACT: Anthony Kenning, PE
E: akenning@dlz.com
P: (219) 836-5884

The Porter County Department of Development & Storm Water Management hereby invites sealed bids for the project designated as **Carriage Lane Road - Storm Sewer and Roadway Improvements**, described in detail in these bidding documents and generally described below.

PROJECT LOCATION

The project is located along Carriage Lane Road, west of North 550 East, in the Carriage Hills Subdivision. The project is located in Section 14, Township 35 North, Range 5 West, in Jackson Township, Porter County, Indiana.

PROJECT DESCRIPTION

This project consists of the installation of new storm water infrastructure, including storm sewer and storm sewer structures to address long-standing drainage and flooding issues affecting the area along Carriage Lane Road.

The project includes the installation of storm sewers, via open trench construction including excavation, placing bedding and haunching, laying storm sewer pipe, placing initial backfill, placing final backfill, shaping, trimming and finishing, and cleaning, inspecting, and testing; installation of storm sewer structures, including excavation, placing bedding, setting precast reinforced concrete storm sewer structures, placing adjusting rings and castings, backfilling, shaping, trimming, and finishing, and cleaning; and, the partial reconstruction of Carriage Lane Road, which will be disturbed during performance of the work. Excess excavated material generated during the performance of the work shall be disposed of off-site, at an appropriate and, if applicable, properly permitted off-site location.

The project also includes other items incidental to the work, including clearing and tree removal, maintenance of traffic, erosion and sediment control, and the restoration of areas disturbed during the performance of the work. The work includes the carrying out of all duties and obligations and the furnishing of all labor, material, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project.

1. DEFINITION OF TERMS

Terms used in this Invitation to Bid have the meanings indicated elsewhere in the bidding documents and shall have such defined meanings wherever used.

2. COPIES OF BIDDING DOCUMENTS

Copies of the bidding documents are fully downloadable on the Porter County Department of Development & Storm Water Management's website at <https://portercountystormwater.org>. Complete sets of the bidding documents may be inspected at the issuing office, the Porter County Department of Development & Storm Water Management, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383, and, upon request, each prospective bidder may obtain one complete set of the bidding documents from the issuing office. Additional complete sets of the

bidding documents may be inspected at the issuing office and may, upon request, be issued to prospective bidders by the issuing office at the cost of reproduction. Prospective bidders may phone or email the contact listed above to receive notices of addenda to the bidding documents.

The Porter County Department of Development & Storm Water Management, in making copies of the bidding documents available on the above terms, does so only for the purpose of obtaining bids for the project and does not authorize or confer a license for any other use. The bidding documents furnished by the Porter County Department of Development & Storm Water Management that may be relied upon for preparation of a bid are limited to the printed or hard copies. Files of text, data, graphics, or other types provided in electronic media format are furnished only for the convenience of bidder. Any conclusion or information obtained from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies shall take precedence and govern.

3. EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

Each prospective bidder shall, before submitting his or her bid, examine and carefully study the bidding documents and other related data identified therein. Each prospective bidder shall also, before submitting his or her bid, visit the site and become familiar with and satisfy bidder as to the general, local, and site conditions that may affect cost, progress, and performance of the work. The Porter County Department of Development & Storm Water Management assumes no responsibility for errors or misinterpretations resulting from bidder's failure or neglect to conduct such examinations.

4. PRE-BID MEETING

A pre-bid meeting will be held at 10:00 a.m. local time on Wednesday, January 10, 2024, at the Porter County Department of Development & Storm Water Management, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383. The pre-bid meeting will also be conducted live via videoconference. All prospective bidders are encouraged to attend and participate in the meeting, either in person or via videoconference.

Representatives of the Owner, including the Engineer, will be present at the meeting to discuss the project. Owner will transmit to all prospective bidders of record such addenda as Owner considers necessary in response to questions arising at the meeting. Oral statements made in response to questions arising at the meeting shall not be relied upon and will not be binding or legally effective.

Immediately following the pre-bid meeting, each prospective bidder is encouraged to conduct an examination of the site and surrounding area to evaluate the local and site conditions that may affect the work. Upon request, representatives of the Owner, including the Engineer, will be available at the project site at such time to respond to questions that may arise as a result of the site examination.

5. QUALIFICATIONS OF BIDDERS

It is the intention of the Porter County Department of Development & Storm Water Management to award a contract only to a bidder that furnishes satisfactory evidence that he or she has the requisite experience and ability and sufficient capital, facilities, organization, staffing, and equipment to enable him or her to complete the work successfully and promptly and within the time specified in the bidding documents. Bidder shall complete and submit with his or her bid the Responsible Bidding Submittal Requirements Form provided in the bidding documents, as well as the Bidder's Sworn Work History Form and Bidder's Organizational Experience and Workload Form provided in the bidding documents.

In addition, during the evaluation of bids, the Porter County Department of Development & Storm Water Management may conduct such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of a bidder to perform the work. Bidders, in accordance with the provisions of Article 6 of the Instructions to Bidders, shall furnish to the Porter County Department of Development & Storm Water Management such additional documentation it may request in order to make such investigations.

6. BID SECURITY

Each bid shall be accompanied by a bid security made payable to Porter County in an amount not less than ten percent (10%) of bidder's total bid and in the form of a bank cashier's check, bank draft, certified check, or bid bond, on the Bid Bond Form included in the bidding documents, or a form otherwise approved by the Porter

County Department of Development & Storm Water Management, executed in accordance with the provisions of Article 19 of the Instructions to Bidders, and issued by a surety acceptable to the Owner and authorized to transact business under the laws of the state of Indiana. The bid security shall stand as a guarantee that the successful bidder will, within ten days after receipt of the notice of award, execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements.

If the successful bidder fails to execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements within ten days after receipt of the notice of award, Owner may consider bidder to be in default, annul the notice of award, and the bid security of that bidder shall be forfeited as liquidated damages.

7. INTERPRETATIONS AND ADDENDA

All questions about the meaning or intent of the bidding documents or any discrepancies or omissions identified therein are to be submitted to the Porter County Department of Development & Storm Water Management. All such questions shall be submitted directly to the contact identified in this Invitation to Bid. Interpretations or clarifications considered necessary by the Porter County Department of Development & Storm Water Management in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the Porter County Department of Development & Storm Water Management as having received the bidding documents and will be posted on the Porter County Department of Development & Storm Water Management website at: <https://portercountystormwater.org>.

Questions received less than three days prior to the date for opening of bids may not be answered, as all Addenda to be issued by the Porter County Department of Development & Storm Water Management will be issued at least two days prior to the date for opening of bids in order to provide prospective bidders ample time to incorporate such Addenda into their bids. Only questions answered by Addenda will be binding. The Porter County Department of Development & Storm Water Management assumes no responsibility for any other interpretations or clarifications of the bidding documents and such interpretations or clarifications will be without legal effect.

8. BID OPENING

The Porter County Department of Development & Storm Water Management will receive bids for the project until 10:00 a.m. local time on Tuesday, January 23, 2024, at the issuing office, the Porter County Department of Development & Storm Water Management, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383. Bids will be opened and read aloud on Tuesday, January 23, 2024, at a public opening of bids, to be held at 10:00 a.m. local time, or as soon as possible thereafter, at the Porter County Department of Development & Storm Water Management, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383. The public opening of bids will also be conducted live via videoconference. All bidders, as well as members of the public, are welcome to attend the opening of bids, either in person or via videoconference.

An abstract of the amounts of the base bid items, items “as ordered by Engineer,” if any, additive bid items, if any, alternate bid items, if any, and total bids will be made available to bidders after the opening of bids.

9. EVALUATION OF BIDS AND AWARD OF CONTRACT

The Porter County Department of Development & Storm Water Management reserves the right to reject any or all bids, including, without limitation, nonconforming, nonresponsive, unbalanced, or conditioned bids and to reject the bid of any bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. The Porter County Department of Development & Storm Water Management further reserves the right to reject the bid of any bidder if it believes that it would not be in the best interest of the project to make an award to that bidder. The Porter County Department of Development & Storm Water Management also reserves the right to waive all irregularities or informalities at its discretion and to negotiate a contract with the successful bidder.

If a contract is to be awarded, the Porter County Department of Development & Storm Water Management will award the contract to the lowest responsive and responsible bidder whose bid is in the best interests of the project.

PORTER CO. DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT

DATED:
December 14, 2023

BY ORDER OF:
Michael E. Novotney, PE
County Engineer

INSTRUCTIONS TO BIDDERS

1. DEFINITION OF TERMS

Terms used in these Instructions to Bidders have the meanings indicated in the proposed contract documents and shall have such defined meanings wherever used. Additional terms used in these Instructions to Bidders have the meanings indicated below.

Addenda. Written or graphic instruments issued prior to the opening of bids which clarify, correct, or change the bidding requirements or the proposed contract documents.

Bidding Documents. The bidding requirements and proposed contract documents, including all Addenda.

Bidding Requirements. The Invitation to Bid, Instructions to Bidders, Bid Form, including all attachments, and bid security.

Issuing Office. The Porter County Department of Development and Storm Water Management, 155 Indiana Avenue, Suite 311, Valparaiso, Indiana 46383.

Notice of Award. The written notice by Owner to the successful bidder stating that, upon timely compliance by the successful bidder with the conditions presented therein, Owner will sign and deliver the agreement.

Successful Bidder. The bidder submitting a responsible and responsive bid to whom Owner makes an award.

2. COPIES OF BIDDING DOCUMENTS

The Invitation to Bid provides instructions on obtaining copies of the bidding documents from the issuing office. Owner, in making copies of the bidding documents available to bidders, does so only for the purpose of obtaining bids for the project and does not authorize or confer a license for any other use.

Only complete sets of the bidding documents shall be used in preparing bids; Owner assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of bidding documents. The bidding documents furnished by the issuing office that may be relied upon for preparation of a bid are limited to the printed or hard copies. Files of text, data, graphics, or other types provided in electronic media format are furnished only for the convenience of bidder. Any conclusion or information obtained from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies shall take precedence and govern.

3. SITE

Owner shall furnish the site. All easements and landowner agreements necessary to allow for the prosecution of the work will be obtained and, if necessary, paid for by Owner in advance of the start of the work. Land and access thereto required for construction, temporary construction facilities, and the storage of materials and equipment to be incorporated into the work are located on site. If the successful bidder should wish to use another area for temporary construction facilities, the storage of materials and equipment, or other purposes, he or she shall obtain written approval from the owner of such property and present such written approval to the Owner prior to using such area for such purpose.

4. EXAMINATION OF BIDDING DOCUMENTS AND SITE

Information provided in the bidding documents regarding topography, utility locations, stream conditions, site accessibility, and other existing conditions may not be reflective of the current conditions found on site. Each prospective bidder shall, before submitting his or her bid, visit and become familiar with the current conditions found on site. Owner assumes no responsibility for errors or misinterpretations resulting from bidder's failure or neglect to conduct such examination.

In addition to examining the current conditions found on site, it is the responsibility of each bidder before submitting a bid to:

- (a) examine and carefully study the bidding documents;
- (b) visit the site and become familiar with and satisfy bidder as to the general, local, and site conditions that may affect cost, progress, and performance of the work;
- (c) become familiar with and satisfy bidder as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the work;
- (d) consider the information known to bidder; information commonly known to contractors doing business in the locality of the site; information and observations obtained from visits to the site; and the bidding documents, with respect to the effect of such information, observations, and documents on: (1) the cost, progress, and performance of the work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction required by the bidding documents; and, (3) bidder's safety precautions and programs;
- (e) agree, at the time of submitting its bid, that no further examinations, investigations, explorations, tests, studies, or data are necessary for determining his or her ability to perform the work at the prices(s) bid and within the times required, and in accordance with the other terms and conditions of the bidding documents;
- (f) promptly give Owner written notice of all conflicts, errors, ambiguities, or discrepancies that bidder discovers in the bidding documents and confirm that the written resolution thereof by Owner is acceptable to bidder; and,
- (g) determine that the bidding documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the work.

Bidder, by submitting his or her bid, represents: that bidder has complied with every requirement of this Article; that, without exception, bidder's bid is premised upon performing and furnishing the work described within the bidding documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or required by the bidding documents; that bidder has given Owner written notice of all conflicts, errors, ambiguities, and discrepancies that bidder has discovered in the bidding documents and that the written resolutions thereof by Owner are acceptable to bidder; and, that the bidding documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the work. Owner assumes no responsibility for errors or misinterpretations resulting from any matters or things which bidder did not examine and satisfy himself or herself as to prior to submitting his or her bid.

Upon request, Owner will provide bidder access to the site to conduct such additional explorations, investigations, explorations, tests, and studies as bidder deems necessary for preparation of a bid. Bidder shall fill any and all holes and clean up and restore the site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable laws and regulations relative to such explorations, investigations, tests, and studies.

5. PRE-BID MEETING

A pre-bid meeting will be held at the time and place indicated in the Invitation to Bid. All prospective bidders are encouraged to attend and participate in the meeting.

Representatives of the Owner, including the Design Engineer, will be present at the meeting to discuss the project. Owner will transmit to all prospective bidders of record such addenda as Owner considers necessary in response to questions arising at the meeting. Oral statements made in response to questions arising at the meeting shall not be relied upon and will not be binding or legally effective.

Immediately following the pre-bid meeting, each prospective bidder is encouraged to conduct an examination of the site and surrounding area to evaluate the local and site conditions that may affect the work. Upon request, representatives of the Owner, including the Engineer, will be available at the project site at such time to respond to questions that may arise as a result of the site examination.

6. QUALIFICATIONS OF BIDDERS

It is the intention of the Owner to award a contract only to a bidder that furnishes satisfactory evidence that he or she has the requisite experience and ability and sufficient capital, facilities, organization, staffing, and equipment to enable him or her to complete the work successfully and promptly and within the time specified in the bidding documents. Bidder shall complete and submit with his or her bid the Responsible Bidding Submittal Requirements Form provided in the bidding documents, as well as the Bidder's Sworn Work History Form and Bidder's Organizational Experience and Workload Form. Bidder is also advised to carefully review those portions of the bidding requirements regarding bidder's representations and requiring bidder's certifications.

In addition, during the evaluation of bidders, Owner may conduct such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of a bidder to perform the work. Within five days of Owner's request, bidder shall submit written evidence such as previous experience, present commitments, and such other data as Owner may request to establish his or her responsibility, qualifications, and ability to perform the work. This information may include, but shall not be limited to:

- (a) location and description of bidder's permanent place of business;
- (b) evidence of bidder's ability to provide the facilities, staffing, and equipment necessary to complete the work;
- (c) list of similar projects recently completed by bidder, including the names and telephone numbers of references for each project;
- (d) current financial statement for bidder prepared and certified by a certified public accountant; and,
- (e) evidence that bidder is not responsible for any outstanding federal, state, or local regulatory violations.

7. BID SECURITY

Each bid shall be accompanied by a bid security made payable to the Owner in an amount not less than ten percent (10%) of bidder's total bid and in the form of a bank cashier's check, bank draft, certified check, or bid bond, on the Bid Bond Form included in the bidding documents, or a form otherwise approved by the Owner, executed in accordance with the provisions of Article 19 of these Instructions to Bidders, and issued by a surety acceptable to the Owner and authorized to transact business under the laws of the state of Indiana. The bid security shall stand as a guarantee that the successful bidder will, within ten days after receipt of the notice of award, execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements. Bids not accompanied by a properly prepared and executed bid security will not be considered.

The bid security of the successful bidder will be retained until such bidder has executed the contract documents, furnished the required contract security, certificates of insurance, and insurance policy endorsements, and met the other terms and conditions of the notice of award. If the successful bidder fails to execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements within ten days after receipt of the notice of award, Owner may consider bidder to be in default, annul the notice of award, and the bid security of that bidder shall be forfeited as liquidated damages.

The bid security of the next lowest responsive and responsible bidder whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the effective date of the agreement or 61 days after the opening of bids, whereupon bid security furnished by such bidder will be returned. The bid security of all other bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the opening of bids. If all bids are rejected, all bid securities will be returned within seven days of the time of rejection.

8. SUBCONTRACTORS, SUPPLIERS, AND OTHERS

Bidder shall complete and submit with his or her bid the Bidder's Subcontractor and Supplier Form provided in the bidding documents. The Bidder shall list on such form all of the subcontractors, suppliers, individuals, or entities who will perform work or labor for or render services or supplies to the bidder in an amount in excess of ten percent (10%) of the bidder's total bid. The bidder shall identify on such form the particular work or labor or the particular services or supplies that each such subcontractor, supplier, individual, or entity will perform or render.

Owner reserves the right to conduct, during the evaluation of bidders, such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of a named subcontractor, supplier, individual, or entity to perform the work. If requested by Owner, within five days of Owner's request, bidder shall submit a Bidder's Work History Form and Bidder's Organizational Experience and Workload Form for any named subcontractor, supplier, individual, or entity. If Owner, after due investigation, has reasonable objection to any proposed subcontractor, supplier, individual, or entity, Owner may request bidder to submit a replacement, without an increase in the total bid. Bidders shall not otherwise substitute, delete, or add to the Bidder's Subcontractor and Supplier Form without approval of Owner.

If bidder declines to make any such replacement, and such bidder would have otherwise been the successful bidder, Owner may award the contract to the next lowest responsive and responsible bidder that proposes to use subcontractors, suppliers, individuals, or entities acceptable to Owner. Declining to make requested replacements will not constitute grounds for forfeiture of the bid security of any bidder. Bidder shall not be required to use any subcontractor, supplier, individual, or entity against whom bidder has reasonable objection.

Any subcontractor, supplier, individual, or entity so listed and against which Owner makes no written objection prior to issuing a notice of award will be deemed acceptable to Owner, subject to revocation of such acceptance after the effective date of the agreement, as provided for in the proposed contract documents. Any substitutions, deletions, or additions made to the Bidder's Subcontractor and Supplier Form after the effective date of the agreement shall be made in accordance with the applicable provisions of the contract documents.

9. "OR EQUIVALENT" ITEMS

Bidder shall base his or her bid upon the items specified or described in the bidding documents or those "or equivalent" items approved by Owner prior to the opening of bids. The items described in the bidding documents establish a standard of required type, function, and quality to be met by any proposed "or equivalent" item. No item will be considered by Owner during the evaluation of bids as an "or equivalent" item unless a written request for approval of the item has been submitted by bidder in accordance with the applicable provisions of the proposed contract documents and such request has been received by Owner at least five days prior to the date for opening of bids. In all instances, the burden of proof of the merit of the proposed "or equivalent" item shall be upon the bidder and the Owner shall be the sole judge of the equivalency of a proposed "or equivalent" item to that specified or described in the bidding documents. The Owner's decision to approve or disapprove any proposed "or equivalent" item will be final. If Owner approves any proposed "or equivalent" item, such approval will be set forth in an Addendum issued at least two days prior to the date for opening of bids in order to provide prospective bidders ample time to incorporate such Addendum into their bids. Owner assumes no responsibility for substitutions of items made in any other manner during the preparation of bids.

10. INTERPRETATIONS AND ADDENDA

All questions about the meaning or intent of the bidding documents or any discrepancies or omissions identified therein are to be submitted to Owner in writing. All such questions shall be submitted directly to the contact identified in the Invitation to Bid. Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Owner as having received the bidding documents. Questions received less than two days prior to the date for opening of bids may not be answered, as all Addenda to be issued by the Owner will be issued at least one day prior to the date for opening of bids in order to provide prospective bidders ample time to incorporate such Addenda into their bids. Only questions answered by Addenda will be binding. Owner assumes no responsibility for any other interpretations or clarifications of the bidding documents and such interpretations or clarifications will be without legal effect.

Addenda may also be issued by Owner to clarify, correct, or change the bidding documents as deemed advisable by Owner.

11. TAXES

All applicable sales, use, payroll, and other similar taxes required to be paid during the performance of the work shall be considered during the preparation of bids. Bidders are hereby advised that Owner is exempt from Indiana state sales taxes on materials to be incorporated into the work and such exemption shall be considered during the preparation of bids. Owner will furnish evidence of such exemption to successful bidder, if necessary, for use in purchasing materials to be incorporated into the work. Owner's exemption does not apply to construction

supplies, tools, machinery, equipment, or other property purchased or leased by successful bidder, or to materials not incorporated into the work.

12. EMPLOYMENT PRACTICES

All applicable federal and state statutes pertaining to the selection of labor, including all applicable equal opportunity employment laws, shall apply to the contract and shall be considered during the preparation of bids.

13. UTILIZATION OF MINORITY AND WOMEN'S BUSINESS ENTERPRISES

Owner desires to provide minority business enterprises (MBE) and women's business enterprises (WBE) with a fair opportunity to provide the services described in these bidding documents, and encourages firms to partner with MBEs and WBEs to the maximum extent practicable. The MBE and WBE goals for this project are as follows:

MBE: 7%

WBE: 5%

A "minority business enterprise" (MBE) is defined as a business concern that is: (1) at least 51% owned, managed and controlled by one or more minority individuals, or, in the case of a publicly owned business, at least 51% of the stock is owned by one or more minority individuals; (2) managed and directed by one or more of the minority owners on a daily basis; and, (3) is certified as such by a certifying entity. The ownership interest must be real and continuous and not created solely to meet the MBE goals of this project.

A "women's business enterprise" (WBE) is defined as a business concern that is: (1) at least 51% owned, managed, operated and controlled by one or more women, or, in the case of publicly owned business, at least 51% of the stock is owned by one or more women; (2) managed and directed by one or more of the women owners on a daily basis; and, (3) is certified as such by a certifying entity. The ownership interest must be real and continuous and not created solely to meet the WBE goals of this project.

Please note that only the utilization of certified MBEs and WBEs can be counted toward the MBE and WBE goals for this project.

14. PREPARATION OF BID

Bids shall be made using only the Bid Form and any attachments thereto included in the bidding documents. Bids made without the use of such form and attachments will not be considered. Bidders need not return the entire bidding documents when submitting a bid; the Bid Form and any attachments thereto may be detached from the remainder of the bidding documents to facilitate the preparation and submission of bid by bidder.

Bidder shall fill in all blanks on the Bid Form and all blanks on any attachments thereto using "not applicable," "N/A," or "none" where applicable. Entries on the Bid Form and any attachments thereto shall be typed or legibly written in ink. Bidders are warned against making alterations of any kind to the Bid Form and any attachments thereto or to any entry thereon. Bid Forms or any attachments thereto that contain omissions, conditions, alterations, or additions not called for by Owner may be rejected or interpreted so as to be favorable to Owner. Entries shall be included for each and every bid item listed on the Basis of Bid Form, which is an attachment to the Bid Form. Owner may reject a bid if it does not contain entries for each and every bid item listed on the Basis of Bid Form or may interpret any item left blank as a price of "no charge" for the item. In case of any error in adding or multiplying individual entries on the Basis of Bid Form, such as in adding or multiplying quantities and unit prices, the true sum or product of the individual entries on the Basis of Bid Form shall take precedence and govern.

Total bids are to be provided in both words and figures, as provided for on the Basis of Bid Form. In case of conflict between the words and figures provided on the Basis of Bid Form, the words shall take precedence and govern. In case of conflict between the total bid and the sum of the individual entries on the Basis of Bid Form, the true sum shall take precedence and govern.

15. APPROXIMATE QUANTITIES

The quantities of base bid items, items "as ordered by Engineer," if any, additive bid items, if any, and alternate bid items, if any, appearing in the Basis of Bid Form are estimates prepared by Engineer. Such estimates are

provided solely for the Owner's convenience in comparing bids, establishing pay item unit prices, and determining an initial contract price. In accordance with the proposed contract documents, payment to the successful bidder will be based upon the actual quantities of work performed, the acceptance of such work and the determination of such quantities to be made by the Engineer in accordance with the contract documents.

16. ITEMS "AS ORDERED BY ENGINEER"

All items appearing in the Basis of Bid Form as items "as ordered by Engineer" are contingent work items that may be selected for inclusion in the work during the performance of the work at the sole discretion of Owner. Bidder acknowledges that bidder's total bid includes such items "as ordered by Engineer" but that such items "as ordered by Engineer" shall not be included in the work unless Owner adds such items "as ordered by Engineer" to the work during the performance of the work in accordance with the contract documents. Once such items "as ordered by Engineer" have been added to the work, payment for such items "as ordered by Engineer" will be based on the actual quantities of such work completed by bidder and accepted by Owner.

17. ADDITIVE BID ITEMS

All items appearing in the Basis of Bid Form as additive bid items are contingent work items that may be selected for inclusion in the work prior to the notice of award at the sole discretion of Owner. Bidder acknowledges that bidder's total bid does not include such additive bid items but that the initial contract price will depend on the number of additive bid items selected for inclusion in the work prior to the notice of award. Once such additive bid items have been included in the work, payment for such additive bid items will be based on the actual quantities of such work completed by bidder and accepted by Owner.

18. ALTERNATE BID ITEMS

All items appearing in the Basis of Bid Form as alternate bid items are contingent work items that may be substituted for base bid items and selected for inclusion in the work prior to the notice of award at the sole discretion of Owner. Bidder acknowledges that bidder's total bid does not include such alternate bid items but that the initial contract price will depend on the number of alternate bid items substituted for base bid items and selected for inclusion in the work prior to the notice of award. Once such alternate bid items have been included in the work, payment for such alternate bid items will be based on the actual quantities of such work completed by bidder and accepted by Owner.

19. SIGNING OF BID

Bidder shall observe the following requirements in the signing of his or her bid:

- (a) A bid by a corporation shall be executed in the legal name of the corporation by the president or other corporate officer authorized to sign contracts on behalf of the corporation. The bid shall bear the attesting signature of the secretary or an assistant secretary of the corporation. The official address and of the corporation and the state of incorporation shall be provided.
- (b) A bid by a limited liability company shall be executed in the legal name of the firm by a member of the company. The official address of the company and the state of formation shall be provided.
- (c) A bid by a partnership shall be executed in the legal name of the partnership and signed by all of the partners. The official address of the partnership shall be provided.
- (d) A bid by an individual shall show the bidder's name and official address.
- (e) A bid by a joint venture shall be executed by each joint venture in the manner indicated on the Bid Form. The official address of the joint venture shall be provided.

All names shall be printed in ink below the signatures. When requested by Owner, satisfactory evidence of the authority of the person or persons signing on behalf of bidder shall be furnished by bidder.

The signature requirements set forth in this Article shall apply to all other bidding requirements requiring execution by bidder, as well as to all contract documents requiring execution by bidder.

20. SUBMITTAL OF BID

Bids shall consist of properly prepared and signed Bid Forms, complete with an acknowledgement of the receipt of all Addenda issued by Owner, if any, and all of the following attachments thereto:

- (a) Basis of Bid Form;
- (b) Responsible Bidding Submittal Requirements Form;
- (c) Bidder's Work History Form;
- (d) Bidder's Organizational Experience and Workload Form;
- (e) Bidder's Subcontractor and Supplier Form; and,
- (f) Bid Security

Each bid shall include all of the bidding requirements named above and shall be enclosed in a sealed package, plainly marked with the project title, the name and address of bidder, and the notation "BID ENCLOSED." Bids shall be submitted no later than the date and time prescribed and at the place indicated in the Invitation to Bid. If a bid is sent by mail or other delivery system, the sealed envelope containing the bid shall be enclosed in a separate package and plainly marked on the outside as described above.

21. WITHDRAWAL OF BID

A bid may be withdrawn at any time prior to the date and time for the opening of bids by an appropriate written request duly executed by the bidder in accordance with the provisions of Article 19 of these Instructions to Bidders and delivered to the Owner prior to the date and time for the opening of bids. Such withdrawal will not prevent a bidder from submitting a new bid prior to the date and time for the opening of bids.

No bid shall be withdrawn without the written consent of Owner for a period of 60 days after the opening of bids. Any bid may be withdrawn at any time following the expiration of such 60 day period, provided that an appropriate written request duly executed by the bidder in accordance with the provisions of Article 19 of these Instructions to Bidders is delivered to the Owner. If no such written request is filed, the date for accepting such bid shall be extended until such written request is filed or until Owner has executed a contract for the work or rejects such bid in writing.

22. OPENING OF BIDS

Bids will be opened at the time and place indicated in the Invitation to Bid and, unless obviously non-responsive, read aloud publicly. Bidders are invited to be present at the opening of bids. An abstract of the amounts of the base bid items, items "as ordered by Engineer," if any, additive bid items, if any, alternate bid items, if any, and total bids will be made available to bidders after the opening of bids.

23. BIDS REMAIN SUBJECT TO ACCEPTANCE

All bids will remain subject to acceptance for 60 days after the opening of bids, or for such longer period of time that bidder may agree to in writing upon request of Owner. Owner may, in its sole discretion, release or reject any bid prior to the end of this acceptance period.

24. DISQUALIFICATION OF BIDS

More than one bid for the same work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any bidder has an interest in more than one bid for the work may be cause for disqualification of that bidder and the rejection of all bids in which that bidder has an interest. If there are reasonable grounds for believing that collusion exists among the bidders, the bids of the bidders reasonably believed to be involved in such collusion will not be considered. If a bidder is or has been in default on a contract with Owner or in the payment of monies due Owner, his or her bid will not be considered.

25. EVALUATION OF BIDS AND AWARD OF CONTRACT

In evaluating bids, Owner will consider whether or not the bids address all of the bidding requirements (i.e., Bid Form and any attachments thereto), address such base bid items, items "as ordered by Engineer," additive bid items, and alternate bid items as may be included on the Basis of Bid Form, and include all of the information requested on the Bid Form and any attachments thereto. In evaluating bidders, Owner will consider the

qualifications of bidders and may consider the qualifications and experience of subcontractors, suppliers, and other individuals or entities which have been identified by bidder in accordance with the provisions of Article 8 of these Instructions to Bidders. Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and ability of bidders and any named subcontractors, suppliers, individuals, or entities to perform the work. In accordance with the provisions of these Instructions to Bidders, bidder shall promptly and in a timely manner submit such information and data as Owner may request to conduct such investigations.

Owner reserves the right to reject any or all bids, including, without limitation, nonconforming, nonresponsive, unbalanced, or conditioned bids and to waive all irregularities or informalities at its discretion. Owner further reserves the right to reject the bid of any bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the bid of any bidder if it believes that it would not be in the best interest of the project to make an award to that bidder.

If a contract is to be awarded, Owner will award the contract to the lowest responsive and responsible bidder whose bid is in the best interests of the project. The Owner reserves the right to negotiate an agreement with the successful bidder.

26. NOTICE OF AWARD

If a contract is awarded by Owner, such award will be made when a formal notice of award, duly executed by the Owner, has been issued by Owner and delivered or sent by mail or other delivery system to the successful bidder at the principal business address shown on his or her Bid Form.

27. CONTRACT SECURITY AND INSURANCE

Upon award of the contract, the successful bidder will be required to furnish, as contract security, a performance bond and a payment bond, each in the penal sum of the full amount of the initial contract price, on the forms included in the bidding documents, or forms otherwise approved by the Owner, executed in accordance with the provisions of Article 19 of these Instructions to Bidders, and issued by a surety acceptable to the Owner and authorized to transact business under the laws of the state of Indiana. The successful bidder will be required to furnish such contract security to Owner within ten days after receipt of a notice of award.

Upon award of the contract, the successful bidder will also be required to furnish certificates of insurance and insurance policy endorsements, as required by the contract documents. Such insurance shall be provided by insurance companies acceptable to the Owner and authorized to transact business under the laws of the state of Indiana. The successful bidder will be required to furnish such certificates of insurance and insurance policy endorsements to Owner within ten days after receipt of a notice of award.

28. E-VERIFY AFFIDAVIT AND CERTIFICATION REGARDING INVESTMENTS IN IRAN

As required by IC 22-5-1.7-11 and IC 5-22-16.5, upon award of the contract, the successful bidder will be required to furnish an E-Verify Affidavit and Certification Regarding Investments in Iran, on a form to be provided by the Owner, and executed in accordance with the provisions of Article 19 of these Instructions to Bidders. The successful bidder will be required to furnish such E-Verify Affidavit and Certification Regarding Investments in Iran within ten days after receipt of a notice of award.

29. SIGNING OF AGREEMENT

When Owner issues a notice of award to the successful bidder, it shall be accompanied by two unsigned counterparts of the agreement along with the other contract documents requiring execution attached thereto. Within ten days after receipt of the notice of award, the successful bidder shall sign and deliver the two counterparts of the agreement and the other contract documents requiring execution attached thereto, along with the required contract security, certificates of insurance, insurance policy endorsements, and E-Verify Affidavit and Certification Regarding Investments in Iran to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to successful bidder with two complete sets of the contract documents with appropriate identification. Owner will furnish additional copies of the contract documents to successful bidder upon request.

Owner will date the unsigned counterparts of the agreement that will accompany the notice of award to indicate when the agreement is to become effective. This will be the effective date of the agreement. The required contract

security, certificates of insurance, and insurance policy endorsements shall be dated the same as the effective date of the agreement.

30. FAILURE TO SIGN AGREEMENT

If the successful bidder fails to execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements within ten days after receipt of a notice of award, Owner may consider bidder to be in default and annul the notice of award. Upon annulment of the notice of award, Owner may then award the contract to the next lowest responsive and responsible bidder whose bid is in the best interests of the project.

In the event of any such failure by the successful bidder to timely and properly execute and deliver the contract documents and furnish the required contract security, certificates of insurance, and insurance policy endorsements, it will be difficult and impracticable to ascertain and determine the amount of damage that Owner will sustain by reason of such failure. For such reason, bidder, by submitting his or her bid, agrees that Owner shall have the right, at its sole discretion in the event of any such default, to retain or recover, as reasonably estimated liquidated damages, and not as a penalty, the entire amount of the bid security.

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BID FORM

(Based on State Form 52414 (R2 / 2-13) / Form 96 (Revised 2013))

SECTION I. BID
(Please type or print)

Date (month, day, year): _____

1. Project: _____

2. Owner (Governmental Unit): _____

3. County: _____

4. Respondent (Firm): _____

Address: _____

City/State/ZIP Code: _____

5. Telephone Number: _____

6. Agent of Respondent (if applicable): _____

Pursuant to notices given, the undersigned offers to furnish labor, equipment, and/or material necessary to complete the public works project of _____

(Governmental Unit) in accordance with the plans and specifications prepared by _____

_____ and dated _____ for the sum of:

_____ \$ _____

The undersigned bidder further agrees to furnish, with this bid, a bid security made payable to the owner in an amount not less than ten percent (10%) of bidder's total bid and in the form of a bank cashier's check, bank draft, certified check, or bid bond, on the bid bond form included in the bidding documents, or a form otherwise approved by the owner, executed in accordance with the provisions of the instructions to bidders, and issued by a surety acceptable to the owner and authorized to transact business under the laws of the state of Indiana.

If items "as ordered by engineer", additive bid items, and/or alternate bid items will be considered by owner, the undersigned bidder shall submit a bid for each item "as ordered by engineer", additive bid item, and/or alternate bid item in accordance with the instructions to bidders. If additional items of work originally included in the contract are needed, the unit costs associated with such work shall be the same as those included in the contract, if accepted by the owner. Any addenda issued by the governmental unit shall be specifically acknowledged by the undersigned at the appropriate location on this form.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

SECTION II. BASIS OF BID FORM
(Please type or print)

This Basis of Bid Form is to be submitted by bidder, as an attachment to the Bid Form, for the project designated as **Carriage Lane Road – Storm Sewer and Roadway Improvements**. It is to include an entry for each and every work item listed, including all base work items, all items “as ordered by Engineer”, if any, all additive work items, if any, and all alternate work items, if any, as well as a total quote, in both words and figures, as provided for below.

BASE BID

Bidder will perform all work specified or indicated in the contract documents in accordance with terms and conditions of the contract documents for the following price(s):

BASE BID ITEMS

ITEM	DESCRIPTION	UNIT	QTY.	UNIT PRICE	EXT. PRICE
1	MOBILIZATION & DEMOBILIZATION	LS	1		
2	CONSTRUCTION ENGINEERING	LS	1		
3	MAINTAINING TRAFFIC	LS	1		
4	RECORD DRAWINGS	LS	1		
5	PRECONSTRUCTION AUDIO-VIDEO SURVEY	LS	1		
6	CLEARING RIGHT OF WAY	LS	1		
7	TEMPORARY EROSION AND SEDIMENT CONTROL	LS	1		
8	EXCAVATION, COMMON	CYD	2,046		
9	CURB & GUTTER, REMOVE	LFT	638		
10	STRUCTURE, REMOVE	EA	9		
11	STRUCTURE, ABANDON	EA	5		
12	PIPE, REMOVE	LFT	482		
13	CURB AND GUTTER, CONCRETE, ROLLED	LFT	638		
14	MILLING, SURFACE, 1.5-INCHES	SYD	3,244		
15	HMA SURFACE, TYPE B	TON	713		
16	HMA INTERMEDIATE, TYPE B	TON	742		
17	COMPACTED AGGREGATE, NO. 53	TON	2,965		

ITEM	DESCRIPTION	UNIT	QTY.	UNIT PRICE	EXT. PRICE
18	SUBGRADE TREATMENT, TYPE II ALLOWANCE	SYD	2,722		
19	GEOGRID	SYD	5,637		
20	DRIVEWAY, REMOVE AND REPLACE	SYD	120		
21	FENCE, REMOVE AND RESET	LFT	120		
22	RESTORE DISTURBED AREAS	LS	1		
23	INLET, TYPE J10	EA	21		
24	CATCH BASIN, TYPE E7	EA	2		
25	STORM MANHOLE, TYPE 1, 48" DIA.	EA	3		
26	STORM MANHOLE, TYPE 2, 60" DIA.	EA	6		
27	STORM MANHOLE, TYPE 2, 72" DIA.	EA	6		
28	15" PIPE END SECTION	EA	2		
29	36" PIPE END SECTION	EA	1		
30	STORM SEWER, RCP CL III, 12"	LFT	616		
31	STORM SEWER, RCP CL III, 15"	LFT	711		
32	STORM SEWER, RCP CL III, 18"	LFT	198		
33	STORM SEWER, RCP CL III, 30"	LFT	812		
34	STORM SEWER, RCP CL III, 36"	LFT	1,081		
35	STORM SEWER, HDPE, 4"	LFT	305		
36	STORM SEWER, HDPE, 8"	LFT	145		
37	UNDERDRAIN, HDPE, 6"	LFT	486		
38	GROUT PIPE	LFT	1,566		
39	UNSUITABLE STORM SEWER SUBGRADE ALLOWANCE	CYD	480		
TOTAL BID (I.E., TOTAL OF ALL EXTENDED PRICES, ITEMS 1-39):					

Bidder's total bid for the work, which is the sum of the Bidder's extended price(s) for the base bid items, is:

**TOTAL BID
(IN FIGURES):** _____

**TOTAL BID
(IN WORDS):** _____

Bidder acknowledges that the estimated quantities of items of unit price work included on this Basis of Bid Form are not guaranteed and are provided solely for the purposes of comparing bids, establishing pay item unit prices, and determining an initial contract price. In accordance with the contract documents, payment to the successful bidder will be based upon the actual quantities of work performed, the acceptance of such work and the determination of such quantities to be made by the Engineer in accordance with the contract documents.

SECTION III. CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS
(if applicable)

I, the undersigned bidder, or agent of such bidder, understand my statutory obligation to use steel products made in the United States (IC 5-16-8-2). I hereby certify that I and all subcontractors employed by me for this project will use U.S. steel products on this project if awarded to me. I understand that violations hereunder may result in forfeiture of contractual payments.

SECTION IV. BIDDER'S FINANCIAL STATEMENT

Attachment of bidder's financial statement is mandatory. Any bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder to the governmental unit awarding the contract shall be specific enough and shall provide enough detail so that the governmental unit can make a proper determination of the respondent's capability for completing the project if the contract is awarded to the respondent.

SECTION V. BIDDER'S NON-COLLUSION AFFIDAVIT

The undersigned bidder, or agent of such bidder, being duly sworn under oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation, or partnership represented by him, entered into any combination, collusion, or agreement with any person relative to the price to be bid by anyone in response to the invitation to bid issued by the governmental unit, nor to prevent any person from bidding, nor to include anyone to refrain from bidding, and that this bid is provided without reference to any other bid and without any agreement, understanding, or combination with any other person in reference to such other bid.

He further says that no person or persons, firm, or corporation has, have, or will receive, directly or indirectly, any rebate, fee, gift, commission, or thing of value on account of the contract being awarded to the bidder.

SECTION VI. BIDDER'S REPRESENTATIONS

In submitting this bid, bidder represents that:

- (a) Bidder has examined and carefully studied the contract documents, other related data identified in the invitation to bid, and the following addenda, receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

_____	_____
_____	_____
_____	_____
_____	_____

- (b) Bidder has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, and performance of the work.

- (c) The contract documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the work for which this bid is submitted.

I HEREBY AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID ARE TRUE AND CORRECT.

(Name of Organization)

(Title of Person Signing)

STATE OF _____)
) ss
COUNTY OF _____)

(Notary Public)

County of Residence: _____

RESPONSIBLE BIDDING SUBMITTAL REQUIREMENTS FORM

This Responsible Bidding Submittal Requirements Form is to be submitted by Bidder, as an attachment to the Bid Form, for the project designated as **Carriage Lane Road – Storm Sewer and Roadway Improvements**.

[IF NECESSARY, ATTACH ADDITIONAL RESPONSIBLE BIDDING SUBMITTAL REQUIREMENTS FORMS]

1. BIDDER

This form is submitted by:

Full Name of Bidder: _____

Principal Business Address: _____

2. EVIDENCE OF EXISTENCE & GOOD STANDING

Bidder shall attach a Certificate of Existence, formerly known as a Certificate of Good Standing, issued by the Indiana Secretary of State, showing that the Bidder is in existence and that it has complied with all requirements to operate in the state of Indiana. If the Bidder is an individual, partnership, or joint venture, this requirement shall not apply.

3. FORMER BUSINESS NAMES

Bidder shall list any former business names:

Name	Address	Years

4. DISCLOSURE OF VIOLATIONS OF FEDERAL, STATE, OR LOCAL LAWS

Bidder shall disclose any determinations by a court or governmental agency for violations of federal, state, or local laws including, but not limited to, violations of contracting or anti-trust laws, tax or licensing laws, environmental laws, the Occupational Safety and Health Act (OSHA), or the Davis-Bacon Act or related Acts:

5. STAFFING CAPABILITIES & LABOR SOURCES

Bidder shall provide a statement regarding staffing capabilities, including labor sources:

6. EVIDENCE OF PARTICIPATION IN APPRENTICESHIP & TRAINING PROGRAMS

Bidder shall attach evidence of participation in apprenticeship and training programs, applicable to the work to be performed on the project, which are approved by and registered with the United States Department of Labor's Office of Apprenticeship, or its successor organization. Such evidence shall include a copy of all applicable apprenticeship certificates and standards for applicable training programs.

7. EMPLOYEE DRUG TESTING PLAN

Bidder shall attach a copy of a written plan for employee drug testing that: (i) covers all employees of the bidder who will perform work on the project; and, (ii) meets, or exceeds, the requirements set forth in IC 4-13-18-5 or IC 4-13-18-6.

8. PROJECT MANAGER & SUPERINTENDENT EXPERIENCE

Bidder shall, on the Bidder's Organizational Experience and Workload Form, provide information regarding the experience of the Bidder's designated project manager and superintendent.

9. EVIDENCE OF PROFESSIONAL & TRADE LICENSES

Bidder shall attach evidence of any professional and/or trade licenses required by law for any trade or specialty area that is applicable to the project. Bidder shall also disclose any suspension or revocation within the previous five years of any professional and/or trade licenses held by the Bidder or by any office, director, or manager of the Bidder:

10. EVIDENCE OF APPROVED SURETY

Bidder shall attach evidence that it is utilizing and will utilize a surety company which appears on the United States Department of the Treasury's Listing of Approved Sureties to furnish all required bid and contract securities.

11. DISCLOSURE OF TAX LIENS & DELINQUENCIES

Bidder shall disclose any federal, state, or local tax liens or tax delinquencies owed to any federal, state, or local taxing body in the last five years:

12. CLASSIFICATION OF INDIVIDUALS PERFORMING WORK

Bidder shall provide a statement regarding the proper classification of individuals who will perform work on the project as either: (i) an employee; or (ii) an independent contractor, under all applicable federal and state laws and local ordinances:

13. RELATED EXPERIENCE

In order to demonstrate its capability and qualifications to perform the work generally described in the bidding documents and described in detail in the contract documents, Bidder shall, on the Bidder's Work History Form, provide information regarding at least three recently (i.e., within last 3 years) and satisfactorily completed projects of similar size and scope in the state of Indiana.

14. EVIDENCE OF PREQUALIFICATION

Bidder shall provide evidence that it appears on the Indiana Department of Administration's or Indiana Department of Transportation's List of Prequalified Contractors for at least one similar work type.

15. FORM SUBMITTAL

This form is submitted by _____, who hereby certifies under penalty of law that: (1) he or she has carefully prepared, reviewed, and checked this form; (2) that the statements made on this form are true and correct; and, (3) that all statements made herein have been made on behalf of and with the authorization of the Bidder in support of this bid.

SIGNED AND SUBMITTED ON: _____, 20_____, BY:

By: _____
(Signature)

Printed Name: _____

Title: _____

BIDDER'S WORK HISTORY FORM

This Bidder's Work History Form is to be submitted by Bidder, as an attachment to the Bid Form, for the project designated as **Carriage Lane Road – Storm Sewer and Roadway Improvements**.

[IF NECESSARY, ATTACH ADDITIONAL WORK HISTORY FORMS]

[JOINT VENTURES MUST SUBMIT SEPARATE WORK HISTORY FORMS FOR EACH INDIVIDUAL, PARTNERSHIP, OR CORPORATION THAT IS PARTY TO THE JOINT VENTURE]

1. BIDDER

This form is submitted by:

Full Name of Bidder: _____

Principal Business Address: _____

2. NATURE OF BUSINESS

State the nature of the Bidder's business:

3. COMPOSITION OF WORK

During the past three years, Bidder's work has consisted of:

_____ % Federal	_____ % as Contractor	_____ % to Bidder
_____ % State	_____ % as Subcontractor	_____ % to Subcontractors
_____ % Other Public		_____ % to Materials
_____ % Private		

4. YEARS IN BUSINESS

State the number of years that Bidder, under its current name and organization, has been continuously engaged

in the aforesaid business: _____ years.

5. PREDECESSOR ORGANIZATIONS

If Bidder has been in business under its current name and organization for less than five years, list any predecessor organizations:

Name	Address	Years

6. BUSINESS LICENSES

List all business licenses currently held by Bidder:

Issuing Agency	Type	Number	Expires

7. RELATED EXPERIENCE

This project consists of the installation of new storm water infrastructure, including storm sewer and storm sewer structures to address long-standing drainage and flooding issues affecting the area along Carriage Lane Road.

The project includes the installation of storm sewers, via open trench construction including excavation, placing bedding and haunching, laying storm sewer pipe, placing initial backfill, placing final backfill, shaping, trimming and finishing, and cleaning, inspecting, and testing; installation of storm sewer structures, including excavation, placing bedding, setting precast reinforced concrete storm sewer structures, placing adjusting rings and castings, backfilling, shaping, trimming, and finishing, and cleaning; and, the partial reconstruction of Carriage Lane Road, which will be disturbed during performance of the work. Excess excavated material generated during the performance of the work shall be disposed of off-site, at an appropriate and, if applicable, properly permitted off-site location.

The project also includes other items incidental to the work, including clearing and tree removal, maintenance of traffic, erosion and sediment control, and the restoration of areas disturbed during the performance of the work. The work includes the carrying out of all duties and obligations and the furnishing of all labor, material, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project.

In order to demonstrate its capability and qualifications to perform the work generally described above and described in detail in the contract documents, Contractor shall:

1. Provide information below regarding at least three recently (i.e., within last 3 years) and satisfactorily completed projects of similar size and scope in the State of Indiana.

All projects described by Contractor below shall demonstrate Contractor's ability to successfully complete a project of similar size and scope. Similar projects may include:

- Storm sewer installation, via open trench construction, and storm structure installation; and,
- Projects demonstrating the application of such skills and expertise as may be necessary to perform the work described in the contract documents.

In evaluating respondents, the Department will consider the qualifications and experience of respondent and reserves the right to conduct such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of respondents to perform the work. This may include, but is not limited to, requests for additional information on work history beyond what is included herein. Contractor shall, promptly and in a timely manner, submit such information and data as the Department may request to conduct such investigations.

	PROJECT 1	PROJECT 2	PROJECT 3
Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone			
Contractor <i>if Bidder was subcontractor</i>			
Cont. Contact <i>if Bidder was subcontractor</i>			
Cont. Contact's Phone <i>if Bidder was subcontractor</i>			
Description of Work			
Contract Price	\$	\$	\$
Date Completed			
Bidder's Project Manager			
Bidder's Superintendent			

8. FORM SUBMITTAL

This form is submitted by _____, who hereby certifies under penalty of law that: (1) he or she has carefully prepared, reviewed, and checked this form; (2) that the statements made on this form are true and correct; and, (3) that all statements made herein have been made on behalf of and with the authorization of the Bidder in support of this bid.

SIGNED AND SUBMITTED ON: _____, 20_____, BY:

By: _____
(Signature)

Printed Name: _____

Title: _____

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BIDDER'S ORGANIZATIONAL EXPERIENCE AND WORKLOAD FORM

This Bidder's Organizational Experience and Workload Form is to be submitted by Bidder, as an attachment to the Bid Form, for the project designated **Carriage Lane Road – Storm Sewer and Roadway Improvements**.

[IF NECESSARY, ATTACH ADDITIONAL EXPERIENCE & WORKLOAD FORMS]

[JOINT VENTURES MUST SUBMIT SEPARATE EXPERIENCE & WORKLOAD FORMS FOR EACH INDIVIDUAL, PARTNERSHIP, OR CORPORATION THAT IS PARTY TO THE JOINT VENTURE]

1. BIDDER

This form is submitted by:

Full Name of Bidder: _____

Principal Business Address: _____

2. PROJECT MANAGER AND SUPERINTENDENT

Bidder shall provide information below regarding the experience of Bidder's designated project manager and superintendent.

	Name	Years with Company	Years Experience
Project Manager			
<i>Project Manager schedules and coordinates the work, allocating the resources necessary to complete the project, and preparing and delivering all submittals required under the contract documents, including pay requests.</i>			
Superintendent			
<i>Superintendent supervises and directs the work, overseeing on-site, day-to-day operations on the project site and maintaining control over the quality of the work. Superintendent must be present at all times on the project site.</i>			

3. PROJECT MANAGER'S WORK HISTORY

Bidder's designated project manager shall have experience scheduling and coordinating construction projects involving the application of skills and expertise similar to those that may be necessary to perform the work described in the contract documents. Bidder shall provide information below regarding such construction projects scheduled and coordinated by the Bidder's designated project manager.

	PROJECT 1	PROJECT 2	PROJECT 3
Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone			

	PROJECT 1	PROJECT 2	PROJECT 3
Contractor (Cont.) <i>if Bidder was subcontractor</i>			
Cont. Contact <i>if Bidder was subcontractor</i>			
Cont. Contact's Phone <i>if Bidder was subcontractor</i>			
Description of Work			
Significant Work Items <i>Include quantity installed</i>			
# of Crew Supervised			

4. SUPERINTENDENT'S WORK HISTORY

Bidder's designated superintendent shall have experience supervising and directing construction projects involving the application of skills and expertise similar to those that may be necessary to perform the work described in the contract documents. Bidder shall provide information below regarding such construction projects supervised and directed by the Bidder's designated superintendent.

	PROJECT 1	PROJECT 2	PROJECT 3
Project Name			
Project Location			
Owner			
Owner's Address			
Reference			

	PROJECT 1	PROJECT 2	PROJECT 3
Reference's Phone			
Contractor (Cont.) <i>if Bidder was subcontractor</i>			
Cont. Contact <i>if Bidder was subcontractor</i>			
Cont. Contact's Phone <i>if Bidder was subcontractor</i>			
Description of Work			
Significant Work Items <i>Include quantity installed</i>			
# of Crew Supervised			

5. CURRENT ORGANIZATIONAL WORKLOAD

Bidder shall provide below information regarding the Bidder's current organizational workload, attaching, as necessary, additional Organizational Experience and Workload Forms.

PROJECT 1

Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone		Reference's E-mail	
Description of Work			
Project Manager		Superintendent	
Contract Price			

Percent Complete		Expected Completion Date	
-------------------------	--	---------------------------------	--

PROJECT 2

Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone		Reference's E-mail	
Description of Work			
Project Manager		Superintendent	
Contract Price			
Percent Complete		Expected Completion Date	

PROJECT 3

Project Name			
Project Location			
Owner			
Owner's Address			
Reference			
Reference's Phone		Reference's E-mail	
Description of Work			
Project Manager		Superintendent	
Contract Price			
Percent Complete		Expected Completion Date	

6. FORM SUBMITTAL

This form is submitted by _____, who hereby certifies under penalty of law that: (1) he or she has carefully prepared, reviewed, and checked this form; (2) that the statements made on this form are true and correct; and, (3) that all statements made herein have been made on behalf of and with the authorization of the Bidder in support of this bid.

SIGNED AND SUBMITTED ON: _____, 20_____, BY:

By: _____
(Signature)

Printed Name: _____

Title: _____

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BIDDER'S SUBCONTRACTOR AND SUPPLIER FORM

This Bidder's Subcontractor and Supplier Form is to be submitted by Bidder, as an attachment to the Bid Form, for the project designated as **Carriage Lane Road – Storm Sewer and Roadway Improvements**.

[IF NECESSARY, ATTACH ADDITIONAL SUBCONTRACTOR AND SUPPLIER FORMS]

1. BIDDER

This form is submitted by:

Full Name of Bidder: _____

Principal Business Address: _____

2. BIDDER'S SUBCONTRACTORS AND SUPPLIERS

Bidder shall provide information below regarding all of the first-tier subcontractors, suppliers, individuals, or entities who will perform work or labor on or render services or supplies for the project, as well as all of the second-and lower-tier subcontractors, suppliers, individuals, or entities who will perform work or labor on or render services or supplies for the project in an amount in excess of ten percent (10%) of the Bidder's total bid.

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

Subcontractor/Supplier: _____

Principal Business Address: _____

Contact: _____ Telephone: _____

Fax: _____ E-mail: _____

Work to be Performed/
Services to be Provided: _____

In accordance with the Instructions to Bidders, Owner reserves the right to conduct, during the evaluation of bidders, such additional investigations as it deems necessary to establish the responsibility, qualifications, and ability of subcontractors, suppliers, individuals, or entities named above to perform the work. This may include, but is not limited to, requests for the submittal of a Bidder's Work History Form and Bidder's Organizational Experience and Workload Form for any subcontractor, supplier, individual, or entity named above. Bidder shall, in accordance with the Instructions to Bidders, promptly and in a timely manner submit such information and data as Owner may request to conduct such investigations.

BID BOND FORM

KNOW ALL MEN BY THESE PRESENTS, THAT _____, as
(full name and principal business address of Bidder)

Bidder, and that _____, as Surety, a corporation organized and
(full name and principal business address of Surety)

existing under the laws of the state of _____, are held and firmly bound unto the PORTER COUNTY
STORM WATER MANAGEMENT BOARD, 155 Indiana Avenue, Valparaiso, Indiana 46383, as Owner,

in the penal sum of _____ Dollars (\$ _____),
(value of bond in words) (value of bond in figures)

for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators,
successors, and assigns, jointly and severally by these presents.

WHEREAS, Bidder has submitted a bid dated _____, 20____ to Owner for the project
designated as Carriage Lane Road – Storm Sewer and Roadway Improvements, the conditions of such submittal
are, by this reference, incorporated herein as though fully set forth herein.

NOW, THEREFORE, in accordance with the conditions of Bidder's submittal to Owner of the bid described above,
the condition of the obligation of this bond is such that, if: (1) Bidder, after receiving a notice of award from Owner,
delivers within ten days after receipt of the notice of award, or any extension thereof agreed to in writing by
Owner, the executed agreement and other contract documents requiring execution attached thereto, along with
the required contract security, certificates of insurance, and insurance policy endorsements, to Owner; or, (2)
Bidder's bid is rejected by Owner; or, (3) Owner fails to issue a notice of award to Bidder within 60 days after the
opening of bids, or for such longer period of time agreed to in writing by Bidder, then the obligation of this bond
shall be null and void; otherwise it shall remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that its obligation under this bond shall be in no way
impaired or affected by any extension of the 60 day period after the opening of bids within which Owner may
issue a notice of award to Bidder, and Surety does hereby consent to and waive notice of any such extension.

Upon default of Bidder, which shall occur upon the failure of Bidder, after receiving a notice of award from Owner,
to deliver within ten days after receipt of the notice of award, or any extension thereof agreed to in writing by
Owner, the executed agreement and other contract documents requiring execution attached thereto, along with
the required contract security, certificates of insurance, and insurance policy endorsements, to Owner, the penal
sum will become due and payable to Owner within 30 days after receipt by Bidder and Surety of a written notice
of default from Owner. Such notice will be given by Owner with reasonable promptness upon default of Bidder,
and will identify this bond and include a statement of the amount due. Payment of the penal sum represents the
extent of Bidder's and Surety's liability and receipt of such payment shall be Owner's sole and exclusive remedy
upon default of Bidder.

Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective principal business
addresses shown above. Such notices may be sent by personal delivery, commercial courier, or by registered or
certified mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the
concerned parties.

No suit or action shall be commenced under this bond prior to 30 days after a notice of default is received by
Bidder and Surety and in no case later than one year after the date of the bid described above. Any suit or action
commenced under this bond shall be taken only in a court of competent jurisdiction located in the state in which
the project described above is located.

This bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any
applicable statute that has been omitted from this bond shall be deemed to be included herein as though fully set

forth herein. If any provision of this bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this bond that is not in conflict therewith shall continue in full force and effect. Surety and Bidder, intending to be legally bound hereby, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

SIGNED AND SEALED ON: _____, 20_____, BY:

BIDDER:

Bidder's Name: _____ (SEAL)

By: _____
(Signature)

Printed Name: _____

Title: _____

Attest: _____

SURETY:

Surety's Name: _____ (SEAL)

By: _____
(Signature)

Printed Name: _____

Title: _____

Attest: _____



NOTICE OF AWARD

To: [SUCCESSFUL BIDDER]
From: Porter Co. Dept. of Development & Storm Water Management
Date: [DATE]
Subject: Carriage Lane Road – Storm Sewer and Roadway Improvements
Construction Services

You are hereby notified that your bid dated [DATE], for the project designated as **Carriage Lane Road – Storm Sewer and Roadway Improvements** was accepted at the [MONTH] [DAY], [YEAR], meeting of the Porter Co. Storm Water Management Board. You are the successful bidder and are hereby awarded a contract for the project.

The value of your contract is [CONTRACT VALUE], which represents the initial contract price.

Two copies of the agreement and one complete set of the contract documents, including the construction plans, accompany this notice of award.

You must comply with the following conditions within ten days after receipt of this notice of award:

1. Sign and deliver to Department two partially executed copies of the agreement and two fully executed copies of the other contract documents requiring execution attached thereto.
2. Deliver to Department the required contract security, certificates of insurance, and insurance policy endorsements, as required by the Instructions to Bidders (Article 27) and General Specifications (Article 107.20), and a signed E-Verify Affidavit & Certification Regarding Investments in Iran, as required by the Instructions to Bidders (Article 28).

Failure to comply with these conditions within the time specified will permit the Department to consider you to be in default, annul this notice of award, and retain or recover your bid security.

DEPARTMENT

By: _____
(Signature)

Printed Name: _____

Title: _____

Enclosure(s)



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CONSTRUCTION SERVICES AGREEMENT
between
PORTER CO. DEPARTMENT OF DEVELOPMENT &
STORM WATER MANAGEMENT
and
[NAME OF SUCCESSFUL RESPONDENT]
for
CARRIAGE LANE ROAD
STORM SEWER AND ROADWAY IMPROVEMENTS

This is an agreement by and between the PORTER COUNTY DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT, 155 Indiana Ave., Ste. 311, Valparaiso, Indiana 46383 (hereinafter called Owner) and [SUCCESSFUL RESPONDENT], [SUCCESSFUL RESPONDENT'S ADDRESS] (hereinafter called Contractor), for the project designated as Carriage Lane Road - Storm Sewer and Roadway Improvements.

1. Project

The project, for which the work described in the contract documents may be the whole or only a part, is generally described as follows:

This project consists of the installation of new storm water infrastructure, including storm sewer and storm sewer structures to address long-standing drainage and flooding issues affecting the area along Carriage Lane Road.

The project includes the installation of storm sewers, via open trench construction including excavation, placing bedding and haunching, laying storm sewer pipe, placing initial backfill, placing final backfill, shaping, trimming and finishing, and cleaning, inspecting, and testing; installation of storm sewer structures, including excavation, placing bedding, setting precast reinforced concrete storm sewer structures, placing adjusting rings and castings, backfilling, shaping, trimming, and finishing, and cleaning; and, the partial reconstruction of Carriage Lane Road, which will be disturbed during performance of the work. Excess excavated material generated during the performance of the work shall be disposed of off-site, at an appropriate and, if applicable, properly permitted off-site location.

The project also includes other items incidental to the work, including clearing and tree removal, maintenance of traffic, erosion and sediment control, and the restoration of areas disturbed during the performance of the work. The work includes the carrying out of all duties and obligations and the furnishing of all labor, material, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project.

2. Work

Contractor shall perform all work specified or indicated in the contract documents for the contract price and within the contract times indicated therein and in accordance with all other terms and conditions of the contract documents. The work, which is described in detail in the contract documents, is generally described as follows:

This project generally consists of the following: installation of new storm sewer and complete roadway reconstruction along Carriage Lane Road, between North 550 East and the west end of Carriage Lane Road. The project also includes other items incidental to the work, including maintenance of traffic, erosion control, and the restoration of areas disturbed during the performance of the work. The work includes the carrying out of all duties and obligations and the furnishing of all labor, material, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project.

3. Contract Times

Contractor shall complete all work in accordance with terms and conditions of the contract documents within the dates and times determined pursuant to Paragraphs 3(a), 3(b), and 3(c) below.

- (a) Time is of the Essence. All dates and times for milestones, substantial completion, and final completion and readiness for final payment described in the contract documents are of the essence of this agreement.
- (b) Dates for Substantial Completion and Final Completion. The work shall be substantially completed, as described in Article 105.17 of the General Specifications, by October 31, 2024, or before, and shall be completed and ready for final payment, as described in Article 109.09 of the General Specifications, 30

days, or as soon as possible, thereafter. Acceptance of and payment for the work shall occur in accordance with the applicable provisions of the contract documents.

Substantial completion shall mean that all storm water and drainage infrastructure, including all storm sewer and storm water structures, to be removed or abandoned in place has been removed or abandoned in place, all storm water and drainage infrastructure, including all storm sewers, underdrains, and storm water structures, to be constructed has been constructed, all subgrade to be treated has been treated, all subbase to be installed has been installed to line, grade, and elevation, all curb and gutter to be constructed has been constructed, all concrete driveways to be constructed has been constructed, and all hot mix asphalt to be placed has been placed. Final completion shall mean that all work has been completed and that all disturbed areas requiring vegetative cover has been permanently stabilized.

- (c) Liquidated Damages. Contractor recognizes that time is of the essence of this agreement, as stated in Paragraph 3(a) above, and that Owner will suffer financial loss if the work is not completed within the dates and times specified in Paragraph 3(b) above, or any extensions thereof agreed to in writing by Owner in accordance with Article 108.11 of the General Specifications. Contractor and Owner also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the work is not completed within the dates and times specified in Paragraph 3(b) above, or any extensions thereof agreed to in writing by Owner. Accordingly, Contractor and Owner agree that Contractor shall pay Owner, as liquidated damages, but not as a penalty, the amount shown in the schedule of deductions provided in Article 108.12 of the General Specifications for each day that expires after the date and time specified in Paragraph 3(b) above for substantial completion, or any extensions thereof agreed to in writing by Owner, until the work is complete.

Following substantial completion of the work, if Contractor shall neglect, refuse, or fail to complete the remaining work by the date and time specified in Paragraph 3(b) above for final completion, or any extensions thereof agreed to in writing by Owner, Contractor and Owner agree that Contractor shall pay Owner, as liquidated damages, but not as a penalty, the amount shown in the schedule of deductions provided in Article 108.12 of the General Specifications for each day that expires after the date and time specified in Paragraph 3(b) above for final completion, or any extensions thereof agreed to in writing by Owner, until the work is complete and ready for final payment.

4. Contract Price

Owner shall pay Contractor for all work completed in accordance with terms and conditions of the Contract Documents an amount determined pursuant to Paragraphs 4(a), 4(b), and 4(c) below.

- (a) Owner shall pay Contractor for all quantities of work completed in accordance with terms and conditions of the Contract Documents at the unit prices stated on the Contractor's Bid Form, which, as specified in Paragraph 7 below, is attached as a Contract Document. The Contractor's Total Bid of [TOTAL BID], which is stated on the Contractor's Bid Form, represents the initial Contract Price of [CONTRACT PRICE].
- (b) The estimated quantities of work stated on the Basis of Bid Form and the Contract Price set forth above are not guaranteed and are provided herein for the purposes of establishing pay item unit prices and the initial Contract Price. In accordance with the Contract Documents, payment to Contractor will be based upon the actual quantities of work performed by Contractor, the acceptance of such work and the determination of such quantities to be made by the Owner in accordance with the Contract Documents.

5. Payment Procedures

Owner shall pay Contractor for all work completed in accordance with terms and conditions of the Contract Documents in accordance with the procedures described below.

- (a) Progress Payment Requests. During performance of the work, Contractor shall submit to Owner, on approximately a monthly basis, applications for payment prepared in accordance with Article 109.08 of the General Specifications. Applications for payment will be processed by the Owner in accordance with the applicable provisions of the Contract Documents.

- (b) Progress Payments and Retainage. During performance of the work, in response to Contractor's applications for payment, Owner shall make, on approximately a monthly basis, progress payments, as described in Paragraph 5(b)(1) below, to Contractor. All such progress payments will be made based upon the actual quantities of work completed in accordance with terms and conditions of the Contract Documents and upon the Contractor's schedule of values prepared in accordance with Article 108.02 of the General Specifications.
- (1) Prior to substantial completion of the work, progress payments will be made in an amount equal to the value of 90 percent (90%) of the work completed, less the sum of payments previously made and less such amounts as Owner may withhold in accordance with Article 109.08 of the General Specifications, including, but not limited to, liquidated damages.
- (2) Upon substantial completion of the work, Owner shall pay Contractor an amount sufficient to increase the sum of the payments made to Contractor to the value of 100 percent (100%) of the work completed, less such amounts as Owner may withhold in accordance with Article 109.08 of the General Specifications, including, but not limited to, liquidated damages, and less 200 percent (200%) of the estimated value of any work to be completed or corrected before final inspection and payment, as shown on the list of such items attached to the certificate of substantial completion.
- (c) Final Payment. Upon final completion of the work, as described in Article 109.09 of the General Specifications, Contractor shall submit to Owner a final application for payment prepared in accordance with Article 109.09 of the General Specifications. In response to Contractor's final application for payment, Owner shall pay Contractor an amount equal to the total value of the work completed for which payment has not yet been made, less such amounts as Owner may withhold in accordance with Article 109.08 of the General Specifications, including, but not limited to, liquidated damages. At the time of final payment, any retainage withheld from payments previously made will also become due and payable to Contractor.

6. Contractor's Representations

In entering into this Agreement, Contractor makes the following representations:

- (a) Contractor has examined and carefully studied the Contract Documents and other related data identified in the Contract Documents.
- (b) Contractor has visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, and performance of the work.
- (c) Contractor is familiar with and is satisfied as to all laws and regulations that may affect cost, progress, and performance of the work.
- (d) Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the site; information and observations obtained from visits to the site; and the Contract Documents, with respect to the effect of such information, observations, and documents on: (1) the cost, progress, and performance of the work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and, (3) Contractor's safety precautions and programs.
- (e) Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the work at the Contract Price and within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- (f) Contractor has given Owner written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Owner is acceptable to Contractor.
- (g) Contractor is familiar with and is satisfied with the general nature of the work to be performed by Owner or others at the site, as described in the Contract Documents, as a part of the project.

- (h) The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the work.

7. Contract Documents

The Contract Documents consist of the following, which are attached hereto:

- (a) Contract (i.e., this Agreement).
- (b) Contract Security:
 - (1) Performance Bond; and,
 - (2) Payment Bond.
- (c) General Specifications to the Construction & Maintenance Services Agreements.
- (d) Construction Plans for Carriage Lane Road – Storm Sewer and Roadway Improvements.
- (e) Technical Specifications for Carriage Lane Road – Storm Sewer and Roadway Improvements.
- (f) Special Provisions for Carriage Lane Road – Storm Sewer and Roadway Improvements.
- (g) Addendum #____.
- (h) Contractor's Bid Form.
- (i) Contractor's Basis of Bid Form.
- (j) Contractor's Subcontractor and Supplier Form.

and the following, which may be issued or delivered on or after the effective date of the agreement and, consequently, are not attached hereto:

- (k) Notice to Proceed.
- (l) Work Change Directives.
- (m) Change Orders.

The contract documents may only be amended, modified, or supplemented as provided for in Article 104.02 of the General Specifications.

8. Contractor's Certifications

Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing this contract. For the purposes of this Paragraph 8:

- (a) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in execution of the contract;
- (b) "fraudulent practice" means an intentional misrepresentation of facts made: (a) to influence the bidding process or the execution of the contract to the detriment of Owner; (b) to establish bid or contract prices at artificial non-competitive levels; or, (c) to deprive Owner of the benefits of free and open competition;
- (c) "collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of Owner, a purpose of which is to establish bid or contract prices at artificial, non-competitive levels; and,

- (d) “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the contract.

9. Miscellaneous

The following terms and conditions are hereby made a part of this agreement:

- (a) Terms. Terms used in this agreement have the meanings indicated in the contract documents and shall have such defined meanings wherever used.
- (b) Assignment of Contract. No assignment by a party hereto of any rights under or interests in the contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the contract documents.
- (c) Successors and Assigns. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the contract documents.
- (d) Severability. Any provision or part of the contract documents held to be void or unenforceable under any laws or regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the contract documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All of the Contract Documents have been identified by Owner and reviewed and, if applicable, signed, by Owner and Contractor or on their behalf.

This Agreement will be effective on the date on which the agreement is signed by the last of the two parties to sign the Agreement, but not later than [MONTH] [DAY], [YEAR] the earliest of which shall be the effective date of the Agreement.

OWNER:
PORTER CO. STORM WATER MANAGEMENT
BOARD

CONTRACTOR:
[SUCCESSFUL BIDDER]

Date: _____

Date: _____

By: Jim Biggs

By: _____

Title: County Commissioner

Title: _____

By: Barb Regnitz

Title: County Commissioner

By: Laura Blaney

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Title: County Commissioner

By: Kevin Breitzke

Title: County Surveyor

Address for giving notices:

Porter Co. Dept. of Development & Storm Water
Management

155 Indiana Ave., Ste. 311

Valparaiso, Indiana 46383

Address for giving notices:

PERFORMANCE BOND FORM

KNOW ALL MEN BY THESE PRESENTS, THAT _____, as
(full name and principal business address of Bidder)

Contractor, and that _____, as Surety, a corporation organized and
(full name and principal business address of Surety)

existing under the laws of the state of _____, are held and firmly bound unto the PORTER COUNTY
STORM WATER MANAGEMENT BOARD, 155 Indiana Avenue, Valparaiso, Indiana 46383, as Owner,

in the penal sum of _____ Dollars (\$ _____),
(value of bond in words) (value of bond in figures)

for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally by these presents.

WHEREAS, Contractor has entered into an agreement with Owner for the project designated as Carriage Lane Road – Storm Sewer and Roadway Improvements, the effective date of such agreement being _____, 20____, the terms and conditions of such agreement are, by this reference, incorporated herein as though fully set forth herein.

NOW, THEREFORE, the condition of the obligation of this bond is such that, if Contractor shall well and truly perform or otherwise comply with the terms and conditions of the contract documents, then the obligation of this bond shall be null and void; otherwise it shall remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that its obligation under this bond shall be in no way impaired or affected by any change to the contract documents, including changes to the contract times, and Surety does hereby consent to and waive notice of any such change.

Upon default of Contractor, which shall occur upon the failure of Contractor to perform or otherwise comply with the terms and conditions of the contract documents, Owner shall provide written notice to Contractor and Surety of such default. Such notice will be given by Owner with reasonable promptness upon default of Contractor and will identify this bond and specify the corrective measures required. If Contractor, within a period of ten days after receipt by Contractor of such written notice of default, shall not proceed according to such notice, Owner shall have full power and authority to forfeit the rights and obligations of Contractor under the agreement described above and, at its sole discretion: (1) call upon Surety to complete the work; or, (2) take over the work, including all materials and equipment on the ground as may be suitable or acceptable, and complete it with its own forces, or use other such methods that, in its opinion, may be required to complete the work in an acceptable manner. Upon termination of the rights and obligations of Contractor, Owner shall, with reasonable promptness, provide Contractor and Surety a written notice of termination for default, which will identify this bond and specify whether Surety or Owner is to complete the work.

When Owner issues a written notice of termination for default and calls upon Surety to complete the work, Surety shall within 30 days after receipt by Surety of such notice, and at Surety's expense, take over the work, including all materials and equipment on the ground as may be suitable or acceptable, and employ by contract or otherwise any person or entity satisfactory to the Owner to complete the work in a manner consistent with the contract documents. Such transfer, from Contractor to Surety, of the rights and obligations to complete the work, shall not terminate or otherwise alter the agreement described above nor shall the employment by Surety of any person or entity to complete the work relieve Surety of its obligation under this bond nor its obligation to perform or otherwise comply with the terms and conditions of the contract documents. Payment for work performed subsequent to the transfer, from Contractor to Surety, of the rights and obligations to complete the work, shall be made by Owner to Surety, to the limit of the balance of the contract price, which is the total amount payable by Owner to Contractor after all proper adjustments have been made (i.e., contract price), reduced by all valid and proper payments made to Contractor in accordance with the contract documents.

When Owner issues a written notice of termination for default and takes over and completes the work, payment shall be made by Surety to Owner for all costs incurred by Owner in completing the work to the limit of the value of this bond.

After Owner has terminated the rights and obligations of Contractor to complete the work, the responsibilities of Surety to Owner shall not be greater than those of Contractor under the agreement, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the agreement. To the limit of the value of this bond, Surety is obligated for: (1) correction of defective work and completion of the work in a manner consistent with the contract documents; (2) legal, design, inspection, and other costs resulting from Contractor's default and/or resulting from the actions of Surety or Surety's failure to act; and, (3) liquidated damages. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the agreement described above. No right of action shall accrue on this bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

Notices required hereunder shall be in writing and sent to Contractor and Surety at their respective principal business addresses shown above. Such notices may be sent by personal delivery, commercial courier, or by registered or certified mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the concerned parties.

No suit or legal action shall be commenced under this bond prior to ten days after a written notice of default is received by Contractor and Surety and in no case later than two years after the effective date of agreement described above. Any suit or legal action commenced under this bond shall be taken only in a court of competent jurisdiction located in the state in which the project described above is located.

This bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this bond shall be deemed to be included herein as though fully set forth herein. If any provision of this bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this bond that is not in conflict therewith shall continue in full force and effect.

Contractor and Surety, intending to be legally bound hereby, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

SIGNED AND SEALED ON: _____, 20_____, BY:

CONTRACTOR:

Contractor's Name: _____ (SEAL)

By: _____
(Signature)

Printed Name: _____

Title: _____

Attest: _____

SURETY:

Surety's Name: _____ (SEAL)

By: _____ (Attach Power of Attorney)
(Signature)

Printed Name: _____

Title: _____

Attest: _____

PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS, THAT _____, as
(full name and principal business address of Bidder)

Contractor, and that _____, as Surety, a corporation organized and
(full name and principal business address of Surety)

existing under the laws of the state of _____, are held and firmly bound unto the PORTER COUNTY
STORM WATER MANAGEMENT BOARD, 155 Indiana Avenue, Valparaiso, Indiana 46383, as Owner,

in the penal sum of _____ Dollars (\$ _____),
(value of bond in words) (value of bond in figures)

for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators,
successors, and assigns, jointly and severally by these presents.

WHEREAS, Contractor has entered into an agreement with Owner for the project designated as Carriage Lane
Road – Storm Sewer and Roadway Improvements, the effective date of such agreement being
_____, 20____, the terms and conditions of such agreement are, by this reference,
incorporated herein as though fully set forth herein.

NOW, THEREFORE, the condition of the obligation of this bond is such that, if: (1) Contractor shall promptly make
payment, directly or indirectly, for all sums due to any person or entity who furnished labor, material, or equipment
for use in the performance of the work, whether or not said labor, material, or equipment becomes a component part
of the work; and, (2) Contractor shall indemnify, save harmless, and defend Owner against any and all claims,
demands, liens, and lawsuits alleging non-payment by Contractor by any person or entity who furnished labor,
material, or equipment for use in the performance of the work, then the obligation of this bond shall be null and void;
otherwise it shall remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that its obligation under this bond shall be in no way
impaired or affected by any change to the contract documents, including changes to the contract times, and Surety
does hereby consent to and waive notice of any such change.

Upon default of Contractor, which shall occur upon the failure of Contractor to promptly make payment for all sums
due to any persons or entities who furnished labor, material, or equipment for use in the performance of the work,
such persons or entities who have not received payment for all sums due (i.e., Claimants) shall provide written
notice to Contractor, with a copy to Surety and Owner, that a claim is being made. Such notice shall be given by
Claimant within 90 days after having last furnished labor, material, or equipment for use in the performance of the
work and shall, with substantial accuracy, state the amount of the claim and the name of the party to whom the
labor, material, or equipment were furnished.

If Contractor, within a period of 30 days after receipt of a claim, does not respond to such claim or rejects such claim
in whole or in part, such Claimant shall provide written notice to Surety, with a copy to Owner, that a claim is being
made under this bond. Such notice shall identify this bond and include a copy of the written notice previously
furnished to Contractor.

When a Claimant has satisfied the conditions described above, Surety shall within 45 days after receipt of a claim,
and at Surety's expense, take the following actions: (1) send a response to such Claimant, with a copy to Owner,
stating the amounts that are undisputed and disputed and the basis for challenging any amounts that are disputed;
and, (2) pay or arrange for payment of any undisputed amounts.

Upon request of any person or entity appearing to be a potential beneficiary of this bond, Contractor shall promptly
furnish a copy of this bond or shall permit a copy to be made.

The total amounts payable by Owner to Contractor (i.e., contract price) shall be used to perform or otherwise comply
with the terms and conditions of the contract documents and to satisfy claims, if any, under the Performance Bond.
By Contractor furnishing and Owner accepting this bond, they agree that all funds earned by Contractor for

performing or otherwise complying with the terms and conditions of the contract documents shall be used satisfy obligations of Contractor and Surety under this bond.

Surety's responsibility shall not exceed the value of this bond. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the agreement described above. Owner shall not be liable for payment of any costs or expenses of any Claimant under this bond, and shall have, under this bond, no obligation to make payments to, give notices on behalf of, or otherwise have obligations to claimants under this bond.

Notices required hereunder shall be in writing and sent to Contractor, Surety, and Owner at their respective principal business addresses shown above. Such notices may be sent by personal delivery, commercial courier, or by registered or certified mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the concerned parties.

No suit or legal action shall be commenced under this bond prior to 45 days after receipt, by Surety, of a written notice that a claim is being made under this bond and in no case later than two years after the effective date of agreement described above. Any suit or legal action commenced under this bond shall be taken only in a court of competent jurisdiction located in the state in which the project described above is located.

This bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this bond shall be deemed to be included herein as though fully set forth herein. If any provision of this bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this bond that is not in conflict therewith shall continue in full force and effect.

Contractor and Surety, intending to be legally bound hereby, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

SIGNED AND SEALED ON: _____, 20_____, BY:

CONTRACTOR:

Contractor's Name: _____ (SEAL)

By: _____
(Signature)

Printed Name: _____

Title: _____

Attest: _____

SURETY:

Surety's Name: _____ (SEAL)

By: _____ (Attach Power of Attorney)
(Signature)

Printed Name: _____

Title: _____

Attest: _____

GENERAL SPECIFICATIONS
TO THE
CONSTRUCTION & MAINTENANCE SERVICES AGREEMENTS

PORTER CO. DEPARTMENT OF DEVELOPMENT & STORM WATER MANAGEMENT

FEBRUARY 1, 2024

The following General Specifications apply to and shall govern the Construction and Maintenance Services Agreements.

**DIVISION 100
GENERAL REQUIREMENTS AND COVENANTS**

**SECTION 101
DEFINITION OF TERMS**

Wherever in these specifications, or in other contract documents, the following terms, or pronouns in place of them, are used, the intent and meaning shall be interpreted as follows.

101.01 Abbreviations. Wherever the following abbreviations are used in these specifications, or in other contract documents, they are to be construed the same as the respective expressions represented.

ANSI	American National Standards Institute
ASA	American Standards Association
ASTM	ASTM International
FSS	Federal Specifications and Standards
GSA	General Services Administration
IDEM	Indiana Department of Environmental Management
INDOT	Indiana Department of Transportation
IDNR	Indiana Department of Natural Resources
ISO	Insurance Services Office
NIST	National Institute of Standards and Technology
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
UL	Underwriters Laboratories
USASI	United States of America Standards Institute
USDA	United States Department of Agriculture
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

101.02 Advertisement. The public announcement, as required by law, inviting bids or requesting quotes for work to be performed.

101.03 Agreement. The written instrument which is evidence of the agreement between the Department and the Contractor covering the work.

101.04 Application for Payment. The form acceptable to the Department which is to be used by the Contractor during the performance of the work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the contract documents.

101.05 Award. The decision of the Department, in the form of a notice of award, to accept the bid or quote of the lowest responsible bidder or respondent for the work, subject to the execution of a contract satisfactory to the Department, receipt of bonds to secure the performance thereof, and compliance with such other conditions as may be specified or otherwise required by law.

101.06 Awarding Authority. The Porter County Storm Water Management Board.

101.07 Bid. The offer of a bidder, on the prescribed form, to perform the work and to furnish the labor and materials at the prices quoted.

101.08 Bid Security. The security furnished with a bid to guarantee the bidder will enter into a contract if the bid is accepted.

101.09 Bidder. Any individual, firm, partnership, or corporation submitting a bid for the work contemplated, acting directly or through a duly authorized representative.

101.10 Calendar Day. Every day shown on the calendar.

101.11 Cataclysmic Event. An occurrence, caused exclusively by any of the irresistible forces of nature that is an unexpected, singular event without continued, persistent existence, or that is irregularly predictable. The event must occur without the involvement of human causative action, and must not be preventable or capable of substantial limitation in its impact by application of human care, skill, or foresight. Cataclysmic events include earthquakes, floods, flash floods of surface water caused by heavy rains and storm water runoff, tornadoes, or other cataclysmic phenomena of nature. A flood, defined as water elevation in excess of the channel capacity of a river, stream, or other body of water, is not a cataclysmic event, unless the flood water elevation exceeds the 100-year flood elevation as defined in the contract.

101.12 Change Order. A document issued by the Engineer, and signed by both the Contractor and the Department, on or after the effective date of the agreement, which authorizes an addition, deletion, or revision in the work that requires an adjustment in the contract price or contract times.

101.13 Claim. A demand or assertion by the Department or the Contractor seeking an adjustment of contract price or contract times, or both, or other relief with respect to the terms of the contract.

101.14 Contract. The written agreement between the Department and the Contractor setting forth the obligations of the parties thereunder, including, but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment. The contract includes those items designated as contract documents in the agreement, all of which constitute one instrument.

101.15 Contract Security. The approved form of security furnished by the Contractor and his/her surety as a guaranty that the Contractor will execute the work according to the terms of the contract.

101.16 Contract Documents. Those items designated as such in the agreement. Only printed or hard copies of the items listed in the agreement shall be considered contract documents.

101.17 Contract Price. The monies payable by the Department to the Contractor for completion of the work in accordance with the contract documents, as stated in the agreement, subject to any provisions of the contract documents related to unit price work.

101.18 Contract Times. The number of days or the dates, as stated in the agreement, to achieve milestones, if any, achieve substantial completion, and complete the work so that it is ready for final payment as evidenced by the Engineer's recommendation of final payment.

101.19 Contractor. The individual, firm, partnership, joint venture, or corporation contracting with the Department for performance of prescribed work.

101.20 Day. Calendar day.

101.21 Department. The Porter County Department of Development and Storm Water Management.

101.22 Effective Date of the Agreement. The date indicated in the agreement on which it becomes effective, but if no such date is indicated, it means the date on which the agreement is signed by the last of the two parties to sign the agreement.

101.23 Engineer. The Porter County Engineer or his or her authorized representative.

101.24 Equipment. All machinery and equipment, together with those supplies necessary for upkeep and maintenance of such machinery and equipment, and all tools and apparatus necessary for the proper construction and acceptable completion of the work.

101.25 Extra Work. An item of work not provided for in the contract as awarded but found essential and germane to the satisfactory completion of the contract within its intended scope as determined by the Engineer.

101.26 Field Order. A written order issued on or after the effective date of the agreement by the Engineer, and signed by both the Contractor and the Department, which requires minor changes in the work but which does not involve a change in the contract price or contract times.

101.27 Inspector. An authorized representative of the Engineer assigned to make a detailed inspection of any or all portions of the work.

101.28 Instructions to Bidders. The document describing the Department's rules and procedures for advertising, awarding, and executing contracts for all work on which bids are required. Such instructions will indicate, with reasonable accuracy, the type, location, and quantity of work to be performed.

101.29 Invitation for Bids. The advertisement inviting bids for all work on which bids are required. Such invitation will indicate the time and place of the opening of bids.

101.30 Laboratory. Any testing laboratory which may be designated as the testing laboratory of the Department.

101.31 Laws and/or Regulations. Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction over the project.

101.32 Materials. Any substances specified for use in the construction of the project and its appurtenances.

101.33 Notice to Proceed. A written notice given by the Department to the Contractor fixing the date on which the contract times will commence to run and on which the Contractor shall start to perform the work required under the contract documents.

101.34 Owner. The Porter County Department of Development and Storm Water Management.

101.35 Pay Item. A specifically described unit of work for which a price is provided in the contract.

101.36 Plans. The construction plans, or exact reproductions thereof, that show the location, character, dimensions, and details of the work to be performed. Construction plans include, but are not limited to, those plans, profiles, cross sections, details, working drawings, supplemental drawings, and referenced standards approved by the Department.

101.37 Progress Schedule. A schedule, prepared and maintained by the Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the work within the contract times.

101.38 Project. The total construction, of which the work to be performed under the contract documents may be the whole or a part.

101.39 Quote. The offer of a respondent, on the prescribed form, to perform the work and to furnish the labor and materials at the prices quoted.

101.40 Resident Project Representative. The authorized representative of the Department serving as the Department's liaison with the Contractor, providing the Contractor with information regarding the intent of the contract documents and obtaining additional details and information from the Engineer when required for proper execution of the work.

101.41 Samples. Physical examples of materials, equipment, or workmanship that are representative of some portion of the work and which establish the standards by which such portion of the work will be evaluated.

101.42 Schedule of Submittals. A schedule, prepared and maintained by the Contractor, of the submittals required to support the performance of the work and the time requirements associated with the review and approval or acceptance of such submittals.

101.43 Schedule of Values. A schedule, prepared and maintained by the Contractor, allocating portions of the contract price to various portions of the work, and used as the basis for reviewing the Contractor's applications for payment.

101.44 Site. Lands or areas indicated in the contract documents as being furnished by the Department upon which the work is to be performed, including easements for access thereto, and such other lands furnished by the Department which are designated for the use of the Contractor.

101.45 Special Provisions. Additions and revisions to the general and supplemental specifications covering conditions peculiar to an individual contract.

101.46 Specifications. The body of directions, provisions, and requirements contained herein, or in any supplement adopted by the Department, together with written agreements and all documents of any description made or to be made pertaining to the method or manner of performing and paying for the work, the quantities, and the quality of materials to be furnished under the contract.

101.47 Structure. Unless otherwise defined in the specifications, structures shall include all objects constructed, in whole or in part, of materials other than earth, and required by the contract to be built or removed.

101.48 Subcontractor. An individual, firm, partnership, or corporation who, with the written consent of the Department, assumes obligation for performing specified work.

101.49 Substantial Completion. The time at which the work has progressed to the point where, in the opinion of the Engineer, the work is sufficiently complete, in accordance with the contract documents, such that the work can be utilized for the purposes for which it is intended.

101.50 Supplier. A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with the Contractor or with any subcontractor to furnish materials or equipment to be incorporated into the work by the Contractor or any subcontractor.

101.51 Surety. The corporation, partnership, or individual, other than the Contractor, executing the contract security.

101.52 Utility. The privately, publicly, municipally, or cooperatively owned line, facility, or system for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, or wastewater. Utility shall also mean the utility company, inclusive of any wholly owned or controlled subsidiary.

101.53 Work. Work shall mean the furnishing of all labor, materials, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project and the carrying out of all duties and obligations imposed by the contract. Work may also be used in context to described, in whole or in part, the completed facilities to be constructed, altered, or removed, as detailed in the contract. The Department will have the exclusive authority to determine the intent and meaning of the usage of this term wherever it appears in the contract.

101.54 Work Change Directive. A written statement issued by the Engineer, and signed by both the Contractor and the Department, on or after the effective date of the agreement ordering an addition, deletion, or revision in the work, or responding to differing or unforeseen subsurface or physical conditions or to emergencies. A work change directive does not change the contract price or contract times, but is evidence that the parties expect that the change ordered by the work change directive will be incorporated in a subsequently issued change order following negotiations by the parties as to its effect, if any, on the contract price or contract times.

SECTION 102
ADVERTISEMENT, AWARD, AND EXECUTION OF THE CONTRACT

102.01 Procedures for Advertisement, Award, and Execution of the Contract

The procedures for the advertisement, award, and execution of the contract shall be in accordance with the rules of the Department. The instructions to bidders or request for quotes shall have been prepared in accordance with such rules. The Contractor shall comply with all such rules and procedures described in the instructions to bidders or request for quotes.

SECTION 103
[RESERVED]

SECTION 104
SCOPE OF WORK

104.01 Intent of the Contract

The intent of the contract documents is to prescribe a complete outline of the work which the Contractor is to complete but is not so detailed as to identify minor additional, extra, and incidental items as may be necessary to complete the work in full compliance with the plans and specifications to the intended finished lines, grades, elevations, and dimensions. All construction required to complete the work in full compliance with the contract documents shall be performed by the Contractor whether or not specifically identified in the plans and specifications. The Contractor shall perform all earthwork, construct all structures, and complete such additional, extra, and incidental construction as may be necessary to complete the work to the finished lines, grades, elevations, and dimensions in an acceptable manner. The Contractor shall furnish all required materials, equipment, tools, labor, and incidentals, unless otherwise provided for in the contract, and shall include the cost of these items in the unit prices bid for the work. The quantities appearing in the invitation to bid or request for quotes are estimates prepared for the purposes of comparison of bids or quotes, establishment of pay item prices, and determination of an initial contract price. Payment to the Contractor will be made for the actual quantities of work performed, the acceptance of such work and the determination of such quantities to be made by the Department in accordance with the contract documents, and the scheduled quantities may be increased, decreased, or omitted and the contract price adjusted as provided herein.

Under no circumstances shall the Contractor exceed any established pay item quantity without notification to the Department and receipt of written authorization as provided herein.

104.02 Amending and Supplementing the Contract

The Department reserves the right to amend the contract and to modify the terms and conditions thereof prior to and during the performance of the work. All modifications that significantly change the character of the work and require a change in the contract price or contract times will be authorized by a work change directive and a change order issued by the Engineer and authorized by the Department. All adjustments to the contract price will be made according to the provisions of Article 104.03 and all adjustments to the contract times will be made according to the provisions of Article 108.11. Such modifications shall not invalidate the contract nor release the surety, and the Contractor shall promptly perform the work in accordance with the contract, as amended.

The Department also reserves the right to supplement the contract to provide for clarifications and interpretation thereof. Such supplemental information shall not significantly change the character of the work or require a change in the contract price or contract times. Supplemental information will be provided to the Contractor through field orders issued by the Engineer, written interpretations or clarifications provided by the Engineer, the Engineer's issuance of shop, working, or layout drawings, the Engineer's approval of shop, working, or layout drawings according to the provisions of Article 105.04, or the Engineer's approval of samples and test results according to the provisions of Article 106.04. Such supplemental information shall not invalidate the contract nor release the surety, and the Contractor shall promptly perform the work in accordance with the contract as supplemented.

104.03 Alterations, Cancellations, Deductions, Extensions, and Extra Work

The Department reserves the right to order, in writing, at any time prior to or during the performance of the work, alterations to the work, changes in the quantities of work to be performed, including cancellations, deductions,

and extensions to the quantities of such work, and extra work to satisfactorily complete the project. Such alterations, changes, and inclusions shall not invalidate the contract nor release the surety, and the Contractor shall agree to perform the work as altered.

All alterations, cancellations, deductions, extensions, and extra work shall be authorized in writing by the Department. All such alterations, cancellations, deductions, extensions, and extra work will be ordered by a work change directive and a change order issued by the Engineer and authorized by the Department. Such work change directives and change orders shall establish the items of work involved and any adjustments to be made to the contract.

If the alterations, cancellations, deductions, extensions, or extra work significantly change the character of the work to be completed under the contract, an adjustment will be made to the contract. The basis for the adjustment shall be agreed upon by both the Contractor and the Department. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.

The term "significant change" shall apply only when the character of the work as altered differs materially in kind or nature from that involved or included in the original contract or when a major work item, defined as a work item whose original contract value exceeds ten percent (10%) of the total original contract value, is increased in excess of 125 percent (125%) or decreased below 75 percent (75%) of its original contract value.

If the alterations, cancellations, deductions, extensions, or extra work do not significantly change the character of the work to be performed under the contract, an adjustment will be made to the contract. The basis for the adjustment shall be as provided for below:

- (a) All increases in work items that appear in the original contract with unit prices will, except as provided under paragraph (d) below, be paid for at the unit prices specified in the original contract. Such additions will be added to the contract value. All decreases in work items that appear in the original contract with unit prices will be deducted from the contract value at the unit prices specified in the original contract. No allowance will be made for loss of anticipated profits resulting from an increase or decrease in the quantities of work to be performed.
- (b) Major work items, as defined above, which are increased to not more than 125 percent (125%) or decreased to not less than 75 percent (75%) of their original contract value will be paid for as specified in paragraph (a) above. Any adjustments made to the unit prices specified in the original contract for major work items which are increased to more than 125 percent (125%) of their original contract value (i.e., significant change) shall only apply to that portion of the major work item performed in excess of 125 percent (125%) of the original contract value. Any adjustments made to the unit prices specified in the original contract for major work items which are decreased to less than 75 percent (75%) of their original contract value (i.e., significant change) shall apply to the actual amount of the major work item performed.
- (c) Extra work items which are not included in the original contract and are not included in other items of the work will be paid for according to Article 109.05.
- (d) Work items that appear in the original contract with unit prices which, for any one or more of the following reasons, experience a material increase or decrease in the cost to perform such work, provided that the reasons for such material increase or decrease in the cost to perform such work are not included in the other items of the work, will be paid for according to Article 109.05. Such reasons include:
 - (1) Work involving a substantial change of location.
 - (2) Work which differs in design.
 - (3) Work requiring a change in the type of construction.
- (e) In cases where the Department cancels or alters any portion of the work, work items which are partially completed will be paid for as specified in Article 109.07.

Claims for alterations to the work, changes that result in an increase or decrease in the quantities of work to be performed, and extra work that have not been authorized in writing by the Department will be rejected.

104.04 Use of Site

Land and access thereto required for construction, temporary construction facilities, and the storage of materials and equipment to be incorporated into the work are located on the site, and the Contractor shall confine such construction, temporary construction facilities, and the storage of materials and equipment to such site. If the Contractor should wish to use another area for the erection of temporary construction facilities, the storage of materials and equipment, or other purposes, he or she shall obtain written approval from the owner of such property and present such written approval to the Department prior to using such area. The Contractor shall not unreasonably encumber the site or other areas with construction facilities, materials, or equipment. In accordance with Article 107.15, the Contractor shall take all necessary precautions for the protection of the site and other areas during the prosecution of the work and shall be responsible for any damage to the site or other areas resulting from the prosecution of the work.

104.05 Differing Site Conditions

At the time of submitting a bid or quote to the Department, Contractor made a final commitment to the Department with respect to contract price and contract times, and by becoming bound to such by executing an agreement with the Department, the Contractor represented that it did not consider that further examinations, investigations, explorations, tests, studies, or data were necessary to determine his or her ability to perform the work at the contract price and within the contract times and in accordance with the other terms and conditions of the contract. However, during the progress of the work, if latent subsurface or physical conditions differing materially from those indicated in the contract documents or of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract documents, are encountered at the site, the Contractor shall, promptly after becoming aware of such conditions and before further disturbing such conditions or performing any work in connection therewith, notify the Department in writing about such conditions. Such latent subsurface or physical conditions, may include, but not be limited to those listed below.

- (1) An underground obstruction which would prevent the installation of any part or detail of the work according to the lines, grades, elevations, and dimensions shown on the plans.
- (2) Unsuitable soil or subsurface conditions which would cause shifting of any part or detail of the work in any direction.
- (3) Any conditions which would affect the stability of any part or detail of the work or the ability of any part or detail of the work to support the loading to be placed upon it.

Upon written notification to the Department, the Engineer will investigate the conditions, and if he/she determines the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly. The Engineer will notify the Contractor and the Department of his/her determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice. No contract adjustment will be allowed for any effects caused on unchanged work.

The Contractor shall not be entitled to any contract adjustment if the Contractor knew of the existence of such latent subsurface or physical conditions at the time the Contractor made a final commitment to the Department with respect to contract price and contract times and became bound to such by executing an agreement with the Department or the existence of such conditions could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study conducted by or for the Contractor prior to the Contractor making such final commitment.

Any adjustment in contract price made because of a change or changes resulting from one or more the conditions described above will be made in accordance with Article 104.03. Any adjustment in contract times made because of such change or changes will be made in accordance with Article 108.11.

104.06 Rights In and Use of Materials Found on the Site

The Contractor, with the approval of the Department, may use on the work such stone, gravel, sand, or other materials determined suitable by the Department as may be found within the limits of the proposed construction, and will be paid both for the excavation of such materials at the corresponding contract unit price and for the pay item for which the excavated material is used. The Contractor shall replace, at no additional cost to the Department, with other acceptable material, all of that portion of the excavated material so removed and used which was needed for use in embankments, backfills, structures, or otherwise. No charge for the materials so used will be made against the Contractor. The Contractor shall not excavate or remove any material from within the site which is not within the limits of the proposed construction, as indicated by the slope and grade lines, without written authorization from the Department.

104.07 Site Clean Up

During the prosecution of the work, the Contractor shall maintain the site in a neat and presentable condition, free from debris and rubbish. The Contractor shall clean the site of all debris and rubbish at the end of each day's operations, and at other times as directed by the Department. The Contractor shall furnish the type and size of receptacles and equipment and conduct the work necessary to maintain the site and adjacent premises free from such debris and rubbish.

The cost incurred by the Contractor in complying with this requirement shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

104.08 Final Site Clean Up

Before final acceptance, all ground occupied or disturbed by the Contractor in connection with the work shall be cleaned of all rubbish, excess materials, temporary structures, and equipment, and all parts of the work shall be left in a neat and presentable condition.

The cost incurred by the Contractor in complying with this requirement shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

SECTION 105 CONTROL OF WORK

105.01 Authority of Engineer

All work of the contract shall be completed to the satisfaction of the Engineer. The Engineer will have authority to reject all work which the Engineer believes to be defective, or that the Engineer believes will not produce a completed project that conforms to the contract documents or will prejudice the integrity of the design concept of the completed project as a functioning whole. The Engineer will also have authority to require special inspection of the work by an inspector to evaluate its acceptability.

The decision of the Engineer shall be final on all questions which may arise regarding, but not limited to, the quality and acceptability of materials and work; the manner of performance; acceptable rates of progress on the work; the interpretation of the contract plans and specifications; the fulfillment of the contract; the measurement of quantities and payment under the contract; and the determination of the existence of changed or differing site conditions.

The Department will notify the Contractor in writing if the work is to be suspended wholly or in part due to the failure of the Contractor to carry out provisions of the contract or failure to carry out orders of the Engineer. The work may also be suspended at the Contractor's risk for such periods as the Engineer may deem necessary due to unsuitable weather; for conditions considered unsuitable for the prosecution of the work; or, for any other condition or reason deemed to be in the public interest.

The contract does not require the Engineer to provide the Contractor with direction or advice on how to do the work. If the Engineer approves or recommends any method or manner for doing the work, the approval or recommendation shall not guarantee that following the method or manner will result in compliance with the contract, relieve the Contractor of the risks and obligations of the contract, or create liability for the Engineer.

In case of failure on the part of the Contractor to execute work ordered by the Engineer, the Department may, at the expiration of a period of 48 hours after giving notice in writing to the Contractor, proceed to execute such work

as may be deemed necessary, and the cost thereof will be deducted from compensation due or which may become due the Contractor under the contract.

105.02 Duties of Engineer

The authority of the Engineer during performance of the work is set forth in Article 105.01. His or her duties and responsibilities during performance of the work are set forth below.

The Engineer will make visits to the site as he or she deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made in and the quality of the various aspects of the work. Based on information obtained during such visits and observations, the Engineer will determine, in general, if the work is proceeding in accordance with the contract documents. The Engineer will not be required to make exhaustive or continuous inspections of the site to check the quality or quantity of the work or to evaluate its acceptability. The Engineer will keep the Department informed of the progress of the work and will endeavor to guard the Department against defective work.

If it is determined to be in the best interest of the Department, the Department may furnish a Resident Project Representative to assist the Engineer in providing more extensive observation of the work. The duties of any such Resident Project Representative are described in Article 105.14, and the limitations on his or her authority are also provided therein.

In accordance with Article 105.01, all work of the contract shall be completed to the satisfaction of the Engineer. The Engineer will have authority to reject work which the Engineer believes to be defective, or that the Engineer believes will not produce a completed project that conforms to the contract documents or will prejudice the integrity of the completed project as a functioning whole. The Engineer will also have authority to require special inspection of the work by an inspector to evaluate its acceptability.

During the performance of the work, the Engineer shall have the duties and authority described above, in Article 105.01, and elsewhere in the contract documents. In performing such duties, the Engineer shall not assume any responsibilities of the Contractor or any subcontractors, suppliers, individuals, or entities performing work or labor for or rendering services or supplies to the Contractor. The Engineer shall not have control or authority over, nor be responsible for, the Contractor's means, methods, techniques, sequences, or procedures of construction, or for the Contractor's safety precautions and programs incident thereto, or for any failure of the Contractor to comply with laws and regulations applicable to the performance of the work. The Engineer will not be responsible for the Contractor's failure to perform the work in accordance with the contract documents.

105.03 Conformity with Contract

All work performed and all materials furnished shall be in conformity with the contract and the lines, grades, elevations, dimensions, and material and construction requirements shown on the plans or indicated in the contract documents. All work or material which does not conform to the requirements of the contract will be considered unacceptable. Prompt notice of all unacceptable work of which the Engineer is aware will be given to the Contractor by the Engineer.

Unacceptable work, whether the result of poor workmanship, use of defective or unacceptable materials, damage through carelessness, or other cause, and unacceptable materials shall be removed and replaced or otherwise corrected in an acceptable manner at no additional cost to the Department.

The Department reserves the right to accept work produced by the Contractor if the Engineer finds the noncompliant materials, the finished product in which the noncompliant materials are used, or the nonconforming work are in close conformity with the contract. In this event, the Engineer will document the basis of acceptance by contract modification which may provide for an appropriate adjustment in the contract value for such work or materials as the Engineer deems necessary to conform to the determination. The determination of the Department will be based on the best engineering judgment of the Engineer and shall be final and binding.

Work done contrary to instructions given by the Engineer, work done beyond the limits shown on the plans, or any extra work performed without the written authorization of the Department will be considered as unacceptable and will not be paid for under the contract. Work so done may be ordered removed or replaced at no additional cost to the Department.

For unacceptable work that impacts the environment, a deduction will be applied to monies due or that might become due the Contractor. These deficiency deductions will be applied as follows.

- (a) Soil Erosion and Sediment Control (SE/SC) Deficiency Deduction. When the Engineer is notified of or determines that a soil erosion and/or sediment control deficiency(s) exists, or the Contractor's activities represent a violation of the Department's soil erosion and/or sediment control permits, the Engineer will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 1 week based on the urgency of the situation and the nature of the work effort required. The Engineer will be the sole judge of the adequacy of the specified time.

A deficiency may be any lack of maintenance, repair, or implementation of any of the soil erosion and/or sediment control practices included in the contract, or any failure to comply with the conditions of the Department's soil erosion and/or sediment control permits. A deficiency may also be applied to situations where corrective action is not an option, such as the failure to participate in an inspection of the project, failure to install required soil erosion and/or sediment control practices prior to initiating earth moving operations, disregard of concrete washout requirements, or other disregard of the Department's soil erosion and/or sediment control permits.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or portion thereof until the deficiency is corrected to the satisfaction of the Engineer. The count of calendar day(s) will begin with notification to the Contractor and end with the Engineer's acceptance of the correction. The base value of the daily monetary deduction is \$1,000.00. The value of the deficiency deduction assessed will be determined by multiplying the base value by a Gravity Adjustment Factor provided in Table A; except for failure to participate in a required inspection of the project prior to initiating earthmoving operations, which will be based on the total acreage of planned disturbance at the following multipliers: <5 Acres: 1; 5-10 Acres: 2; >10-25 Acres: 3; >25 Acres: 5. For those deficiencies where corrective action was not an option, the monetary deduction will be immediate and will be valued at one calendar day multiplied by a Gravity Adjustment Factor.

Table A Deficiency Deduction Gravity Adjustment Factors				
Types of Violations	Soil Disturbed and Not Permanently Stabilized at Time of Violation			
	< 5 Acres	5 - 10 Acres	> 10 - 25 Acres	> 25 Acres
Failure to Install, Repair, or Maintain BMP	0.1 - 0.5	0.2 - 1.0	0.5 - 2.5	1.0 - 5
Careless Destruction of BMP	0.2 - 1.0	0.5 - 2.5	1.0 - 5	1.0 - 5
Intrusion into Protected Resource	1.0 - 5	1.0 - 5	2.0 - 10	2.0 - 10
Failure to properly manage Chemicals, Concrete Washouts or Residuals, Litter or other Wastes	0.2 - 1.0	0.2 - 1.0	0.5 - 2.5	1.0 - 5
Improper Vehicle and Equipment Maintenance, Fueling, or Cleaning	0.1 - 0.5	0.2 - 1.0	0.2 - 1.0	0.5 - 2.5
Failure to Provide or Update Written or Graphic Plans Required by SWPPP	0.2 - 1.0	0.5 - 2.5	1.0 - 5	1.0 - 5
Failure to Comply with Other Provisions of Department's SE/SC Permits	0.1 - 0.5	0.2 - 1.0	0.2 - 1.0	0.5 - 2.5

The statement elsewhere in the contract of remedies for the use of unacceptable materials or for unacceptable work shall not be exclusive of the remedies provided in this Article unless expressly provided therein.

Upon failure of the Contractor to comply with any order of the Engineer made under the provisions of this Article, the Engineer will have authority to cause the unacceptable work, or deficiency(s), to be corrected, removed or replaced, and to deduct the cost from any monies due or to become due the Contractor. This corrective action will in no way relieve the Contractor of their contractual requirements or responsibilities.

105.04 Plans and Working Drawings

Construction plans that show the location, character, dimensions, and details of the work to be performed and prescribe a complete outline of the work which the Contractor is to complete will be furnished by the Department. In accordance with Article 104.02, the Department reserves the right to provide supplemental information prior to and during the performance of the work to further clarify, detail, and illustrate the work. Consequently, the Engineer may furnish additional shop, working, or layout drawings or written interpretations or explanations to the Contractor. Such supplemental information shall not invalidate the contract nor release the surety, and the Contractor shall promptly perform the work in accordance with the contract as supplemented.

The Contractor shall submit to the Engineer for approval such additional shop, working, or layout drawings pertaining to the construction of the work as may be required by the contract documents. Approval of such shop, working, or layout drawings by the Engineer is required before proceeding with the work represented by such drawings. Prior to the approval of such additional shop, working, or layout drawings, any work performed or materials ordered to facilitate the completion of the work represented within such drawings shall be at the sole risk of the Contractor.

Such additional shop, working, or layout drawings shall be provided to the Engineer in a timely manner in order to allow for review by the Engineer. The Engineer may require up to 14 days, after receipt of the submittal, for review. Such review may involve rejection, revision, or resubmittal when the submittal does not meet the contract requirements or does not contain sufficient detail, in which case, up to an additional 14 days may be required for each subsequent review. Approval, by the Engineer, of any additional shop, working, or layout drawings submitted by the Contractor shall not confer upon the Engineer any responsibility for the accuracy of the drawings. The Contractor shall bear all risk and all costs for any delays in the performance of the work associated with the preparation, review, and approval of such additional shop, working, or layout drawings.

105.05 Coordination of the Contract Documents

The documents included in the contract are intended to be complementary and to describe a complete work. Before undertaking each part or detail of the work, the Contractor shall carefully study and compare the contract documents, checking and verifying pertinent figures therein, and shall carefully review all applicable field measurements. The Contractor shall promptly report in writing to the Department any conflict, error, ambiguity, or discrepancy which the Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from the Engineer before proceeding with any work affected thereby.

If, during the performance of the work, the Contractor discovers any conflict, error, ambiguity, or discrepancy within the contract documents, or between the contract documents and: (a) any applicable law or regulation; (b) any standard, specification, manual, or code; or, (c) any instruction of any supplier, then the Contractor shall promptly report it in writing to the Department. The Contractor shall not proceed with the work affected thereby, except in an emergency, in accordance with Article 107.31, until the apparent conflict, error, ambiguity, or discrepancy has been resolved by the Engineer.

Upon written notification, the Engineer will investigate such conflict, error, ambiguity, or discrepancy. If the Engineer determines a conflict, error, ambiguity, or discrepancy exists in or between the contract documents, an amendment or supplement to the contract documents will be issued by the Department in accordance with Article 104.02. The following hierarchy will be applied by Engineer in resolving any conflict, error, ambiguity, or discrepancy in or between the contract documents.

Hierarchy of the Contract Documents		
Special Provisions	Hold over:	Technical Specifications, Construction Plans, General Specifications
Technical Specifications	Hold over:	Construction Plans, General Specifications
Construction Plans	Hold over:	General Specifications

Except as may be otherwise specifically stated in the contract documents, the provisions of the contract documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the contract documents and the provisions of any standard, specification, manual, or code, or the instruction of any supplier, whether or not specifically incorporated by reference in the contract documents, or the provisions of any laws or regulations applicable to the performance of the work, unless such an interpretation would result in violation of such law or regulation.

105.06 Reference Standards

Reference, within the contract documents, to standards, specifications, manuals, or codes of any organization, technical society, or association, or to laws or regulations, whether such reference be specific or be implied, shall mean the standard, specification, manual, code, or laws or regulations in effect at the time of opening of bids or quotes, except as may be otherwise specifically stated in the contract documents. No provision of any such standard, specification, manual, or code, or any instruction of a supplier, shall be effective to change the duties or responsibilities of the Department, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the contract documents. No such provision or instruction shall be effective to assign to the Department, Engineer, or any of their officers, directors, members, partners, employees, agents, or consultants, any duty or authority to supervise or direct the performance of the work or any duty or authority to undertake the Contractor's responsibilities with regards to the performance of the work.

105.07 Cooperation by Contractor

The Contractor will be supplied with a minimum of two sets of approved construction plans and contract documents, one set of which the Contractor shall keep available on the work at all times. In receiving copies of the contract documents from the Department, the Contractor shall not have or acquire any title to or ownership rights in any of the plans, specifications, or other contract documents, or copies thereof, prepared by or bearing the seal of the Department or its consultants, including electronic media versions, or reuse any such plans, specifications, or other contract documents, or copies thereof, on extensions of the project or any other project, without the written consent of the Department and without specific written approval of such adaptation by the Engineer. The prohibitions of this Article shall survive final payment or termination of the contract. Nothing herein shall preclude the Contractor from retaining copies of the contract documents for record purposes.

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof, and shall cooperate with the Department, the Engineer, and other contractors in every way possible. The Contractor shall supervise, inspect, and direct the work competently and efficiently, applying such skills and expertise as may be necessary to perform the work in accordance with the contract documents and shall have competent, suitably qualified personnel on the work at all times. The Contractor shall at all times maintain good discipline and order at the site.

The Contractor shall have on the work at all times, as the Contractor's agent, a competent English-speaking superintendent, capable of reading and thoroughly understanding the plans and specifications and thoroughly experienced in the type of work being performed, who shall have the authority to receive instructions from the Engineer. The superintendent shall have full authority to execute orders or directions of the Engineer without delay, and to promptly supply such materials, equipment, tools, labor, and incidentals as may be required to perform the work in accordance with the contract documents. Such superintendent shall be furnished irrespective of the amount of work subcontracted. Such superintendent shall not be replaced without written notice to the Department.

105.08 Cooperation with Utilities

The Contractor shall be aware of the location of all utilities on or adjacent to the project site prior to the start of work. Within the State of Indiana, a statewide one call notice system has been established for notifying utility companies about locating their facilities. The system is known as Indiana 811. All utility companies and municipalities that have buried utility facilities in the State of Indiana are part of this system. The Contractor shall request all utility owners to locate their facilities by contacting Indiana 811 at (800) 382-5544 or 811 at least 48 hours prior to the start of the work. The Contractor shall be responsible for maintaining all markers or excavations provided by the utility owners.

The Contractor shall take all necessary precautions for the protection of utility facilities located on or adjacent to the site. The Contractor shall be responsible for any damage or destruction of utility facilities resulting from neglect, misconduct, or omission in the Contractor's manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. Should any damage or destruction of a utility facility occur during performance of the work, the Contractor shall immediately notify the utility owner and the Department. Arrangements will be made to restore such facility to a condition equal to that existing before any such damage or destruction was done. The cost of such restoration shall be the sole responsibility of the Contractor.

- (a) Known Utilities. Prior to construction, the Department will notify all known utility owners regarding the proposed work. Based on information obtained from the various utility owners, all known existing utilities

will be indicated on the plans. As it is based on information obtained from the various utility owners, the accuracy of the plans with regards to the various known existing utilities is not guaranteed by the Department.

Generally, arrangements for adjusting known utilities will be made by the Department prior to project construction; however, utilities will not necessarily be adjusted in advance of project construction and, in many cases, utilities will not be removed from the project limits. Utilities to be adjusted during project construction shall be adjusted by the utility owner or the utility owner's representative, except as otherwise provided for in the contract documents. The Contractor shall coordinate with any planned or required utility adjustment that is scheduled to occur during project construction. When the Contractor discovers a utility has not been adjusted by the utility owner or the utility owner's representative in accordance with in the contract documents, the Contractor shall promptly notify the Department.

The Contractor shall take all necessary precautions to prevent disturbance of or damage to all existing utilities. Prior to the start of work, the Contractor shall request all known utility owners to locate their facilities by contacting Indiana 811 at (800) 382-5544 or 811 at least 48 hours prior to the start of the work. The Contractor shall be responsible for maintaining all markers or excavations provided by the utility owners. This field location procedure may be waived if the utility owner has stated in writing to the Department that it is satisfied the construction plans are sufficiently accurate. If the utility owner does not submit such statement to the Department, and they do not field locate their facilities in both horizontal and vertical alignment, the Engineer will authorize Contractor in writing to proceed to locate the facilities in the most economical and reasonable manner, subject to the approval of the Department, and be paid according to Article 109.05.

When the Contractor discovers a utility is not shown on the construction plans and conflicts with the proposed work, the Contractor shall not interfere with said utility, shall take proper precautions to prevent damage or interruption of the utility, and shall notify the Department of the nature and location of said utility.

The Contractor shall be responsible for any damage or destruction of utility facilities resulting from neglect, misconduct, or omission in the Contractor's manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials. Whenever any damage or destruction of a utility facility occurs as a result of work performed by the Contractor, the Contractor shall immediately notify the utility owner and the Department. Arrangements will be made to restore such facility to a condition equal to that existing before any such damage or destruction was done. The cost of such restoration shall be the sole responsibility of the Contractor.

No additional compensation will be allowed for any delays, inconveniences, or damages sustained by the Contractor due to the presence of or any claimed interference from any known utility facilities or any adjustment of them.

- (b) Unknown Utilities. Except as provided hereinafter, the discovery of an unknown utility will be evaluated according to Article 104.05.

- (1) Definition. An unknown utility is defined as an active or inactive underground utility, which is neither (a) shown in any way in any location on the contract documents; nor, (b) identified in writing by the Department to the Contractor prior to the letting. Service connections shall not be considered to be unknown utilities.
- (2) Compensation. Compensation will not be allowed for delays, inconveniences, or damages sustained by the Contractor from unknown utilities not meeting the above definition or if the discovery of an unknown utility does not cause a shutdown of the work applicable to the utility but only a change in the rate of progress. The provisions of Article 104.05 notwithstanding, compensation for unknown utility delays determined to be a changed condition will be paid according to the provisions of this Article governing minor and major delays.

- (3) Minor and Major Delays. Minor and major delays are defined as follows.

- a. Minor Delay. When the Contractor's operation is stopped by the unknown utility for more than two hours, but not to exceed three weeks.
- b. Major Delay. When the Contractor's operation is stopped by the unknown utility for more than three weeks.

(4) Payment. Payment for minor and major delays will be made as follows.

- a. Minor Delay. Labor idled which cannot be used on other work will be paid for according to Article 109.05(b)(1) and (2) for the time between start of the delay and the minimum remaining hours in the work shift required by the prevailing practice in the area.

Equipment idled which cannot be used on other work, and which is authorized to standby on the project site by the Engineer, will be paid for according to Article 109.05(b)(4).

- b. Major Delay. Labor will be the same as for a minor delay.

Equipment will be the same as for a minor delay, except Contractor-owned equipment will be limited to three weeks plus the cost of move-out to either the Contractor's yard or another job, whichever is less. Rental equipment may be paid for longer than three weeks provided the Contractor presents adequate support to the Department (including lease agreement) to show retaining equipment on the job is the most economical course to follow and in the public interest.

If the delay is clearly shown to have caused work, which would have otherwise been completed, to be done after material of labor costs have increased, such increases may be paid. Payment for materials will be limited to increased cost substantiated by documentation furnished by the Contractor. Payment for increased labor rates will include those items in Article 109.05(b)(1) and (2), except the 35 percent and ten percent additives will not be permitted.

Project overhead (not including interest) will be allowed when all progress on the contract has been delayed, and will be calculated as fifteen percent of the delay claim.

- (5) Other Obligations of Contractor. Upon payment of a claim under this provision, the Contractor shall assign subrogation rights to the Department for the Department's efforts of recovery from any other party for monies paid by the Department as a result of any claim under this provision. The Contractor shall fully cooperate with the Department in its efforts to recover from another party any money paid to the Contractor for delay damages under this provision.

105.09 Cooperation Between Contractors

The Department reserves the right at any time to contract for and perform other or additional work on or near the work covered by the contract. Each contractor shall conduct his/her work so as not to interfere with or hinder the progress or completion of the work being performed by other contractors. In case of dispute, the Engineer shall be the referee and the Engineer's decision shall be final and binding on all.

Each contractor involved shall assume all liability, financial or otherwise, in connection with his/her contract, and shall protect and save harmless the Department from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by the Contractor because of the presence and operation of other contractors working within the limits of the same improvement. Each contractor shall assume all responsibility for all work not completed or accepted because of the presence and operations of the other contractors.

The Contractor shall arrange the work and shall place and dispose of the materials being used so as not to interfere with the operations of the other contractors within the limits of the same project. The Contractor shall join his/her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

105.10 Survey Control Points

Survey control points will be set by the Department, unless specified otherwise in the contract, to establish the horizontal and vertical control required for construction of the various contract items of work. The Department will be responsible for the accuracy of the control points. The Contractor shall assume full responsibility for all dimensions and measurements taken or derived by the Contractor from control points set by the Department.

The Contractor shall preserve and protect all control points set by the Department. If the Contractor removes, disturbs, or otherwise displaces any control point, without the prior approval of the Department, the Department

may deduct the direct cost incurred by the Department in re-establishing the control point from compensation due the Contractor.

105.11 Construction Layout and Survey

The Contractor shall coordinate with the Engineer to review each part or detail of the work prior to the start of such work and shall be responsible for laying out each part or detail of the work as and when necessary to ensure that such work will be installed in accordance with the lines, grades, elevations, and dimensions shown in the construction plans. The Contractor shall also be responsible for surveying the work as it is completed to verify consistency with the lines, grades, elevations, and dimensions shown in the construction plans. Survey control points will be set and, using materials furnished by the Contractor, marked by the Department prior to the start of the work in accordance with Article 105.10.

The Contractor shall use the following materials to lay out the work.

- (1) Paint. The Contractor shall use white, pink, or purple paint in aerosol cans to lay out the work. At no time shall any of the colors used by JULIE to mark utilities, and described in Article 107.24, be used to lay out the work.
- (2) Lath. The Contractor shall use lath to lay out the work. The lath shall be as follows.
 - (a) Each lath shall be 1-1/8" x 1/2" x 48".
 - (b) Each lath shall be kiln dried Douglas fir, oak, or maple and surfaced on the two larger sides and without splits, pitch pockets, wane, knots, or decayed wood.
 - (c) The tapered end of each lath may be saw cut or pencil point tapered.

All construction layout and survey work shall be completed to the satisfaction of the Engineer and the decision of the Engineer shall be final on all questions which may arise regarding thereto. The Contractor shall provide competent, suitably qualified personnel and the equipment necessary to conduct the construction layout and survey work and shall assume full responsibility for all dimensions and measurements taken or derived by the Contractor from control points set by the Department.

The cost incurred by the Contractor in complying with the requirements of this Article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

105.12 Inspection of Work

All materials and each part or detail of the work shall be subject at all times to inspection by the Engineer. Such inspection may include mill, plant, or shop inspection, and any material furnished under the specifications is subject to such inspection. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the Engineer requests, the Contractor shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the contract documents. Should the work thus exposed or examined prove acceptable, the uncovering or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering or removing, and the replacing of the covering or making good of the parts removed, will be at no additional cost to the Department.

105.13 Verification of Lines, Grades, Elevations, and Dimensions

All lines, grades, elevations, and dimensions associated with each part or detail of the work shall be subject at all times to inspection and verification by the Engineer. Such verification may include review of the construction survey work completed by the Contractor in accordance with Article 105.11. During the performance of the work, the Engineer shall be furnished with such information and assistance by the Contractor as is required to make such inspections and to verify the lines, grades, elevations, and dimensions associated with each part or detail of the work.

Prior to final acceptance of the work, the Contractor will be required to furnish an as-built survey illustrating all lines, grades, elevations, and dimensions associated with each part or detail of the work, such as-built survey

clearly indicating, in red, any deviations from the lines, grades, elevations, and elevations shown in the construction plans.

The cost incurred by the Contractor in complying with the requirements of this Article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

105.14 Duties of Resident Project Representative

Should a Resident Project Representative be furnished by the Department in accordance with Article 105.02, such Resident Project Representative will assist the Engineer in providing more extensive observation of the work. The Resident Project Representative will act as directed by and under the supervision of the Engineer and will confer with the Engineer regarding his or her actions. The Resident Project Representative's dealings in matters pertaining to the work shall, in general, be with the Engineer and Contractor. The Resident Project Representative's dealings in matters pertaining to the work with subcontractors or suppliers shall be through or with the full knowledge and approval of the Contractor.

During performance of the work, the Resident Project Representative will serve as the Department's liaison with the Contractor, working principally through the Contractor's designated superintendent, providing the Contractor with information regarding the intent of the contract documents and obtaining additional details and information from the Engineer when required for proper execution of the work. The Resident Project Representative will consult with the Engineer when interpretations, clarifications, and explanations of the contract documents are requested by the Contractor. As a result of such consultation, the Engineer will supplement or amend the contract, in accordance with Article 104.02, as necessary to further clarify, detail, and illustrate the work.

The Resident Project Representative will also accept proposed adjustments to the approved schedules, samples, and shop, working, or layout drawings. The Engineer's review and acceptance of such proposed adjustments will be in accordance with the provisions of the contract documents related thereto.

The Resident Project Representative will conduct on-site observations of the Contractor's work to assist the Engineer in determining if the work is, in general, proceeding in accordance with the contract documents. The Resident Project Representative will consult with the Engineer whenever he or she believes that any part of the Contractor's work is defective, or believes that such work will not produce a completed project that conforms to the contract documents or will prejudice the integrity of the completed project as a functioning whole. As a result of such consultation, the Engineer will conduct such inspections as are necessary to evaluate the acceptability of the work in question. The Resident Project Representative will assist the Engineer with such project inspections to determine whether the work has been satisfactorily completed.

The Resident Project Representative will further assist the Engineer during performance of the work by attending meetings with the Contractor, such as the preconstruction meeting and progress meetings, maintaining records for use in preparing project documentation, furnishing periodic reports of the Contractor's progress on the work and his or her compliance with the approved schedules, and drafting and recommending field orders, change orders, and work change directives that he or she believes necessary for proper execution of the work. The Resident Project Representative will also review applications for payment for compliance with the provisions of the contract documents related thereto and will forward such applications, along with his or her recommendations regarding such applications, to the Engineer.

During the performance of the work, the Resident Project Representative shall have the duties and authority described above. In performing such duties, the Resident Project Representative shall not assume any responsibilities of the Contractor or any subcontractors, suppliers, individuals, or entities performing work or labor for or rendering services or supplies to the Contractor. The Resident Project Representative shall not have control or authority over, nor be responsible for, the Contractor's means, methods, techniques, sequences, or procedures of construction, or for the Contractor's safety precautions and programs incident thereto, or for any failure of the Contractor to comply with laws and regulations applicable to the performance of the work. The Resident Project Representative will not be responsible for the Contractor's failure to perform the work in accordance with the contract documents. Any change in or deviation from the contract documents shall only be authorized by the Department in accordance with the provisions of the contract documents related thereto.

105.15 Duties of Inspector

Inspectors will be authorized to inspect all work done and materials furnished. Such inspections may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors will not be authorized to alter or waive the provisions of the contract. Inspectors will not be authorized to issue instructions contrary to the plans and specifications, or to act as foreman for the Contractor.

105.16 Duties of Department

Except as otherwise provided in the contract documents, the Department shall issue all communications to the Contractor through the Engineer. During performance of the work, the Department shall furnish required data and information, execute supplements and amendments to the contract documents issued by the Engineer to further clarify, detail, illustrate, or direct the work, and make payments as they are due in accordance with the provisions of the contract documents related thereto.

During the performance of the work, the Department shall have the duties and authority described above and elsewhere in the contract documents. In performing such duties, the Department shall not have control or authority over, nor be responsible for, the Contractor's means, methods, techniques, sequences, or procedures of construction, or for the Contractor's safety precautions and programs incident thereto, or for any failure of the Contractor to comply with laws and regulations applicable to the performance of the work. The Department will not be responsible for the Contractor's failure to perform the work in accordance with the contract documents.

105.17 Substantial Completion

When the Contractor considers the entire project to be complete and ready for its intended use, the Contractor shall notify the Department in writing that the entire work is substantially complete, except for items specifically listed by the Contractor as incomplete, and request that the Department issue a certificate of substantial completion. Promptly after such notification is received by the Department, the Contractor and Engineer shall make an inspection of the work to determine the status of completion. If the Engineer does not consider the work to be substantially complete, the Department will notify the Contractor in writing giving the reasons therefor. If the Engineer does consider the work to be substantially complete, the Department will deliver to the Contractor a certificate of substantial completion. There shall be attached to the certificate a list of items to be completed or corrected before final inspection and payment.

The Department shall have the right to exclude the Contractor from the site after the date of substantial completion subject to allowing the Contractor reasonable access to remove its property and complete or correct items on the list.

105.18 Final Inspection

Upon due notice from the Contractor to the Department of completion of the entire project, the Engineer will make an inspection. If all construction provided for and contemplated by the contract is found satisfactorily completed according to all of the requirements of the contract, the inspection shall constitute the final inspection and the Department will notify the Contractor in writing of the date of the final inspection.

If the inspection discloses any work, in whole or in part as being unsatisfactory, the Department will give the Contractor the necessary instructions for correction of same, and the Contractor shall immediately comply with such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, the Department will notify the Contractor in writing of the date of the final inspection.

105.19 Warranty and Guarantee

The Contractor warrants and guarantees that all work will be in accordance with the contract documents and will not be defective. This warranty shall apply to the work for a period of one year following the date of acceptance of the final application for payment by the Engineer (i.e., final acceptance date). Any part or detail of the work that becomes or is determined to be defective in any manner during such one year warranty period, except for defects resulting from normal wear and tear and force majeure events, and defects determined by the Engineer to have resulted from causes other than the Contractor's failure to perform the work in accordance with the contract documents, shall be removed and replaced by the Contractor at no additional cost to the Department. Such defective work shall be removed and replaced within 30 days of receiving written notice from the Engineer of the need for removal and replacement of such defective work.

Upon final acceptance of the work, the Contractor will be required to furnish a maintenance bond in the penal sum of ten percent (10%) of the full amount of the contract price, on a form approved by the Engineer, executed in

accordance with the bidding documents, and issued by a surety acceptable to the Department and authorized to transact business under the laws of the State of Indiana. The Contractor will be required to furnish such maintenance security to the Department within fifteen days of the final acceptance date (i.e., date of acceptance of the final application for payment by the Engineer). The maintenance security shall stand as a guarantee that the Contractor will correct defective work during the one year warranty period.

The maintenance security of the Contractor will be retained until the end of the one year warranty period. If the Contractor fails to remove and replace defective work in accordance with this Article, the Department may consider the Contractor to be in default, and the maintenance security of the Contractor may be forfeited.

SECTION 106 CONTROL OF MATERIALS

106.01 Source of Supply and Quality Requirements

The materials used on the work shall meet all quality requirements of the contract. The Contractor shall notify the Department of the proposed sources of materials prior to delivery. At the option of the Department, materials may be approved at the source of supply before delivery is started. If it is found after trial that sources of supply for previously approved materials do not produce uniform and satisfactory products, or if the product from any source proves unacceptable at any time, the Contractor shall furnish acceptable materials from other sources.

All materials to be permanently incorporated in the work shall be new unless otherwise specifically prescribed in the contract documents.

All iron and steel products, which are to be incorporated into the work shall be domestically manufactured or produced and fabricated. The Contractor shall obtain from the iron or steel producer and/or fabricator, in addition to the mill analysis, a certification that all iron or steel materials meet these domestic source requirements.

The application of all coatings, epoxy, galvanizing, painting, etc., to metal products shall be domestically applied.

106.02 Equivalent Materials

The materials used on the work shall meet all requirements of the contract documents. Whenever a material is specified or described in the contract documents by using the name of a proprietary item or the name of a particular manufacturer and product, the specification or description is intended to establish the type, function, appearance, and quality required and the term "or equal" shall be implied. The naming of a proprietary item or a particular manufacturer and product in the contract documents shall only be construed as indicating the type, function, appearance, and quality of material required on the work and shall not be construed as preventing or restricting the use of another manufacturer's product on the work, provided that such product has equivalent properties to that named in the contract documents.

Materials other than those specified or described in the contract documents using the name of a proprietary item or the name of a particular manufacturer and product may be submitted to the Department for review and approval. If, in the Engineer's sole discretion, an item submitted by the Contractor for review is functionally equivalent to that named in the contract documents, it may be approved by the Department as an "or equal" item. Materials may be accepted as "or equal" items provided that the following conditions are met.

- (1) The Contractor notifies the Department in advance of his or her intention to use materials other than those specified or described in the contract documents.
- (2) Written evidence, including descriptive literature, specifications, shop drawings, and test results, in English, that the proposed material is functionally equivalent to that specified or described in the contract documents, is provided to the Engineer.
- (3) When requested by the Engineer, all necessary samples are taken and all necessary tests are completed by a qualified inspector, without charge to the Department, to evaluate the proposed material's properties and functional equivalency to the material specified or described in the contract documents.

The burden of proof as to the merit of a proposed "or equal" item shall be upon the Contractor. The Department may require the Contractor to furnish data, in addition to that listed above, about the proposed "or equal" item to

allow for the Engineer's review and evaluation of the proposed material. The Contractor shall provide all such data at his or her expense.

The Department shall be allowed a reasonable time within which to evaluate each proposed "or equal" item. In all instances the Engineer shall be the sole judge of the equivalency of a material to that specified or described in the contract documents.

The Contractor shall be responsible for complying with the requirements of this Article so that a proposed "or equal" item can be evaluated prior to the time it is required, and no proposed "or equal" item shall be ordered or incorporated into the work until approval for its use has been obtained from the Department. Any work in which proposed "or equal" items have been used without prior approval of the Department shall be performed at the Contractor's risk and may be considered as unacceptable or unauthorized, may not be paid for, and may need to be removed and replaced.

106.03 Unacceptable Materials

All materials not conforming to the requirements of the contract at the time they are used will be considered unacceptable and all such materials will be rejected and shall be removed immediately from the site of the work unless otherwise instructed by the Engineer. If in place, they shall be removed and replaced with acceptable materials at no additional cost to the Department. No rejected material, the defects of which have been corrected, shall be used until approval has been given. Upon failure of the Contractor to comply forthwith with any order of the Engineer pursuant to the provisions of this Article, the Department shall have authority to remove and replace defective materials and to deduct the cost of removal and replacement from any monies due or to become due the Contractor.

106.04 Samples, Tests, and Cited Specifications

All materials shall be approved by the Department before incorporation in the work. The Contractor shall provide sufficient advance notice to allow for necessary samples to be taken and necessary tests to be completed by a qualified inspector before the materials are incorporated in the work. All necessary samples shall be taken and all necessary tests shall be completed by a qualified inspector without charge to the Department.

Any work in which untested and unaccepted materials are used without approval or written permission of the Department shall be performed at the Contractor's risk and may be considered as unacceptable or unauthorized and will not be paid for. Samples shall be taken and tests shall be made by a qualified inspector. Unless otherwise designated, all samples shall be taken and tests will be made by a qualified inspector at the expense of the Contractor. All materials being used are subject to inspection, test, or rejection at any time. When requested by the Department, the Contractor shall furnish a complete written statement of the origin, composition, and manufacture of any or all materials (manufactured, produced, or grown) to be used in the work.

Wherever in the contract an abbreviated citation, from those listed in Article 101.01, is used followed by an appropriate serial designation, it shall be construed to mean the latest test or specification as the case may be, either as standards, tentative standards, interims, revisions, or amendments, in effect on the date of invitation for bids.

106.05 Plant Inspection

The Engineer may undertake the inspection of materials at the source. In the event plant inspection is undertaken, the Engineer shall have the cooperation and assistance of the Contractor and the source with whom the Contractor has contracted for materials, and shall have full entry at all times to such parts of the plant as may concern the manufacture or production of the materials being furnished.

It is understood that the Department reserves the right to request a retest of all materials which have been tested by the source of supply after the same have been delivered, and to reject all materials which, when retested, do not meet the requirements of the contract.

106.06 Source of Materials

The source of supply, of each material used, shall be approved by the Department before delivery is started. If sources previously approved are found to be unacceptable at any time and fail to produce materials satisfactory to the Department, the Contractor shall furnish materials from other approved sources.

If the Contractor decides to investigate new sources of supply, the Contractor shall furnish, without charge, such samples and test results as the Engineer may require. All necessary samples shall be taken and all necessary

tests shall be completed by a qualified inspector without charge to the Department, but it is understood that such tests are for informational purposes only and tests shall not be construed as a guarantee of acceptance of any material which may be delivered later for incorporation in the work. Only materials actually delivered for use will be considered, and their acceptance will be based solely upon the results of the tests made on these materials.

If the Contractor installs equipment or apparatus to produce materials from new sources of supply, the Contractor does so at his/her own risk, and the Contractor shall assume full responsibility for the production of uniform and satisfactory materials. In case of failure of a source of supply to produce materials satisfactory to the Department, the Contractor shall indemnify and save harmless the Department from any and all claims for loss or damage of whatever nature which the Contractor may have suffered by reason of the installation of equipment and the operation of such sources of supply.

When materials are furnished to the Contractor by the Department for inclusion in the work, the Contractor's responsibility for all such materials shall be the same as for materials furnished by the Contractor.

106.07 Stored Materials

If it is necessary to store materials, they shall be protected in such a manner as to ensure the preservation of their quality and fitness for the work. All stored materials will be inspected at the time of use in the work, even though they may have been inspected and approved before being placed in storage. The Contractor may use the site for storage of materials, but the stockpiles shall be confined to such areas designated on the plans or approved by the Department. If the Contractor wishes to stockpile materials off site, he or she shall obtain written approval from the property owner and shall present such written approval to the Department prior to doing so. Such additional off site space shall be provided by the Contractor at no additional cost to the Department.

106.08 Handling Materials

All materials shall be handled in such manner as to preserve their quality and fitness for the work. Aggregates shall be transported from the storage sites to the work in tight vehicles so constructed as to prevent loss or segregation of materials after loading and measuring in order to prevent inconsistencies in the quantities of materials intended for incorporation in the work as loaded, and the quantities as actually received at the place of operations.

SECTION 107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

107.01 Laws to be Observed

The Contractor shall give all notices required by and shall at all times observe and comply with all Federal and State laws, local laws, ordinances, and regulations which in any manner affect the performance of the work, including the Occupational Safety and Health Act of 1970, as amended, and all such orders or enactments, as exist at the present and which may be enacted later, of legislative bodies or tribunals having legal jurisdiction or affect over the work, and no plea of misunderstanding or ignorance thereof will be considered. Except where expressly required by applicable laws and regulations, the Department shall not be responsible for monitoring the Contractor's compliance with any such law, ordinance, regulation, order, or enactment. The Contractor shall indemnify and save harmless the Department and all of its officers, agents, employees, and servants against any claim or liability arising from or based on the violation of such law, ordinance, regulation, order, or enactment, whether by the Contractor or anyone subject to the control of the Contractor.

If the Contractor performs any work knowing or having reason to know that it is contrary to any applicable laws or regulations, the Contractor shall bear all claims, costs, losses, and damages, including, but not limited to, all fees and charges of engineers, attorneys, and other professionals and all court or arbitration or other dispute resolution costs, arising out of or relating to such work. It shall not be the Contractor's responsibility to make certain that the construction plans are in accordance with all applicable laws and regulations, but this shall not relieve the Contractor of his or her obligations under the contract documents.

107.02 Worker's Compensation Insurance

Upon award of his or her contract by the Department, the Contractor shall furnish to the Department certificates of insurance covering Worker's Compensation, or satisfactory evidence that this liability is otherwise taken care of. Such insurance, or other means of protection as herein provided, shall be kept in force until all work to be performed under the contract has been completed and accepted by the Department, as described herein, and it is

hereby understood and agreed the maintenance of such insurance or other protection, until acceptance of the work by the Department, is a part of the contract. Failure to maintain such insurance or any other act which results in lack of protection may be considered as a breach of the contract.

107.03 Permits and Licenses

Unless otherwise provided for in the contract documents, the Contractor shall obtain and pay for all permits and licenses and give all notices necessary and incident to the due and lawful prosecution of the work. Upon request of the Department, the Contractor shall furnish to the Department satisfactory proof that such permits and licenses have been obtained and are in full force and effect during the performance of the work.

107.04 Patented Devices, Material, and Processes

If any design, device, material, or process covered by letters, patent, or copyright is used by the Contractor, whether required or not, the Contractor shall provide for such use by suitable legal agreement with the patentee or owner, guaranteeing the Department indemnity from and against all claims for infringement, and shall include the cost of such agreement in the price bid for the work. It shall be the duty of the Contractor, if so demanded by the Department, to furnish said Department with a copy of the legal agreement with the patentee or owner, and if such copy is not furnished when demanded, then the Department may, if it so elects, withhold any and all payments to said Contractor until said legal agreement is furnished. If a suitable legal agreement with the patentee or owner is not made as required herein, the Contractor and surety shall indemnify and save harmless the Department from any and all claims for infringement by reason of the use of any such patented design, device, material, or process, or any trademark or copyright in connection with the work agreed to be performed under the contract, and shall indemnify the Department for any cost, expense, and damages which it may be obliged to pay by reason of any such infringement at any time during the prosecution or after the completion of the work.

107.05 Federal Aid Provision

When the United States Government pays all or any portion of the cost of a project, the Federal laws and the rules and regulations made pursuant to such laws must be observed by the Contractor, and the work shall be subject to the inspection of the appropriate Federal agency.

Such inspection shall in no sense make the Federal Government a party to this contract and will in no way interfere with the rights of either party hereunder.

107.06 Sanitary Provisions

The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of the Contractor's employees and Department representatives as may be necessary to comply with the requirements of the State and Local Boards of Health, or of other authorities having jurisdiction.

107.07 Public Convenience and Safety

The Contractor shall notify the Department at least three days in advance of the starting of any work which might in any way inconvenience or endanger vehicular and pedestrian traffic, so arrangements may be made, if necessary, for closing paths, trails, and roads and providing suitable detours. The Contractor shall at all times conduct the work in such a manner as to ensure the least obstruction to vehicular and pedestrian traffic. The convenience of the general public and residents adjacent to the site shall be provided for in an adequate and satisfactory manner. When directed by the Department, the Contractor shall provide and maintain an acceptable surface aggregate for temporary paths, trails, roads, and approaches for access to driveways, houses, buildings, or other property abutting the site. Unless otherwise provided for in the contract, the cost incurred by the Contractor for providing such temporary paths, trails, roads, and approaches will be paid for as extra work as provided in Article 109.05.

The Department may require the Contractor to finish a section on which work is in progress before work is started on any additional sections if the completion of such section is essential to public convenience.

No broken pavement, open holes, trenches, barricades, cones, or drums will remain on or adjacent to the traveled way and all paths, trails, roads and travel lanes shall be opened to vehicular and pedestrian traffic during any legal holiday period, except where major construction or reconstruction makes it impractical. Such legal holidays will include:

New Year's Day

Labor Day

Easter
Memorial Day
Independence Day

Thanksgiving Day
Christmas Day

The length of the holiday period shall vary as follows, depending on the day of the week the legal holiday falls on or is observed.

Day of Holiday	Length of Holiday Period
Sunday	3 p.m. Friday - 12 midnight Sunday
Monday	3 p.m. Friday - 12 midnight Monday
Tuesday	3 p.m. Friday - 12 midnight Tuesday
Wednesday	3 p.m. Tuesday - 12 midnight Wednesday
Thursday	3 p.m. Wednesday - 12 midnight Sunday
Friday	3 p.m. Thursday - 12 midnight Sunday
Saturday	3 p.m. Friday - 12 midnight Sunday

On weekends, excluding holidays, all paths, trails, roads and travel lanes shall be opened to vehicular and pedestrian traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.

When any construction work is performed on structures over paths, trails, roads or travel lanes which are open to vehicular and pedestrian traffic, the Contractor shall protect the traffic from falling objects and/or materials. The Contractor's method of protection shall be subject to the approval of the Department and the cost thereof shall be included in the work involved.

107.08 Work on Navigable Waters

All work on navigable waters shall be so conducted that free navigation of the waterways will not be interfered with and that the existing navigable depths will not be impaired, except as allowed by permit issued by the authority having jurisdiction over the navigable waters.

107.09 Maintenance of Traffic

When work zone traffic control is required near the area under construction, or when any section of road is closed for construction operations of any type, the Contractor shall protect the workers and provide for safe and convenient public travel by providing adequate traffic control. The traffic control shall be subject to the approval of the Department and the cost thereof shall be included in the work involved.

107.10 Dirt on Pavement or Structures

Where equipment or vehicles related to the performance of the work are operated on any portion of the pavement or structures used by traffic on or adjacent to the site, the Contractor shall maintain such pavement free from all dirt and debris at all times. If dirt or debris are carried on to such pavement or structures by equipment or vehicles related to the performance of the work, the Contractor shall immediately clean the pavement of all dirt and debris.

The cost of this work shall be included in the unit prices bid and no additional compensation will be allowed.

107.11 Equipment on Pavement and Structures

The Contractor shall not load nor permit any part of any pavement or structure to be loaded in any manner that will endanger the pavement or structure, nor shall the Contractor subject any part of the work or adjacent property to stresses or pressures that will endanger it. The pavement and structures on or adjacent to the work shall be protected from damage from loading and from damage by lugs or cleats on treads or wheels or equipment. All equipment used in the prosecution of the work shall comply with the legal loading limits established by the statutes of the governing state or local entity when moved over or operated on any pavement or structure unless permission in writing has been issued by the governing state or local entity. Before using any equipment which may exceed the legal loading, the Contractor shall secure a permit from the governing state or local entity, allowing ample time for making an analysis of stresses to determine whether or not the proposed loading would be within safe limits. The Department will not be responsible for any delay in construction operations or for any costs incurred by the Contractor as a result of compliance with the above requirements.

107.12 Use of Explosives

The use of explosives is not necessary for the prosecution of the work. Explosives shall not be used on site.

107.13 Use of Fire Hydrants

If the Contractor desires to use water from hydrants, the Contractor shall make application to the proper authorities, and shall conform to the municipal ordinances, rules, or regulations concerning their use.

Fire hydrants shall be accessible at all times to the fire department. No material or other obstructions shall be placed closer to a fire hydrant than permitted by municipal ordinances, rules, or regulations, or within 5 feet of a fire hydrant, in the absence of such ordinances, rules, or regulations.

107.14 Unexpected Regulated Substances

If, during the progress of the work, the Contractor encounters or exposes, or if the Contractor or anyone for whom the Contractor is responsible creates, any abnormal condition which may indicate the presence of a regulated substance, the Contractor shall secure or otherwise isolate such condition, stop all work in connection with such condition and in any area affected thereby, except in an emergency, as defined in Article 107.31, and promptly thereafter notify the Department about such condition. A regulated substance is a hazardous substance, special waste, or petroleum or any fraction thereof, as those terms are defined in applicable statutes.

Abnormal conditions include, but will not be limited to, the following: presence of underground storage tanks or barrels; discolored earth, metal, wood, etc.; visible fumes; obnoxious or unusual odors; excessively hot earth; smoke; or any other condition which appears abnormal and could be a possible indicator of regulated substances. The conditions shall be treated with extraordinary caution. Appropriate action shall be taken to ensure public and employee safety.

Upon receipt of the notification by the Department, the Engineer will review and, if determined to be necessary, evaluate or retain a qualified expert to evaluate such condition or to take corrective action. The Engineer may contact other state and/or federal agencies regarding such condition. Promptly after consulting with any qualified experts, and based on the findings of the Engineer, the Department shall take such actions as are necessary to allow the Contractor to resume the work. The Contractor's operations shall not resume until so directed by the Department.

If after receipt of such written notice, the Contractor does not agree to resume work based on a reasonable belief it is unsafe to do so, then the Department may order the portion of the work that is in the area affected by such condition to be deducted from the work according to the provisions of Article 104.03.

Removal and disposal of waste material, if necessary, shall be coordinated with the removal and disposal of contaminated soil, groundwater, and/or an underground storage tank UST and shall be according to applicable statutes. Should the removal and disposition of waste material require special procedures by certified personnel, the Contractor will make arrangements with qualified persons to remove and dispose of the material. If the Department provides for removal and disposal operations by entities other than the Contractor and arranges for the Contractor to pay all costs in connection therewith, the Contractor will be reimbursed according to Article 109.06.

Disposition of the regulated substances shall be made according to the requirements and regulations of other state and/or federal agencies. Any waste generated as a special waste or hazardous waste shall be manifested off-site by a special waste transporter using an appropriate generator number. Any waste generated as a non-special waste may be disposed of off-site at a permitted facility without a manifest, special waste transporter, or generator number.

The Contractor shall not be responsible for any abnormal condition encountered or exposed at the site which was not shown in the construction plans or identified in the contract documents. However, the Contractor shall be responsible for any abnormal condition created by materials or equipment brought to the site by the Contractor, subcontractors, suppliers, or anyone else for whom the Contractor is responsible.

When the Contractor encounters unexpected regulated substances due to the presence of unknown utilities, Article 105.08 shall apply; otherwise, if the Department does not direct a resumption of operations, the provisions of Article 108.10 shall apply. When the Contractor performs necessary work required to dispose of these materials, payment will be made at the contract unit price for pay items applicable to such work, or payment will be made according to Article 104.03.

107.15 Protection and Restoration of Property

The Contractor shall take all necessary precautions for the protection of public or private property, such as pavement, walls and foundations of buildings, vaults, underground structures of public utilities, underground structures of private utilities, survey markers, overhead structures of public utilities, trees, shrubbery, crops, and fences contiguous to the work, for which the contract does not provide for removal or specify precautions and/or which does not interfere with the work. If public or private property interferes with the work, the Contractor shall notify, in writing, the Department, advising it of the nature of the interference and shall arrange to cooperate with the Department on the protection or disposition of such property, as directed by the Engineer. If the Department determines the protection or disposition of such property will delay the Contractor's work, an appropriate extension of contract time will be granted.

The Contractor shall be responsible for the damage or destruction of property of any character resulting from neglect, misconduct, or omission in his/her manner or method of execution or nonexecution of the work, or caused by defective work or the use of unsatisfactory materials, and such responsibility shall not be released until the work shall have been completed and accepted and the requirements of the Specifications complied with.

Whenever public or private property is so damaged or destroyed, the Contractor shall, at no additional cost to the Department, restore such property to a condition equal to that existing before such damage or injury was done by repairing, rebuilding, or replacing it as may be directed, or the Contractor shall otherwise make good such damage or destruction in an acceptable manner. If the Contractor fails to do so, the Department may, after the expiration of a period of 48 hours after giving the Contractor notice in writing, proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof will be deducted from any compensation due, or which may become due, the Contractor under this or any other contract between the Department and the Contractor.

The cost of all materials required and all labor necessary to comply with the above provisions will not be paid for separately, but shall be considered as included in the unit bid prices of the contract, and no additional compensation will be allowed.

107.16 Protection and Preservation of Aboriginal Records and Antiquities

The Contractor shall take reasonable precautions to avoid disturbing aboriginal records and antiquities of archaeological, paleontological, or historical significance. No objects of this nature shall be disturbed without written permission of the Department. When such objects are uncovered unexpectedly, the Contractor shall notify the Department of their presence and shall not disturb them until written permission to do so is granted.

If it is determined by the Department that exploration or excavation of aboriginal records or antiquities the site is necessary to avoid loss, the Contractor shall cooperate in the salvage work attendant to preservation. If the Department determines the salvage work will delay the Contractor's work, an appropriate extension of contract time will be granted.

107.17 Approval of Proposed Borrow Areas, Use Areas, and/or Waste Areas

All proposed borrow areas, use areas, including, but not limited to temporary access roads, detours, runarounds, plant sites, and staging and storage areas, and/or waste areas are to be designated by the Contractor to the Department and approved prior to their use. Such areas shall be evaluated by the Contractor, at no additional cost to the Department, according to those requirements applicable to the site, and approval by the authorities having jurisdiction over such requirements shall be forwarded to the Department prior to the use of such areas.

A location map delineating the proposed borrow area, use area, and/or waste area shall be submitted to the Department for approval along with an agreement from the property owner granting the Contractor permission to enter the property and conduct reconnaissance surveys of the site for archaeological resources, threatened and endangered species or their designated essential habitat, wetlands, and forested areas, prairies, and savannas. The type of location map submitted shall be a 7.5 minute quadrangle map or other location map acceptable to the Department. Submittals shall include the intended use of the site and provide sufficient detail for the Department to review the potential impacts of the proposed borrow area, use area, and/or waste area. At the direction of the Department, the Contractor shall initiate reconnaissance surveys of the site, as necessary, at no cost to the Department. The Contractor shall advise the Department of the expected time required to complete all reconnaissance surveys and shall share the results of such reconnaissance surveys with the Department.

- (a) Archaeological Resources. If the results of the reconnaissance surveys identify the presence of potentially significant archaeological resources on the site, the Contractor shall have the option of choosing another site or paying for additional archaeological testing. If the Contractor chooses the option of additional testing, the Contractor will obtain a time and cost proposal for such additional testing prior to the testing work being done. The archaeological testing may result in two possible conclusions:

- (1) Results of the tests show that no further archaeological work is warranted and the site is approved; or,
- (2) Results of the tests indicate that data recovery is warranted and the Contractor shall have the option of selecting another location or paying for the salvage operations.

If the area is approved as a borrow area, use area, and/or waste area, the Contractor shall obtain as part of the agreement with the property owner, the release of ownership of any artifacts found on the site. The Contractor shall furnish copies of the proposed and final agreement to the Department for approval.

In the event hydraulic fill or commercial material from rock quarries, waste material, etc., is to be used, a reconnaissance survey for archaeological resources may be conducted only if disturbance of previously undisturbed areas is required to provide such material.

- (b) Wetlands. If the results of the reconnaissance surveys indicate the presence of wetlands on the site and that wetlands may be adversely affected by the proposed borrow area, use area, and/or waste area, the Department will not approve the area for use unless the Contractor provides documentation of concurrence with the following:

- (1) There is no feasible alternative to the proposed actions which adversely affects wetlands; and,
- (2) The proposal for use of the area includes all practicable measures to minimize adverse impacts to the wetland and to provide appropriate compensation for any unavoidable adverse impacts.

In addition, when a proposed borrow area, use area, and/or waste area may adversely affect wetlands, the Department will not approve the area for use unless the Contractor provides evidence of necessary permit approval from the U.S. Army Corps of Engineers, Indiana Department of Environmental Management, or other applicable regulatory authority.

- (c) Threatened and Endangered Species. If the results of the reconnaissance survey indicate the presence of threatened or endangered species and that such threatened or endangered species or their designated essential habitat may be adversely affected by the proposed borrow area, use area, and/or waste area, the Department will not approve the area for use unless the Contractor provides evidence of compliance with applicable threatened and endangered species consultation requirements.

- (d) Forested Areas, Prairies, and Savannas. If the results of the reconnaissance survey indicate the presence of forested areas, prairies, or savannas and that such forested areas, prairies, or savannas may be adversely affected by the proposed borrow area, use area, and/or waste area, the Contractor shall minimize the impact to such areas by selecting alternative sites, where practical, and by providing replacement plantings of trees, prairie plants, or other vegetation, as appropriate. Such replacement plantings of trees, prairie plants, or other vegetation shall be subject to the approval of the property owner.

107.18 Protection of Streams, Lakes, Natural Areas, Wetlands, Forested Areas, Prairies, Savannas, and Threatened and Endangered Species

The Contractor shall take sufficient precautions to prevent pollution of streams, lakes, wetlands and other natural areas with fuels, oils, or other harmful materials. The Contractor shall conduct and schedule operations so as to avoid or minimize siltation of streams, lakes, wetlands, and other natural areas.

Unless otherwise provided for in the contract documents, the Contractor shall not disturb wetlands, locations where State or Federal-listed threatened or endangered species may be found or are known to occur, areas that have been designated as essential habitat for such species, or forested areas, prairies, savannas, or other natural areas the Department has committed to protecting. Also, if previously unidentified areas containing or suspected of containing State or Federal-listed threatened or endangered species are identified during construction, the

Contractor shall immediately notify the Department. Upon receipt of such notification by the Department, the Engineer will take or will direct the Contractor to take such actions as are determined to be necessary in response to such finding or encounter. If the Engineer determines that additional actions are necessary to mitigate the effects of the project on such unidentified or previously unidentified areas containing or suspected of containing State or Federal-listed threatened or endangered species, the Contractor shall cooperate in accomplishing these actions.

The cost incurred by the Contractor in complying with the requirements of this Article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

107.19 Indemnification

The Contractor shall be responsible for any and all injuries to persons or damages to property due to the activities of the Contractor, subcontractors, suppliers, agents, or anyone else for whom the Contractor is responsible, arising out of or resulting from performance of the contract, or any activity in connection therewith. To the fullest extent permitted by law, the Contractor shall indemnify, save harmless and defend the Department, its agents, servants, and employees and each of them against any and all lawsuits, claims, demands, liabilities, losses, and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to any property, which may arise or which may be alleged to have arisen out of or in connection with the work covered by this contract. The foregoing indemnity shall apply except if such injury, death or damage is caused directly by the willful and wanton conduct of the Department, its agents, servants, or employees or any other person indemnified hereunder.

In claims against the Department or any individual indemnified under this Article by an employee of the Contractor, a subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification herein shall not be limited by a limitation on amount or type of damages payable by or for the Contractor or subcontractor under any employee benefits act.

In the event any such claim, lawsuit, or action is asserted, any such money due the Contractor under and by virtue of the contract as shall be deemed necessary by the Department for the payment thereof, may be retained by the Department for said purpose, or in case no money or insufficient money is due to satisfy such claim, lawsuit, or action, the Contractor's insurance provider shall remain liable for any payment therefore until any such lawsuit, action, or claim has been settled or has been fully judicially determined and satisfied.

No inspection or action by the Department, its employees or agents, shall be deemed a waiver by the Department of full compliance with the requirements of the contract. This indemnification shall not be limited by the required minimum insurance coverages provided in the contract.

107.20 Insurance

The Contractor shall obtain and thereafter keep in force the following insurance coverages provided by insurance companies acceptable to the Department and authorized to transact business under the laws of the State of Indiana. Coverage limits shall be written at not less than the minimum specified in this Article. Higher minimum limits and additional coverage may be specified elsewhere in the contract documents. Whether stated in this Article or elsewhere in the contract documents, the Department does not warrant the adequacy of the types of insurance coverage or the limits of liability specified.

- (1) Indemnify, Hold Harmless, and Defend Clause. The Contractor and his or her insurance provider, to the fullest extent permitted by law, shall indemnify, save harmless, and defend the Department, its agents, servants, and employees and each of them against any and all lawsuits, claims, demands, liabilities, losses, and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to any property, which may arise or which may be alleged to have arisen out of or in connection with the work covered by this contract. The foregoing indemnity shall apply except if such injury, death or damage is caused directly by the willful and wanton conduct of the Department, its agents, servants, or employees or any other person indemnified hereunder.
- (2) Liability Insurance Coverages. The Contractor shall purchase from and maintain in a company or companies acceptable to the Department, such company or companies lawfully authorized to do business in the state of Indiana, such insurance as will protect the Contractor from claims set forth below which

may arise out of or result from the Contractor's operations under the contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

- (a) Commercial General Liability Insurance. Commercial general liability insurance in a broad form on an occurrence basis shall be maintained, to include, but not be limited to, coverage for the following where exposure exists: premises/operations; products/completed operations; contractual liability; and coverage to respond to claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees, as well as claims for damages insured by usual personal injury liability coverage which are sustained: (1) by a person as a result of an offense directly or indirectly related to employment of such person by the contractor; or, (2) by another person and claims for damages, other than to the work itself, because of injury to or destruction of tangible property, including loss of use there from.
 - (b) Worker's Compensation Insurance. Worker's compensation insurance shall be maintained covering all liability of the Contractor arising under all applicable worker's compensation statutes in accordance with the laws of the State of Indiana.
 - (c) Employer's Liability Insurance. Employer's liability insurance shall be maintained to respond to claims for damages because of bodily injury, occupational sickness, or disease or death of the Contractor's employees.
 - (d) Automobile Liability Insurance. Automobile liability insurance shall be maintained to respond to claims for damages because of bodily injury, death of a person, or property damage arising out of ownership, maintenance, or use of a motor vehicle. This policy shall be written to cover any auto whether owned, leased, hired, or borrowed.
- (3) Liability Insurance Limits. The Contractor's liability insurance, as required above, shall be written with limits of insurance not less than the following.
- | | |
|--|-------------|
| (a) <u>Commercial General Liability Insurance</u> | |
| *General Aggregate Limit | \$1,000,000 |
| Damage to Rented Premises Limit | \$ 100,000 |
| Products/Completed Operations Limit | \$1,000,000 |
| Personal and Advertising Injury Limit | \$1,000,000 |
| Each Occurrence Limit | \$1,000,000 |
| <i>* The policy shall be endorsed for the General Aggregate Limit to apply on a "Per Project" basis.</i> | |
| (b) <u>Employer's Liability Insurance</u> | |
| Bodily Injury by Accident (Each Accident) | \$ 500,000 |
| Bodily Injury by Disease (Each Employee) | \$ 500,000 |
| Bodily Injury by Disease (Policy Limit) | \$ 500,000 |
| (c) <u>Automobile Liability Insurance</u> | |
| Combined Single Limit (Each Accident) | \$1,000,000 |
- (4) Liability Insurance Conditions. The Department, its agents, officers, and employees shall be named as additional insured under ISO additional insured endorsement CG 20 26, edition date 10/93 or its equivalent. The Contractor's insurance shall be primary and non-contributory. Such contractual liability insurance coverage shall be broad enough to respond to the liability assumed by the Contractor in the indemnify, hold harmless, and defend clause described herein.
- (5) Certificates of Insurance. Certificates of insurance acceptable to the Department, complete with the required endorsements, shall be filed with the Department upon award of the contract. The Department shall be provided with a 30-day written notice of the cancellation or non-renewal of any insurance policy or any material change within an endorsement. Certificates evidencing renewal or replacement of such insurance policies or endorsements shall be provided to the Department at least fifteen days prior to the expiration, cancellation, or non-renewal of such policies or endorsements.
- (6) Duration of Insurance Coverage. The insurance described herein shall be maintained for the duration of the contract and shall remain in force during the period covering occurrences happening on or after the

effective date of the agreement, during performance of the work, and at all times thereafter when the Contractor may be correcting, removing, or replacing defective work.

- (7) Failure to Comply. In the event the Contractor fails to obtain or maintain any insurance coverage required under this contract, the Department may purchase such insurance coverage and charge the expense thereof to the Contractor.

The cost incurred by the Contractor in complying with the requirements of this Article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

107.21 Contractor Safety Responsibility

The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to: all persons on the site who may be affected by the work; all of the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, structures, and utilities not designated for adjustment in the course of the work.

Nothing in this contract or the contracts between the Department and any engineering consultant(s) is intended or shall be construed, unless otherwise expressly stated, to reduce the responsibility of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, from full and complete supervision and achievement of work place safety. Any inspection of the work conducted by the Department, the construction engineering consultant(s), and the officers and employees of any of them, whether notice of the results thereof is provided to anyone or not provided to anyone, shall neither establish any duty on their parts nor create any expectation of a duty to anyone, including but not limited to third parties, regarding work place safety.

In order to ensure this and other duties of the Contractor certain indemnification and insurance is required by the contract. Additionally, the Contractor guarantees to the Department a safe work place shall be provided for all employees of the Contractor and each of its subcontractors. There shall be no violation by the Contractor, a subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable of the applicable standards of the Occupational Safety and Health Act, any other work place safety act of this State, or other work place safety requirement of the Federal Highway Administration if the contract is funded in part with federal funds. The Contractor agrees to require this work place safety guarantee of all subcontractors according to Article 108.01, and expressly to require the Department to be a third party beneficiary of each guarantee.

107.22 Opening of Section of Work

The work under construction shall not be opened until authorized by the Department in writing. The Department reserves the right to use and to open any portion of the work before completion of the entire work when the Engineer determines that an early opening is in the interest of the public or when the Contractor has failed to prosecute the work continuously and efficiently. Such opening shall not be construed as an acceptance of the work, or any part of it, or cause for the Department to incur any liability to the Contractor for any additional costs, except as provided in Article 107.23 or otherwise expressly provided in the contract.

Whenever the Contractor is required to open all of the work or any portion thereof according to the authorization of the Engineer given herein, the Contractor shall conduct the remainder of the construction operations so as to cause the least obstruction to vehicular and pedestrian traffic and according to the traffic control plan approved by the Engineer.

107.23 Contractor's Responsibility for Work

The Contractor shall be solely responsible for performing and completing the work in accordance with the contract documents. He or she shall assume full responsibility for all of the labor, tools, equipment, and other incidental items employed and provided on the work and for all of the means, methods, techniques, sequences, and procedures used in accomplishing the construction. Nothing in this contract or the contracts between the Department and any consultant(s) is intended or shall be construed, unless expressly stated, to reduce the responsibility of the Contractor thereto.

Except as otherwise provided in this Article, all work of the contract, including work added to the contract, shall be under the charge and care of the Contractor. The Contractor shall protect and maintain the work until the date of

final inspection, as defined in Article 105.18. The Contractor shall assume the sole responsibility for risk of loss to the work from or by any cause whatsoever, without regard to its state of completion. The Contractor shall rebuild, repair, restore, replace, and make good all lost, destroyed, or damaged work to the condition required by the contract and shall bear all the expense and costs to do so, except when the Engineer determines the loss, destruction or damage to the work to be caused by a cataclysmic event, an act of the public enemy, or an act of a governmental authority. This exception shall not apply should the Engineer determine that the loss, destruction, or damage resulted from the Contractor's failure to take reasonable precautions or to exercise sound engineering and construction practices while conducting the work. The Contractor and Department understand and agree that the definition of what constitutes a cataclysmic event cannot be written with precision, and that application of this exception can be the subject of dispute. Therefore, the Contractor and Department agree that the Engineer will determine the occurrence of a cataclysmic event, the eligibility for reimbursement, and the expenses and costs to be reimbursed in accordance with this exception to the Contractor's responsibility for the work. All determinations of the Engineer shall be final. The Contractor shall have no entitlement to reimbursement, under this or any other article or provision of the contract, for any or all expenses or costs in the absence of the affirmative determination by the Engineer as to coverage by this exception and the amounts eligible for reimbursement, and the Contractor agrees that the application or denial of the application of this exception shall not be cause for action in the court and hereby waives the same.

The Contractor may request in writing that the Department assume responsibility to protect and maintain any portion of the work that has been completed in all respects with the requirements of the contract, subject to the approval of the Engineer.

Any approval granted may alter or limit the part of the work subject to the approval. After the date of written approval, the Contractor shall be relieved of the responsibility to protect and maintain the work subject to the approval and shall not be responsible for the correction of any damage or the performance of any maintenance work in the areas subject to the approval, except that caused in whole or in part by Contractor operations within the limits of the project or negligence. When damage to the work subject to the approval occurs and it is determined the Contractor is not responsible, the Department may order repairs to the work by the Contractor and payment will be made according to Article 109.05. Any approval granted under this Article shall neither constitute final acceptance of any of the work nor be construed to be substantial completion thereof, and the work covered by any approval shall continue to be subject to final inspection and acceptance in accordance with the terms of the contract. Repairs to work subject to the approval required due to defective materials or workmanship or caused in whole or in part by Contractor operations or negligence, shall be performed at no additional cost to the Department.

During periods of suspension in accordance with Article 108.10 or other discontinuance of work from any cause whatever, the Contractor shall continue to be responsible for the work as provided in this Article and shall take such precautions as may be necessary to prevent damage to the work, provide for normal drainage, and shall erect any necessary temporary structures, signs, or other facilities at his/her expense, except as otherwise provided in Article 108.10. During such period of suspension or discontinuance of work, the Contractor shall properly and continuously maintain, in an acceptable growing condition, all living material in newly established plantings, seedings, and soddings furnished under his/her contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

107.24 Contractor's Responsibility for Utility Property and Services

At points where the Contractor's operations are adjacent to properties or facilities of utility companies, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

The Contractor shall cooperate with the owners of any utilities in their removal and rearrangement operations so work may progress in a reasonable manner, duplication of rearrangement work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted. In the event or interruption of utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall immediately notify the utility owner and Department. Arrangements will be made to restore such services to a condition equal to that existing before any such damage or destruction was done. If water service is interrupted, repair work shall be continuous until the service is restored. The cost of such restoration shall be the sole responsibility of the Contractor. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority.

Within the State of Indiana, a statewide one call notice system has been established for notifying utility companies about locating their facilities. The system is known as Indiana 811. All utility companies and municipalities that have buried utility facilities in the State of Indiana are part of this system.

The Contractor shall request all utility owners to locate their facilities by contacting Indiana 811 at (800) 382-5544 or 811 at least 48 hours prior to the start of the work. The political name of the township where the work is located, as provided in the contract documents, along with other location information such as section and quarter section shall be given to Indiana 811. For utilities which are not members of Indiana 811, the Contractor shall contact the utility owners directly. The construction plans will indicate which utilities, if any, are not members of Indiana 811.

The Contractor shall be responsible for maintaining all markers or excavations provided by the utility owners. The type of utility and color typically used for marking such utility are shown in the following table.

Utility Service	Color
Electric Power, Distribution, and Transmission	Safety Red
Municipal Electric Systems	Safety Red
Gas Distribution and Transmission	High Visibility Safety Yellow
Oil Distribution and Transmission	High Visibility Safety Yellow
Telephone and Telegraph System	Safety Alert Orange
Community Antenna Television Systems	Safety Alert Orange
Water Systems	Safety Precaution Blue
Sewer Systems	Safety Green
Non-Potable Water and Slurry Lines	Safety Purple
Temporary Survey	Safety Pink
Proposed Excavation	Safety White

107.25 Furnishing of Site

The Department shall furnish the site prior to the start of work. The Department will obtain in a timely manner and, if necessary, pay for all easements and landowner agreements necessary for the performance of the work. The Department will notify the Contractor of any encumbrances or restrictions not of general application but specifically related to use of the site with which Contractor must comply in performing the work. Upon reasonable written request, the Department shall furnish the Contractor with a current statement of legal title and legal description of the lands upon which the work is to be performed.

If a delay in the Department's furnishing the site or a part thereof should occur, and such delay is of such a nature as to require a change in the contract, an equitable adjustment to the contract price or contract times will be made and the contract amended according to the provisions of Article 104.02.

107.26 Personal Liability of Public Officials

In carrying out any of the provisions of this contract or in exercising any power or authority granted to the Engineer thereby, there shall be no personal liability upon the Engineer or his or her authorized representative. By entering into this contract with the Department, the Contractor covenants and agrees it shall neither commence nor prosecute any action or suit whatsoever against the officers or employees of the Department for any action or omission done or not done in the course of their administration of this contract. The Contractor agrees to pay all attorney fees and all costs incurred by the Department, its officers, and employees on account of action or suit in violation of this Article.

107.27 No Waiver of Legal Rights

The Department shall not be precluded or estopped by final acceptance or final payment, or any measurement, estimate, or certificate made either before or after the completion and acceptance of the work and payment therefore, from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing any such measurement, estimate, or certificate is untrue or is incorrectly made; nor from showing the work or materials do not in fact conform to the contract. The Department shall not be precluded or estopped, by final acceptance, final payment, or any measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor or its sureties, or both, such overpayment and damage as it may sustain by reason of the Contractor's failure to comply with the terms of the contract.

A waiver on the part of the Department of any right under the contract or of a breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach or right to enforce any provision of the contract.

107.28 Construction Noise Restrictions

All engines and engine driven equipment used for hauling or construction shall be equipped with an adequate muffler in constant operation and properly maintained to prevent excessive or unusual noise. Any machine or device or part thereof which is regulated by or becomes regulated by Federal or State of Indiana noise standards shall conform to those standards. Such equipment shall be operated as designated below.

Construction within 1,000 feet of an occupied residence, motel, hospital, or similar receptor shall be confined to the period between the hours of 7:00 AM and 7:00 PM on weekdays and between the hours of 8:00 AM and 6:00 PM on Saturdays. No construction within such proximity to such facilities shall be performed outside of these working hours or any legal holiday without prior written approval from the Department. These time regulations shall not apply to construction of an emergency nature.

Requests to modify or deviate from these requirements shall be submitted in writing by the Contractor and must be approved in writing by the Department.

107.29 Dust Control

The Contractor shall be responsible for controlling the dust and air-borne dirt generated by his or her construction activities.

The Department may require the implementation of dust control procedures if wind and dry soil conditions reduce visibility on adjacent roads and property. Concerns for health and safety to the public using adjacent facilities will be grounds for the Department to request implementation of a dust control plan.

When circumstances warrant, a specific dust control plan shall be developed. The Contractor and the Engineer shall meet to review the nature and extent of dust generating activities and cooperatively develop specific types of control techniques appropriate to that specific situation. Sample techniques that may warrant consideration include the following measures.

- (a) Minimize track out of soil onto nearby publicly traveled roads.
- (b) Reduce vehicle speed on unpaved surfaces.
- (c) Cover haul vehicles.
- (d) Apply chemical dust suppressants or water to exposed surfaces, particularly to surfaces on which construction vehicles travel.

Dust control measures as indicated in the dust control plan, or as directed by the Engineer, shall be readily available for use on the project site.

The cost of this work shall be included in the unit prices bid and no additional compensation will be allowed.

107.30 Taxes

All applicable sales, use, payroll, and other similar taxes required to be paid during the performance of the work shall be considered during the preparation of bids. Bidders are hereby advised that Owner is exempt from Indiana state sales taxes on materials to be incorporated into the work and such exemption shall be considered during the preparation of bids. Owner will furnish evidence of such exemption to successful bidder, if necessary, for use in purchasing materials to be incorporated into the work. Owner's exemption does not apply to construction supplies, tools, machinery, equipment, or other property purchased or leased by successful bidder, or to materials not incorporated into the work.

107.31 Emergencies

In an emergency affecting the safety or protection of persons or the work or the site or property adjacent thereto, the Contractor is obligated to act to prevent threatened damage, injury, or loss. The Contractor shall give the

Department prompt written notice if he or she believes that any significant changes in the work or variations from the contract documents have been caused thereby or are required as a result thereof. If the Department determines that a change in the contract documents is required because of any action taken by the Contractor in response to such an emergency, an equitable adjustment to the contract price or contract times will be made and the contract amended according to the provisions of Article 104.02.

SECTION 108 PROSECUTION AND PROGRESS

108.01 Subcontracting

The Contractor shall not subcontract, sell, transfer, assign, or otherwise dispose of the contract or any portion thereof, or of his or her right, title, or interest therein, without written consent of the Department. Notwithstanding consent to subcontract issued by the Department, the Contractor shall perform with the Contractor's own organization, work amounting to not less than 50 percent (50%) of the total contract cost, and with materials purchased or produced by the Contractor. Items designated in the contract as "specialty items" may be performed by subcontract and the cost of any such specialty items so performed by subcontract may be deducted from the total cost before computing the amount of work required to be performed by the Contractor with his or her own organization. "Specialty items" will be those items so designated on the construction plans or in the contract documents.

Upon the request of the Department, the Contractor shall submit to the Department a list of the subcontractors, suppliers, individuals, or entities that will perform work or labor for or render services or supplies to the Contractor in an amount in excess of ten percent (10%) of the contract price. The Department's acceptance of such list, either in writing, or by failing to make written objection thereto, may be revoked at any time on the basis of reasonable objection after due investigation. In order to conduct such investigation, the Department may request the Contractor to provide proof that any subcontractor, supplier, individual or entity has the experience, ability, and equipment the work requires.

If the Department, after due investigation, has reasonable objection to any subcontractor, supplier, individual, or entity, the Department may request the Contractor to submit a replacement. If such replacement has an effect on the contract price or contract times, the contract documents may require modification. The need for such modifications will be evaluated by the Department and, if necessary, will be made in accordance with Article 104.02. The Contractor shall not otherwise substitute, delete, or add to the accepted list of subcontractors, suppliers, individuals, or entities without written approval of the Department.

During performance of the work, the Department may order the Contractor to remove a subcontractor who, in the opinion of the Engineer, does not perform satisfactory work. The Contractor shall comply at once and shall not employ the subcontractor for any further work under this contract. Should the Contractor fail to remove such subcontractor as required above, or fail to furnish a suitable replacement subcontractor or suitable and sufficient personnel for the proper prosecution of the work, the Department may suspend the work by written notice, in accordance with Article 108.10, until such orders are complied with.

The Contractor shall be fully responsible to the Department for all acts and omissions of the subcontractors, suppliers, individuals, or entities that performing work or labor for or rendering services or supplies to the Contractor, just as the Contractor is responsible for the Contractor's own acts and omissions. Nothing in the contract documents shall create, for the benefit of any subcontractor, supplier, or any other individual or entity, any contractual relationship between the Department and any such subcontractor, supplier, or other individual or entity, nor any obligation on the part of the Department to pay or to see to the payment of any moneys due any such subcontractor, supplier, or any other individual or entity, except as may be required by laws and regulations.

For each subcontract, the Contractor shall submit to the Department a certification that a subcontract agreement exists in writing, that the subcontract incorporates by reference the terms and conditions of this contract, and that the subcontract incorporates fully therein the provisions related to employment practices contained in the contract documents. The Contractor shall permit the Department or State or Federal representatives to examine the subcontract agreements upon notice. No subcontracts shall in any case release the Contractor or his or her surety of liability or any portion thereof under the contract and contract security.

The Contractor shall be solely responsible for scheduling and coordinating the work of subcontractors, suppliers, and other individuals or entities performing or furnishing any of the work under a direct or indirect contract with the Contractor. The Contractor shall require all subcontractors, suppliers, and such other individuals or entities performing or furnishing any of the work to communicate with the Department through the Contractor. The Contractor's superintendent shall be on the site at all times when any subcontract work is being performed.

108.02 Progress Schedule

After the award of the contract and prior to starting work, and within ten (10) days after the effective date of the agreement, the Contractor shall submit to the Department for timely review:

- (1) Project Schedule. The Contractor shall submit a preliminary project schedule which shall show the proposed sequence of work and indicating the times for starting and completing the various items of work, including any milestones specified in the contract documents, according to the contract times stated in the agreement. This schedule shall be used as a basis for establishing the controlling item of construction activities during the performance of the work and for checking progress of the work. The controlling item shall be defined as the item which must be completed either partially or completely to permit continuation of progress on the work. It shall be the responsibility of the Contractor to show the intended rate of production for each controlling item listed on the schedule during the period that such item is controlling.
- (2) Schedule of Submittals. The Contractor shall submit a preliminary schedule of submittals which shall show any submittals required to support the performance of the work and the time requirements associated with the review and approval or acceptance of such submittals.
- (3) Schedule of Values. The Contractor shall submit a preliminary schedule of values that contains values for the entire work, including quantities and prices of items which, when added together, equal the contract price and that subdivides the work into component parts in sufficient detail to serve as the basis for progress payments during performance of the work (i.e., basis of bid form).

Unless otherwise specified in the contract documents, at least one week prior to the start of work, a preconstruction conference, as described in Article 108.03, attended by the Department, Contractor, Engineer, and others, as appropriate, shall be held, among other reasons, to review, for acceptability, as provided below, the schedules described above. The Contractor shall be responsible for scheduling such conference and for notifying the Department, Engineer, and others as appropriate of the conference at least one week prior to the scheduled date of such conference. After such conference, the Contractor shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. Payments may be withheld until satisfactory schedules have been submitted to and approved by the Department.

- (4) Acceptability of Progress Schedule. The Contractor's progress schedule will be acceptable to the Department if it provides an orderly progression of the work to completion within the contract times. Such acceptance will not impose on the Department responsibility for the progress schedule, for sequencing, scheduling, or performing the work, nor interfere with or relieve the Contractor from the Contractor's full responsibility therefor.
- (5) Acceptability of Schedule of Submittals. The Contractor's schedule of submittals will be acceptable to the Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
- (6) Acceptability of Schedule of Values. The Contractor's schedule of values will be acceptable to the Engineer as to form and substance if it provides a reasonable allocation of the contract price to component parts of the work.

During performance of the work, the Contractor shall adhere to the approved schedules. The Contractor shall confer with the Department at regular intervals and at progress meetings, as described in Article 108.08, in regard to the prosecution of the work according to the approved schedules. Such schedules may be adjusted from time to time, as provided below.

The Contractor shall submit to the Department, for review and acceptance, proposed adjustments to the approved schedules that will not result in changes to the contract price or contract times. Such adjustments shall comply with all applicable provisions of the contract documents. If a proposed adjustment to the approved schedules has an effect on the contract price or contract times, the contract documents may require modification. The need for such modifications will be evaluated by the Department and, if necessary, will be made in accordance with Article 104.02.

108.03 Preconstruction Conference

Unless otherwise specified in the contract documents, at least one week prior to the start of work, a preconstruction conference attended by the Department, Contractor, Engineer, and others, as appropriate, will be held to establish a working understanding among the parties as to the work and to discuss the schedules described in Article 108.02, procedures for handling samples, shop, working, and layout drawings and other submittals, processing applications for payment, and maintaining required records. The Contractor shall be responsible for scheduling the preconstruction conference and for notifying the Department, Engineer, and others, as appropriate, of the preconstruction conference at least one week prior to the scheduled date of such conference.

At the preconstruction conference, the Department and Contractor each shall confirm or designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the contract, and otherwise act on behalf of each respective party. At this conference, the Contractor shall also designate, in writing, the superintendent referred to in Article 105.07, who shall be on the work at all times.

108.04 Prosecution of the Work

The Contractor shall begin the work to be performed under the contract as soon as possible following the effective date of the agreement. The work shall begin no later than thirty days after the effective date of the agreement or, if a notice to proceed is given, on the day indicated in the notice to proceed. A notice to proceed may be given at any time within 30 days after the effective date of the agreement. In no event shall the work begin later than the thirtieth day after the effective date of the agreement, unless otherwise provided for in the contract or otherwise approved by the Department. No work shall be performed under the contract documents prior to the effective date of agreement.

The work shall be prosecuted in such a manner and with such a supply of materials, equipment, and labor as is considered necessary to ensure its completion according to the contract times specified in the contract documents. Once the work begins, the Contractor shall work continuously until the work has been substantially completed, unless otherwise directed by the Department. The Contractor shall notify the Department at least 24 hours in advance of either discontinuing or resuming construction activities.

108.05 Working Days

When the contract provides a specified number of working days, the charging of working days will start when the Contractor begins actual performance of the work, and in no case later than 30 days after the effective date of the agreement, unless otherwise provided for in the contract or otherwise approved by the Department.

A working day shall be defined as any calendar day inclusive, except Saturdays, Sundays, or legal holidays observed by the Contractor's entire work force in Indiana. The length of a working day will be determined by the Department from the number of working hours established by actual job practice by the Contractor for the current controlling item, except not less than eight hours will be considered in the determination.

A full working day will be charged for any day described in the foregoing on which conditions are such that the Contractor could be expected to do a full day's work on the controlling item. A full working day will be charged on days when the Contractor could be working on a controlling item, but elects not to work, or elects to work elsewhere.

No allowance will be made for delay or suspension of the work due to the fault of the Contractor.

The Engineer will determine which days are workable. One copy of the "Weekly Working Days Report of the Engineer" will be mailed to the Contractor on a weekly basis. Any disagreement with the working day charges stated in such report must be filed in writing with the Department within seven days of receipt of such report giving detailed reasons for the disagreement. The receipt of such report by the Department shall be, for purposes of the contract, deemed to occur three days after the date of such report, as indicated on the report. The final resolution of such disagreement will be made by the Department. By not filing a detailed disagreement within the seven day period, the Contractor will be deemed to have accepted the report as correct and no further challenge will be allowed.

The basis for charging working days shall be as follows.

- (a) A partial working day of one-quarter, one-half, or three-quarters will be charged under the following conditions.

- (1) When weather conditions do not permit the completion of a full day's work on the controlling item.
 - (2) When job conditions due to recent weather do not permit full efficiency of the men or equipment which are working on the controlling item.
 - (3) A shortage of help which is beyond the Contractor's control prevents reasonable progress on a controlling item.
 - (4) When any condition over which the Contractor has no control prevents completing a full day's production on the controlling item.
- (b) No working day will be charged under the following conditions.
- (1) When adverse weather prevents work on the controlling item.
 - (2) When job conditions due to recent weather prevent work on the controlling item.
 - (3) When work has been suspended by an act or an omission of the Department.
 - (4) When strikes, lock-outs, extraordinary delays caused by utility work, extraordinary delays in transportation, or inability to procure critical materials suspend work on the controlling item, as long as these delays are not due to any fault of the Contractor.
 - (5) When any condition over which the Contractor has no control causes suspension of work on the controlling item.

108.06 Completion Date and Completion Date Plus Working Days

When the contract provides a specified completion date or a specified completion date plus working days, such terms shall be interpreted as follows.

- (a) Completion Date. When a completion date is specified, the Contractor shall complete all work subject to the date on or before the specified date.
- (b) Completion Date Plus Working Days. When a completion date plus working days is specified, the Contractor shall complete the major items of work as specified in the contract, on or before the completion date. The Contractor shall complete the miscellaneous items of work within the specified number of working days after the completion date.

108.07 Labor, Methods, and Equipment

The Contractor shall, at all times, employ and provide sufficient labor, tools, equipment, and other incidental items for prosecuting the work to full completion in the manner and time required by the contract. The Contractor shall assume full responsibility for all labor, tools, equipment, and other incidental items employed and provided on the work.

All workers shall have sufficient skills and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform all work properly and satisfactorily.

Any person employed by the Contractor or by any subcontractor who, in the opinion of the Engineer, does not perform work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Department, be removed at once by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without the approval of the Department.

Should the Contractor fail to remove such person or persons as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Department may suspend the work by written notice until such orders are complied with.

All equipment which is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the project shall be such that no damage to the site, adjacent property, or other properties will result from its use.

The Contractor shall assume full responsibility for the equipment, means, methods, techniques, sequences, and procedures used in accomplishing the construction. Unless the methods and equipment to be used by the

Contractor in accomplishing the construction are prescribed in the contract, the Contractor is free to use any methods or equipment that can be demonstrated to the Department as satisfactory to accomplish the contract work in conformity with the requirements of the contract.

When the contract specifies that the construction be performed by the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the Department. If the Contractor desires to use a method or type of equipment other than specified in the contract, he or she may request authority from the Department to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing construction work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the Department determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. The Contractor shall remove the deficient work and replace it with work of specified quality, or take such other corrective action as the Department may direct. No change will be made in basis of payment for the construction items involved nor in contract time as a result of authorizing a change in methods or equipment under these contract documents.

108.08 Progress Meetings

Unless otherwise specified in the contract documents, the Contractor shall confer with the Department, Engineer, and others, as appropriate, at regularly scheduled progress meetings in regard to the prosecution of the work according to the schedules described in Article 108.02. Such progress meetings shall be held on site on a weekly basis. The Contractor shall be responsible for scheduling such progress meetings and for notifying the Department, and others, as appropriate, of the schedule for such meetings at least one week prior to the scheduled date of the first such meeting.

The Contractor's superintendent shall attend the progress meetings and shall review with the Department, Engineer, and others, as appropriate, items such as completed and planned work, soil and material stockpile locations, material and equipment storage locations, construction access locations, use of site, change orders, field orders, items requiring written interpretation or clarification, items requiring the Department's approval, payment requests, and any other concerns affecting the prosecution of the work.

108.09 Certified Payroll Reports

For all projects with contracts valued at \$500,000 or more, the Contractor and each subcontractor shall submit weekly, in person, by mail, or electronically, a certified payroll report to the Department, utilizing the Federal form known as Form WH-347. Such certified payroll reports shall identify the classification (i.e., trade and title) of all operators, laborers, mechanics, and other workers performing work on the project (e.g., electrician, journeyman; electrician, apprentice). The full social security number and home address of each worker performing work on the project shall not be included on the certified payroll reports; instead, the certified payroll reports shall include an identification number for each worker (e.g., the last four digits of the employee's social security number). Such certified payroll reports shall consist of a complete record of all operators, laborers, mechanics, and other workers performing work on the project. Each certified payroll report shall be accompanied by an affidavit signed by the Contractor or subcontractor which avers that: (1) such report is true and accurate; (2) the hourly rate paid to each worker performing work on the project is accurately shown on the report; and, (3) the Contractor or subcontractor is aware that filing a certified payroll report that he or she knows to be false is a Class B misdemeanor. In the event the Contractor or any subcontractor uses independent contractors to perform work on the project, such independent contractors must be included on the certified payroll reports. The same information as is required for other operators, laborers, mechanics, and other workers shall be provided for independent contractors performing work on the project.

If it so elects, the Department may withhold any and all payments to the Contractor for work performed by the Contractor if the Contractor fails to submit its certified payroll reports in a timely manner until said certified payroll reports are submitted to the Department. If it so elects, the Department may also withhold any and all payments to any subcontractor for work performed by such subcontractor if such subcontractor fails to submit its certified payroll reports in a timely manner until said certified payroll reports are submitted to the Department. The Department shall not withhold payments to the Contractor for work performed by the Contractor or for work performed by subcontractors who have submitted their certified payroll reports in a timely manner because one or more other subcontractors have failed to submit their certified payroll reports in a timely manner.

108.10 Suspension of Work

The Department shall have authority to suspend the work, in whole or in part, when unsuitable severe weather conditions or other conditions at the site make for circumstances beyond the Contractor's control, which are unfavorable for the satisfactory performance of the work, and when the Contractor does not comply with the contract or orders of the Engineer. Orders to suspend or resume work shall be complied with immediately. If it becomes necessary to stop work for an indefinite period of time, the Contractor shall store all materials in such manner that they will not unreasonably encumber the site or become damaged in any way, take every precaution to prevent damage or deterioration of the work performed, and install temporary structures, including suitable soil erosion and sediment control devices, where necessary. The Contractor shall not suspend work without written authority from the Department.

The period of suspension shall not count against the time of performance established in the contract unless the suspension is ordered due to the acts or omissions of the Contractor. Extensions of time will be evaluated according to Article 108.11. Except as provided herein below for suspension of an unreasonable duration, the Contractor shall not be paid additional compensation on account of any suspension ordered pursuant to this Article.

If the performance of all or any portion of the work is suspended or delayed by the Department in writing for an unreasonable period of time and the Contractor believes that additional compensation or an extension of the contract times is due as a result of such suspension or delay, the Contractor shall submit to the Department, in writing, a request for adjustment in the contract price and/or contract times within seven days of receipt of the notice to resume work issued by the Department. The request shall set forth the reasons and support for such adjustment.

Upon receipt of such request by the Department, the Engineer will evaluate the Contractor's request. If the Engineer agrees that the period of suspension was unreasonable and that contract price and/or contract times should be adjusted as a result of such suspension, the Department will make an adjustment, excluding profit, and modify the contract in writing accordingly. In no case shall a suspension of less than seven days be considered unreasonable. No adjustment will be made for a suspension of any duration if the suspension was caused by the acts or omissions of the Contractor, his or her subcontractors or suppliers, or the weather. The Department will notify the Contractor of his or her determination whether or not an adjustment of the contract is warranted.

No contract adjustment will be allowed unless the Contractor has submitted a request for adjustment within the time prescribed. No contract adjustment will be allowed under this Article to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this contract.

108.11 Determination and Extension of Contract Times

Determination and extension of contract times shall be as follows.

- (a) Working Days. When the contract provides a specified number of working days, it is understood that completion of the work within the specified number of working days is an essential part of the contract. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time.

A request for an extension of the contract times may be initiated by either the Department or the Contractor. If the Department finds that the quantities of work done, or to be done, are in excess of the estimated quantities by an amount sufficient to warrant additional time, it may grant an extension of the contract times for completion which appears reasonable and proper. The extended number of working days for completion shall then be considered as in effect the same as if it were the original time for completion.

- (b) Completion Date. When a completion date is specified, it is understood that time is of the essence of the contract and that completion of the work by that date is an essential part of the contract. The Contractor's plea that insufficient time was specified is not a valid reason for extension of the contract times.

In the event of delay in the work beyond the reasonable control of the Contractor resulting from:

- (1) Conduct or lack of conduct by the Department or its consultants, representatives, officers, agents, or employees; or delay by the Department in making the site available; or in furnishing any items required to be furnished to the Contractor by the Department;
- (2) Extraordinary conditions of weather for the area and time of year with the understanding that the completion time contemplated by this contract anticipates a certain number of lost days due to normal weather conditions, therefore only unusual or extreme weather conditions for the time of year will be considered as justification for a delay in completion of the work;
- (3) War, national conflicts, terrorist acts, or priorities arising therefrom, including restrictions of the ability to procure critical materials;
- (4) Fires;
- (5) Epidemics;
- (6) Strikes or other labor disruptions extending in duration more than five calendar days;
- (7) Utility or railroad adjustments;
- (8) Material delivery delay caused by strikes, lockouts, wrecks, or freight embargoes;
- (9) Subject to compliance with the requirements of Article 105.09, the operations of other contractors working within the limits of the contractor coordinated contracts; or,
- (10) Cataclysmic events.

And for no other cause or causes, the Contractor shall be entitled to a reasonable extension of the contract times only by the amount of time the Contractor is actually delayed thereby in the performance of the work, provided notice requesting an adjustment to the completion date is given as herein provided. Contractor shall not be entitled to any extension of the contract times unless the Contractor notifies the Department in writing within 21 days of the commencement of each such delay; requests an adjustment within 21 days of the conclusion of such delay; and failure of the Contractor to request an adjustment in conformity with this Article shall be deemed a waiver of the same. Interim completion dates incorporated into a contract subject to a final completion date, and completion date plus working days contracts shall be governed by these provisions.

The Contractor recognizes it is imperative that the work proceed uninterrupted and shall endeavor to prevent and shall promptly cure any work stoppage caused by any labor or jurisdictional disputes arising out of the assignment of work to be performed by the Contractor or its subcontractors or subcontractors of any tier.

After the Contractor has filed a request for an extension of the contract times, the Department will notify the Contractor, in writing, whether or not such extension will be approved. The Engineer will consider how timely the Contractor prosecuted the work up to the point of the delay according to the progress schedule approved according to Article 108.02 when considering the request. No extension of the contract times will be granted unless the delay in completion of the work was caused specifically by a delay in a portion of the work that was on the critical path of the progress schedule, and that was otherwise on schedule. If approved, the extended date for completion shall then be considered as in effect the same as if it were the original date for completion.

Regardless of whether the contract is governed by (a) or (b) of this Article, extensions of the contract times granted for reasons or events beyond the reasonable control of the Department shall be the exclusive relief provided, and no additional compensation or claim for damages will be paid or awarded under this or any other provision of the Contract unless the allowance of additional compensation or relief from damages is expressly allowed by a provision of the contract. An extension of the contract times will be granted only by a change order or a work change directive issued by the Engineer.

108.12 Failure to Complete the Work on Time

Time is of the essence to the contract. Should the Contractor fail to complete the work within the working days stipulated in the contract or on or before the completion date stipulated in the contract or within such extended

time as may have been allowed, the Contractor shall be liable and shall pay to the Department the amount shown in the following schedule of deductions, not as a penalty, but as liquidated damages, for each day of overrun in the contract times or such extended times as may have been allowed. The liquidated damages appearing in the schedule of deductions are approximate, due to the impracticality of calculating and proving actual delay costs. Consequently, the schedule of deductions establishes the cost of delay to account for administration, engineering, inspection, and supervision during periods of extended and delayed performance. The costs of delay represented by this schedule are understood to be a fair and reasonable estimate of the costs that will be borne by the Department during extended and delayed performance by the Contractor of the work, remaining incidental work, correction of work improperly completed, or repair of work damaged as a result of the Contractor. The liquidated damage amount specified will accrue and be assessed until final completion of the total work of the contract even though the work may be substantially complete. The Department will deduct these liquidated damages from any monies due or to become due to the Contractor from the Department.

Schedule of Deductions for Each Day of Overrun in Contract Times			
Original Contract Amount		Daily Charges	
From More Than	To and Including	Calendar Day	Working Day
\$ 0	\$ 100,000	\$ 475	\$ 675
\$ 100,000	\$ 500,000	\$ 750	\$ 1,050
\$ 500,000	\$ 1,000,000	\$ 1,025	\$ 1,425
\$ 1,000,000	And over	\$ 1,275	\$ 1,725

When a completion date is specified, the daily charge will be made for every day shown on the calendar beyond the specified completion date. When the time limit is specified as working days, the daily charge will be made for each additional working day, computed as specified in Article 108.05. Interim completion dates incorporated into a contract subject to a final completion date shall also be governed by these provisions.

108.13 Default on Contract

If the Contractor fails to begin the work under contract within the time specified, or fails to perform the work with sufficient workers and equipment or with sufficient materials to ensure the completion of said work within the specified time, or shall perform the work unsuitably, as determined by the Engineer, or shall neglect or refuse to remove materials or perform anew such work as shall be rejected as defective and unsuitable, or shall discontinue the prosecution of the work, or if the Contractor shall become insolvent or be declared bankrupt, or shall commit any act of bankruptcy, or insolvency, or shall make an assignment for the benefit of creditors, or from any other cause whatsoever shall not carry on the work in a manner consistent with the contract documents or otherwise approved by the Engineer, the Engineer will give notice, in writing, to the Contractor and the Contractor's surety, of such delinquency, said notice to specify the corrective measures required. If the Contractor, within a period of ten (10) days after said notice, shall not proceed according to said notice, the Department shall, upon written certification from the Engineer of the fact of such delinquency and the Contractor's failure to comply with said notice, have full power and authority to forfeit the rights of the Contractor and, at its option, to call upon the surety to complete the work according to the terms of the contract, or it may take over the work, including all materials and equipment on the ground as may be suitable and acceptable, and may complete the work with its own forces, or use such other methods as, in its opinion, shall be required for the completion of said contract in an acceptable manner.

When the Department calls upon the surety to complete, the surety shall enter upon the premises and take possession of all materials, tools, and appliances for the purpose of completing the work under the contract and employ by contract or otherwise any person or persons satisfactory to the Department to finish the work without termination of the contract. Such employment shall not relieve the surety of its obligations under the contract and the contract security. Payments on estimates covering work subsequent to the transfer shall be made to the extent permitted under law to the surety or its agent without any right of the Contractor to make any claim.

The Contractor shall bear any extra expenses incurred by the Department in completing the work, including all increased cost for completing the work, and all damages sustained, or which may be sustained, by the Department by reason of such breach refusal, neglect, failure, or discontinuance of work by the Contractor. After all of the work contemplated by the contract has been completed, the Engineer will calculate the total expenses and damages for the completed work. If the total expenses and damages are less than any unpaid balance due the Contractor, the excess will be paid by the Department to the surety or the Contractor. If the total expenses

and damages exceed the unpaid balance, the Contractor and the surety shall be jointly and severally liable to the Department and shall pay the difference to the Department on demand.

If a notice of termination for default has been issued and it is later determined for any reason that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to a termination for public convenience according to the provisions of Article 108.14.

108.14 Termination of the Contractor's Responsibility

Whenever the improvements called for by the contract has been completely performed on the part of the Contractor and all parts of the work have been approved by the Engineer and accepted by the Department according to the contract, and the final payment made, the Contractor's obligations shall then be considered fulfilled, except those obligations which by their nature extend beyond the completion of work including, but not limited to, those described in Articles 105.19, 107.23, and 107.27.

108.15 Termination for Public Convenience

The Department may, by written order, terminate the contract or any portion thereof after determining that, for reasons beyond either Department or Contractor control, the Contractor is prevented from proceeding with or completing the work as originally contracted for, and that termination would, therefore, be in the public interest. Such reasons for termination may include, but need not be necessarily limited to, Executive Orders relating to prosecution of war or national defense, national emergency which creates a serious shortage of materials, orders from duly constituted authorities relating to energy conservation, and restraining orders or injunctions obtained by third-party citizen action resulting from national or local environmental protection laws or where the issuance of such order or injunction is primarily caused by acts or omissions of persons or agencies other than the Contractor.

When a contract, or any portion thereof, is definitely terminated or cancelled, and the Contractor released before all items of work included in his or her contract have been completed, payment will be made for the actual number of units of items of work completed at contract unit prices, or as specified in Article 109.07 for partially completed items, and no claims for loss of anticipated profits will be considered. Reimbursement for organization of the work and moving equipment to and from the job will be considered where the volume of the work completed is too small to compensate the Contractor for these expenses under the contract unit prices, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained by the Contractor for the work, that have been inspected, tested and accepted by the Engineer, and that are not incorporated in the work may, at the option of the Engineer, be purchased from the Contractor at actual costs as shown by receipted bills and actual cost records at such points of delivery as may be designated by the Engineer.

Termination of a contract, as stated above, will not relieve the Contractor or his or her surety of the responsibility of replacing defective work as required by the contract.

SECTION 109 MEASUREMENT AND PAYMENT

109.01 Measurement of Quantities

Completed work, which is to be measured for payment, will be measured by the Contractor and Engineer according to the United States standard measures. The units of measure shall be English and shall correspond to the units in the contract.

All measurements for pay lengths will be made linearly unless otherwise specified in the contract documents.

Longitudinal measurements for pay areas will be made linearly along the actual surface of the area. For transverse measurements for pay areas, the dimensions used in calculating the pay area shall be the exact horizontal dimensions shown on the plans or the dimensions ordered in writing by the Department. No deduction will be made for an interruption in a pay area having an area of nine square feet or less.

Longitudinal and transverse measurements for pay volumes will be made along the actual surface of the volume. For depth measurements for pay volumes, the dimensions used in calculating the pay volume shall be the exact

vertical dimensions shown on the plans or the dimensions ordered in writing by the Department. No deduction will be made for an interruption in a pay volume having a surface area of nine square feet or less.

All measurements for weight shall be from scales meeting the requirements of the State of Indiana's Weights, Measures, and Metrology Program. The Contractor shall provide accurate weights of materials delivered to the site for incorporation into the work, whether temporary or permanent, for which the basis of payment is by weight. These weights shall be documented on delivery tickets which shall identify the source of the material, type of material, the date and time the material was loaded, the contract number, the net weight, the tare weight when applicable, and the identification of the transporting vehicle.

The Department may conduct random, independent vehicle weight checks for material sources using a qualified inspector.

Should the vehicle weight check for a source result in the net weight of material on the vehicle exceeding the net weight of material shown on the delivery ticket by 0.50 percent (0.50%) or more, the Department will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. No adjustment in pay quantity will be made.

Should the vehicle weight check for a source result in the net weight of material shown on the delivery ticket exceeding the net weight of material on the vehicle by 0.50 percent (0.50%) or more, the Department will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. The Department will adjust the net weight shown on the delivery ticket to the checked delivered net weight as determined by the independent vehicle weight check.

The Department will also adjust the method of measurement for subsequent deliveries from the source based on the independent weight check. The net weight of all materials delivered to all contracts from this source, for which the basis of payment is by weight, will be adjusted by applying a correction factor "A" as determined by the following formula:

$$A = 1.0 - \left(\frac{B-C}{B} \right); \text{Where: } A \leq 1.0 \text{ and } \left(\frac{B-C}{B} \right) > 0.50\%$$

Where:

A = Adjustment factor

B = Net weight shown on delivery ticket

C = Net weight determined from independent weight check

The adjustment factor will be applied as follows:

Adjusted Net Weight = A x Delivery Ticket Net Weight

The adjustment factor will be imposed until the cause of the deficient weight is identified and corrected by the Contractor to the satisfaction of the Department. If the cause of the deficient weight is not identified and corrected within seven days, the source shall cease delivery of all materials for which the basis of payment is by weight.

Should the Contractor elect to challenge the results of the independent weight check, the Department will continue to document the weight of material for which the adjustment factor would be applied. However, provided the Contractor furnishes the Department with written documentation that the source scale has been calibrated within seven days after the date of the independent weight check, adjustments in the weight of material paid for will not be applied unless the scale calibration demonstrates that the source scale was not within acceptable tolerances, as specified in the State of Indiana's Weights, Measures, and Metrology Program, and as regulated by the Indiana State Department of Health.

At the Contractor's option, the vehicle may be weighed on a second independent scale certified by the State of Indiana's Weights, Measures, and Metrology Program to verify the accuracy of the scale used for the independent weight check.

109.02 Determination of Contract Price

Where the contract documents specify that all or part of the work is to be unit price work, initially the contract price will be deemed to include, for all unit price work, an amount equal to the sum of the value of each pay item

appearing on the basis of bid or basis of quote form, such values being determined by multiplying the unit price of each pay item by the estimated quantity of each pay item, such unit prices and estimated quantities appearing on such basis of bid or basis of quote form. The quantities of each pay item appearing on the basis of bid or basis of quote form are estimates prepared solely for the purposes of the comparison of bids, the establishment of pay item unit prices, and the determination of an initial contract price. Payment to the Contractor will be made for the actual quantities of work performed in accordance with the contract documents, the acceptance of such work and the determination of such quantities to be made by the Department in accordance with the contract documents, and the scheduled quantities may be increased, decreased, or omitted and the contract price adjusted as provided herein.

109.03 Scope of Payment

The Contractor shall receive and accept the compensation provided herein as full payment for performing all work specified, indicated, or contemplated in the contract documents; for furnishing all materials, labor, tools, and equipment necessary to complete the work; for all loss or damage arising out of the nature of the work and from the action of the elements; for any unforeseen difficulties or obstructions which may arise or be encountered during the prosecution of the work until its final acceptance by the Department; for all risks of every description connected with the prosecution of the work; for all expenses incurred by or in consequence of suspension or discontinuance of such prosecution of the work as herein described; for any infringement of patents, trademarks, or copyrights; and for completing the work in an acceptable manner according to the contract documents.

The payment of any partial payment prior to final acceptance of the work by the Department shall in no way constitute an acknowledgement of the acceptance of the work, nor in any way prejudice or affect the obligation of the Contractor, at his or her own expense, to repair, correct, renew, or replace any defects or imperfections in the construction or in the strength or quality of the materials used in or about the construction of the work under contract and its appurtenances, nor any damage due or attributable to such defects, which defects, imperfections, or damage shall have been discovered on or before the final inspection and acceptance of the work or thereafter, if so specified elsewhere in the contract documents. The Department shall be the sole judge of such defects, imperfections, or damage, and the Contractor shall be liable to the Department for failure to correct the same as provided herein.

109.04 Increased or Decreased Quantities

Whenever the quantity of any pay item as given in the proposal shall be increased or decreased, payment shall be made on the basis of the actual quantity of work performed at the unit price named in the proposed for such pay item, except as otherwise provided in Article 104.03, or in the detailed specifications for each item of work. The quantity of any pay item increased to complete extra work will not be paid for unless such extra work was performed in accordance with Article 109.05. Should any pay items contained in the proposal be found unnecessary for the proper completion of the work, the Department may, upon written order to the Contractor, eliminate such pay items from the contract and such action shall in no way invalidate the contract. When a Contractor is notified of the elimination of pay items, the Contractor will be reimbursed for actual work performed and all costs incurred, including mobilization of materials prior to said notification.

109.05 Payment for Extra Work

Should any extra work result from any of the changes described in Article 104.03, the Department will request from the Contractor a proposal to perform such extra work. Such proposal shall list each and every pay item required to complete such extra work. The proposal shall include a quantity and unit price for each and every pay item listed in the proposal and the proposal shall show the total increase in the contract price required to complete the extra work. Should the proposed extra work require an increase in the contract times, the proposal shall indicate the length of such increase.

Upon receipt, the Department will promptly review such proposal and either: decide to proceed with the extra work as proposed, or, return the proposal to the Contractor indicating in writing the Department's reasons for refusing to recommend performance of the extra work as proposed. In the latter case, the Contractor may make the necessary corrections and resubmit the proposal. An authorization to proceed with any extra work will be issued by the Department through the issuance of either a change order or a work change directive.

Extra work which results from any of the changes described in Article 104.03 shall not be started until authorization from the Department is received, which authorization shall state the items of work to be performed and the method of payment for each work item. Work performed without such order will not be paid for.

Extra work will be paid for at either established contract prices, a lump sum price, agreed unit prices, or on a force account basis.

- (a) Lump Sum Price or Agreed Unit Prices. When extra work is to be paid for at either a lump sum price or agreed unit prices, the lump sum or unit prices shall be agreed upon by the Contractor and the Department.
- (b) Force Account Basis. When extra work is to be paid for by force account, the basis for the force account shall be as follows.

- (1) Labor. For all labor and foremen in direct charge of the specific operations, the Contractor shall receive the actual normal rate of wage paid for each and every hour that said labor and foremen are actually engaged in such work.

The Contractor shall receive the actual costs paid to, or in behalf of, workers by reasons of subsistence and travel allowances, health and welfare benefits, pension fund benefits, or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work.

An amount equal to 35 percent (35%) of the sum of the above items will also be paid to the Contractor.

- (2) Bond, Insurance, and Tax. For property damage, liability, and workmen's compensation insurance premiums, unemployment insurance contributions, and social security taxes on the force account work, the Contractor shall receive the actual cost, to which ten percent (10%) will be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bond, insurance, and tax.

- (3) Materials. For materials accepted by the Department and used, the Contractor shall receive the actual cost of such materials delivered on the work, including transportation charges paid by the Contractor (exclusive of the machinery rentals as hereinafter set forth), to which cost fifteen percent (15%) will be added.

- (4) Equipment. Equipment used for extra work shall be authorized by the Department. The equipment shall be specifically described, be of suitable size and capacity for the work to be performed, and be in good operating condition. For such equipment, the Contractor will be paid as follows.

- a. Contractor Owned Equipment. Contractor owned equipment will be paid for by the hour using the applicable FHWA hourly rate from the "Equipment Watch Rental Rate Blue Book" (Blue Book) in effect when the force account begins. The FHWA hourly rate is calculated as follows.

$$\text{FHWA hourly rate} = (\text{monthly rate}/176) \times (\text{model year adj.}) \times (\text{Indiana adj.}) + \text{EOC}$$

Where:

EOC = Estimated Operating Costs per hour (from the Blue Book)

The time allowed will be the actual time the equipment is operating on the extra work. For the time required to move the equipment to and from the site of the extra work and any authorized idle (standby) time, payment will be made at the following hourly rate:

$$0.5 \times (\text{FHWA Hourly Rate} - \text{EOC})$$

All time allowed shall fall within the working hours authorized for the extra work.

The rates above include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs, overhaul, maintenance of any kind, depreciation, storage, overhead, profits, insurance, and all incidentals. The rates do not include labor.

The Contractor shall submit to the Department sufficient information for each piece of equipment and its attachments to enable the Department to determine the proper equipment category. If a rate is not established in the Blue Book for a particular piece of equipment, the Department will establish a rate for that piece of equipment that is consistent with its cost and use in the industry.

- b. Rented Equipment. Whenever it is necessary for the Contractor to rent equipment to perform extra work, the rental and transportation costs of the equipment plus five percent (5%) for

overhead will be paid. In no case shall the rental rates exceed those of established distributors or equipment rental agencies.

- (5) Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- (6) Work Performed by an Approved Subcontractor. When extra work is performed by an approved subcontractor, the Contractor shall receive, as administrative costs, an amount equal to five percent of the total approved costs of such work with the minimum payment being \$100.
- (7) Statements. No payment will be made for work performed on a force account basis until the Contractor has furnished the Department with itemized statements of the cost of such force account work. Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Department's stock, then in lieu of the invoices, the Department shall furnish an affidavit certifying that such materials were taken from his or her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Itemized statements of the cost of force account work shall be detailed as follows.

- a. Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman. Payrolls shall be submitted to substantiate actual wages paid if so requested by the Engineer.
- b. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
- c. Quantities of materials, prices, and extensions.
- d. Transportation of materials.
- e. Cost of property damage, liability, and workmen's compensation insurance premiums, unemployment insurance contributions, and social security tax.

All statements of the costs of force account work shall be furnished to the Department not later than 60 days after the completion of such work. If the statement is not received within the specified time frame, all demands for payment for the extra work are waived and the Department is released from any and all such demands. It is the responsibility of the Contractor to ensure that all statements are received within the specified time regardless of the manner or method of delivery.

109.06 Expenses Incurred by the Department

Upon written request of the Department, the Contractor shall pay bills associated with the performance, observation, or inspection of the work which are the responsibility of the Department. The Contractor shall receive as administrative costs an amount equal to five percent (5%) of the first \$10,000 and one percent (1%) of any amount over \$10,000 of the total actual amount paid per bill with the minimum payment being \$100.

109.07 Payment for Items Omitted When Partially Completed

Should the Department cancel or alter any portion of the contract which results in the elimination or noncompletion of any portions of the work that have been partially completed, the Contractor will be allowed a fair and equitable amount covering all items of work incurred prior to the date of cancellation, alteration, or suspension of such work.

The Contractor shall be allowed a profit percentage on the materials used and the construction work actually performed at the rate specified in Article 109.05, but no allowance will be made for any change in anticipated profits. Acceptable materials ordered by the Contractor or delivered on the work prior to the date of its cancellation, alteration, or suspension by the Department will be purchased from the Contractor by the Department at the actual cost and shall thereupon become the property of the Department; or at the option of the Department, the unused acceptable material shall remain the property of the Contractor, and the Contractor will be paid the actual cost including freight, unloading, and hauling costs less the actual salvage value.

109.08 Partial Payments

Partial payments will be made as follows.

- (1) Progress Payments. As the work proceeds, the Contractor may, on approximately a monthly basis, unless otherwise specified in the contract documents, submit to the Engineer, for review, an application for payment filled out and signed by the Contractor covering the work completed as of the date of such application and accompanied by such supporting documentation as is required by the Department to review such application. The schedule of values established in accordance with Article 108.02 shall serve as the basis for such applications for payment and such schedule shall be incorporated into such applications for payment in a form acceptable to Department.

The Engineer will, within ten days after receipt of each application for payment, either: accept the application for payment and subsequently process the application for payment; or, return the application to the Contractor indicating in writing the Engineer's reasons for refusing to recommend payment. In the latter case, the Contractor may make the necessary corrections and resubmit the application.

The Engineer's recommendation of any progress payment will constitute a representation by the Engineer, based on the Engineer's observations of the work; the Engineer's measurements of the quantity of work performed in accordance with the contract documents and the value of such work; and, the Engineer's review of the application for payment and the accompanying supporting documentation, that to the best of the Engineer's knowledge, information, and belief, the work has progressed to the point indicated, the quality of the work is generally in accordance with the contract documents, and the conditions precedent to the Contractor's being entitled to such payment appear to have been fulfilled.

The Engineer may refuse to recommend the whole or any part of any progress payment if, in the Engineer's opinion, it would be incorrect to make the representations stated above. The Engineer may also revise or revoke any such payment recommendation previously made to such extent as may be necessary, in the Engineer's opinion, to protect the Department from loss because subsequently discovered evidence or the results of subsequent inspections or tests reveal that the work is defective, the work has been damaged, requiring correction or replacement, the contract price has been reduced by change orders, the Department has been required to correct defective work or to complete work, or the Department has found the Contractor to be in default of contract as described in Article 108.13.

- (2) Material Allowances. At the discretion of the Engineer, payment may be made for materials prior to their use in the work, when satisfactory evidence is presented to the Engineer by the Contractor in an application for payment. Satisfactory evidence includes justification for the allowance (e.g., to expedite the work, meet project schedules, address regional or national material shortages), documentation of material and transportation costs, and evidence that such material is properly stored on the site or at a secure location acceptable and accessible to and agreed to in writing by the Department.

If payment on the basis of materials not incorporated into the work but delivered and suitably stored at the site or at another location agreed to in writing is so requested, the application for payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that the Department will be receiving the materials and equipment free of all liens and evidence that the materials are covered by appropriate property insurance or other arrangements to protect the Department's interest therein, all of which must be satisfactory to the Department.

Material allowances will be considered only for nonperishable materials when the cost of such materials, including transportation, exceeds \$10,000 and such materials are not expected to be utilized within 60 days of the request for the allowance. For contracts valued under \$500,000, the minimum \$10,000 requirement may be met by combining the principal (i.e., material) value of no more than two contract items. An exception to this two item limitation may be considered for any contract regardless of value for items in which materials (i.e., products) are similar, except for type and/or size.

Material allowances shall not exceed the contract value of the pay items in which the materials will be used and shall not include the cost of installation or related markups. Amounts paid by the Department for material allowances will be deducted from payments due the Contractor as the material is used. Proof of payment for materials and transportation shall be furnished to the Department within 60 days of payment of the allowances or the amounts will be reclaimed by the Department.

30 days after the presentation of an application for partial payment to the Department by the Engineer, along with the Engineer's recommendation for payment, the full amount recommended for payment, less any retainage, will

become due and upon becoming due will be paid by Department to Contractor. The amount of retainage withheld from each partial payment will be as stipulated in the contract and such retainage may be withheld by the Department until final acceptance of and final payment for the work.

The failure to perform any requirement, obligation, or term or condition of the contract by the Contractor shall be reason for the Department to withhold any additional part or all of any partial payment until the Department determines that compliance with the contract has been achieved. Furthermore, partial payments may be reduced or withheld if claims have been made against the Department on account of the Contractor's performance of the work or liens have been filed against the Department in connection with the work. If the Department refuses to make payment of the full payment amount requested by the Contractor, the Department will give the Contractor immediate written notice, stating the reasons for such action and will promptly pay the Contractor any amount remaining after deduction of the amount so withheld. The Department shall promptly pay the Contractor the amount so withheld, or any adjustment thereto agreed to by the Department and Contractor, when the Contractor remedies the reasons for such action.

The Contractor warrants and guarantees, at the time of submitting an application for payment, that title to all work, materials, and equipment covered by any application for payment, whether incorporated into the work or not, will pass to the Department no later than the time of payment free and clear of all liens. At the request of the Department, beginning with the first application for payment, each application shall include a Contractor's affidavit and waiver of lien, prepared in accordance with all applicable laws and regulations, stating that all previous payments received on account of the work have been applied on account to discharge the Contractor's legitimate obligations associated with the work and that title to all work, materials, and equipment covered by the payment applied for will pass to the Department free and clear of all liens at the time of payment.

109.09 Acceptance and Final Payment

Whenever all parts of the work specified or indicated in the contract documents have been completed by the Contractor; a definitive certificate of substantial completion has been issued by the Department; the work has undergone a final inspection and has been found, by the Engineer, to be satisfactorily completed; and, all other terms and conditions of the contract documents have been satisfied, the Contractor shall submit to the Department, for review, a final application for payment. The final application for payment shall show the total value of the work completed for which payment has not yet been received and shall be accompanied by such supporting documentation as is required by the Engineer to review such application.

If, on the basis of the Engineer's observation of the work during construction and final inspection; the Engineer's measurements of the quantity of work performed in accordance with the contract documents and the value of such work; and, the Engineer's review of the final application for payment and the accompanying supporting documentation, the Department is satisfied that the work has been completed and that the Contractor's other obligations under the contract documents have been fulfilled, the Department will, within ten days after receipt of the final application for payment, accept the final application for payment. Otherwise, the Department will return the final application for payment to the Contractor, indicating in writing the Department's reasons for refusing to recommend final payment, in which case the Contractor shall make the necessary corrections and resubmit the application.

The Department's recommendation of final payment will constitute a representation by the Department, based on the Department's observations of the work, that, to the best of the Department's knowledge, information, and belief, the work has been found to be satisfactorily completed, all applicable terms and conditions of the contract documents have been satisfied, and the conditions precedent to the Contractor's being entitled to such payment appear to have been fulfilled. The Department may refuse to recommend the whole or any part of a final payment if, in the Department's opinion, it would be incorrect to make the representations stated above. Additionally, all prior measurements of the quantity of work performed, upon which partial payments may have been made, are subject to correction in the final payment.

30 days after the presentation of the final application for payment to the Department, along with the Department's acceptance of such final application for payment, the full amount recommended for payment by the Department, less any sum the Department is entitled to deduct from the final application for payment, including, but not limited to, any liquidated damages, will become due and upon becoming due will be paid by the Department to the Contractor. At such time, any retainage withheld from previous partial payments in accordance with the terms of the contract and not yet paid to the Contractor will also become due and payable to the Contractor.

Final acceptance of the work occurs by the signature of an authorized representative of the Department on his or her written recommendation of final payment and the date of this signature shall constitute the final acceptance date. Final acceptance shall not constitute acceptance of any unauthorized or defective work or material and the Department shall not be barred from requiring the removal, replacement, repair, or disposal of any unauthorized or defective work or material or from recovering damages from any such work or material following final acceptance.

The Contractor warrants and guarantees, at the time of submitting the final application for payment, that title to all work, materials, and equipment covered by any application for payment, whether incorporated into the work or not, will pass to the Department no later than the time of payment free and clear of all liens. The final application for payment shall include a Contractor's affidavit and waiver of lien, prepared in accordance with all applicable laws and regulations, stating that all previous payments received on account of the work have been applied on account to discharge the Contractor's legitimate obligations associated with the work and that title to all work, materials, and equipment covered by the final payment will pass to the Department free and clear of all liens at the time of payment.

The making of final payment by the Department and acceptance of such final payment by the Contractor will constitute a release and waiver of any and all rights and privileges under the terms of the contract, unless otherwise specified in the contract documents, and shall relieve the Department from any and all claims or liabilities for anything done or furnished relative to the work.

109.10 Contract Claims

If the Contractor claims that additional payment is due under the terms of the contract or for any other reason arising out of the performance of the contract and the Department has not agreed, during the ordinary course of contract administration, that payment is due, the Contractor desiring to pursue additional compensation shall file a claim according to the requirements and procedures specified herein. If written notifications are not given, or if the Department is not afforded reasonable access by the Contractor to complete records of actual costs or additional time, or if a claim is not filed according to the procedures and within the time specified herein, then the claim is waived and the Department is released from any and all demands and claims. The fact that the Contractor has provided a proper notification, provided a properly filed claim, or provided the Department access to records of actual cost, shall not in any way be construed as proving or substantiating the validity of the claim. If the claim, after consideration by the Department, is found to have merit, the Department will make an equitable adjustment either in the amount of costs to be paid according to the basis of payment specified herein or in the time required for the work or both. If the Department finds the claim to be without merit, no adjustment will be made.

The Contractor may present a claim made by a subcontractor founded upon the terms of the contract or the actions and orders of the Department without being first required to make payment to the subcontractor provided: the Contractor makes written certification that the subcontractor is entitled to additional compensation; that the subcontractor will be paid in the event of a favorable resolution of the claim; and that the subcontract, releases, and waivers executed by the subcontractor do not bar payment to the subcontractor. The written certification may authorize the subcontractor to present the subcontractor claim directly to the Department. If such authorization is given, the Contractor need not participate in the verbal presentation of the claim. In any event, the submission shall include a copy of the subcontract, and any releases or waivers signed by the subcontractor in favor of the Contractor. The Contractor's interest in the subcontractor's claim shall not be assigned or otherwise disposed of, except as specified in Article 108.01.

- (a) Submission of Claim. All claims filed by the Contractor shall be in writing and in sufficient detail to enable the Department to ascertain the basis and amount of the claim. All claims shall be submitted to the Department. As a minimum, the following information must accompany each claim submitted.
 - (1) A detailed factual statement of the claim for additional compensation and time, if any, providing all necessary dates, locations, and items of work affected by the claim.
 - (2) The name of any Department official or employee involved in or knowledgeable about the claim.
 - (3) The specific provisions of the contract which support the claim and a statement of the reasons why such provisions support the claim.

- (4) If the claim relates to a decision of the Department which the contract leaves to the Department's discretion or as to which the contract provides that the Department's decision is final, the Contractor shall set out in detail all facts supporting his or her position relating to the decision of the Department.
- (5) The identification of any documents and the substance of any oral communications that support the claim.
- (6) Copies of any identified documents, other than Department documents and documents previously furnished to the Department by the Contractor, that support the claim, including, but not limited to, manuals which are standard to the industry and used by the Contractor.
- (7) If an extension of time is sought, the specific days and dates for which it is sought, the specific reasons the Contractor believes a time extension should be granted, and the specific provisions of Article 108.11 under which it is sought.
- (8) If additional compensation is sought, the exact amount sought and a breakdown of that amount into direct labor, direct materials, direct equipment, direct jobsite overhead, and direct offsite overhead.
- (9) A statement, certified by a notary public, containing the following language:

*This statement is submitted by _____, _____ of _____, who
(name) (title) (company)
certifies under penalty of law that the claim for compensation and time, if any, made herein for work
under this contract is a true statement, fully documented, and supported under the contract between
the parties.*

Dated: _____, _____
(month and day) (year)

- (b) Record Retention. It is the responsibility of the Contractor to keep full and complete records of the costs and additional time incurred for any claim. The Contractor shall permit the Department to have access to those records and any other records as may be required by the Department to determine the facts or contentions involved in the claim. The Contractor shall retain those records according to Article 109.11.
- (c) Audit. All claims filed against the Department shall be subject to audit at any time following the filing of the claim. The audit may be performed by employees of the Department or by an auditor under contract with the Department. The audit may begin at any time during the life of the contract, or on twenty (20) days notice to the Contractor or its agents if an audit is to be commenced more than 60 days after the final payment date of the contract. The Contractor, subcontractors, or agents shall provide adequate facilities acceptable to the Department, for the audit during normal business hours. Failure of the Contractor or its agents to maintain and retain sufficient records to allow the auditors to verify all or any portion of the claim or to permit the auditor access to the books and records of the Contractor, subcontractors, or agents shall constitute a waiver of the claim and may bar any recovery of all or any portion thereunder.

The records subject to retention and audit are all books and records including but not limited to the following documents.

- (1) Daily time sheets and supervisor's daily reports.
- (2) Payroll records including tax, insurance, welfare, and benefits records.
- (3) Material invoices and requisitions.
- (4) Material cost distribution worksheet.
- (5) Equipment records (list of company equipment, rates, etc.).
- (6) Vendor's, rental agency's, subcontractor's, and agent's invoices.
- (7) Subcontractor's and agent's payment certificates.
- (8) Cancelled checks (payroll and vendors).
- (9) Job cost report.
- (10) Job payroll ledger.

- (11) General ledger.
 - (12) Cash disbursements journal.
 - (13) Financial statements for all years reflecting the operations on the contract involved.
 - (14) Depreciation records on all company equipment.
 - (15) If a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual costs of owning and operating the equipment, all such other source documents.
 - (16) All documents including pricing books and bid documents which relate to each and every claim together with all documents which support the amount of damages as to each claim.
 - (17) Worksheets used to prepare the claim establishing the cost components for items of the claim including but not limited to labor, benefits and insurance, materials, equipment, subcontractors, and all documents which establish the time periods involved, the hours for the individuals involved, and the rates of such individuals.
- (d) Time of Submission. Notice of the intent to file a claim shall be given to the Department within 21 days of the date of the Contractor's final application for payment prepared and submitted according to the provisions of Article 109.09. All claims submitted according to this Article shall be filed not later than six months after such date. Such six month period shall run from the date of the Contractor's final application for payment. The requirement of a general administrative claims cutoff time provided herein shall not constitute a waiver of any notification time requirements stated elsewhere in the contract documents.
- (e) Procedure. All claims shall be submitted to the Department. The Department will consider all information submitted with the claim and render a decision on the claim within 90 days after receipt. Claims not conforming to this Article will be returned without consideration. The Department may schedule a claim presentation meeting if, in the Department's judgment, such a meeting would aid in resolution of the claim, otherwise a decision will be made based on the claim documentation submitted.
- Full compliance by the Contractor with the provisions specified in this Article is a contractual condition precedent to the Contractor's right to seek relief in the court. The Department's written decision shall be the final administrative action of the Department. Unless the Contractor files a claim for adjudication by the court within 60 days after the date of the Department's written decision, the failure to file shall constitute a release and waiver of the claim.
- (f) Basis of Payment. After resolution of a claim in favor of the Contractor, any adjustment in time required for the work will be made according to Article 108.11. Any adjustment in the costs to be paid will be made for direct labor, direct materials, direct equipment, direct jobsite overhead, direct offsite overhead, and other direct costs allowed by the resolution. Adjustments in costs will not be made for interest charges, loss of anticipated profit, lost opportunity, preparation of claim expenses, and other consequential indirect costs regardless of method of calculation.

The above basis of payment is an essential element of the Contract and the claim cost recovery of the Contractor shall be so limited.

109.11 Contractor Record Retention

All books and records required to be maintained by the Contractor and subcontractor shall be maintained as provided for elsewhere in the contract. The Contractor and subcontractor shall cooperate fully with any audit and provide full access to all relevant materials. Failure by the Contractor or subcontractor to maintain the books, records, and supporting documents required by this Article shall establish a presumption in favor of the Department for the recovery of any funds paid by the Department under the contract for which adequate books and records are not available. The Contractor and subcontractor shall include the requirements of this Article in all subcontracts.

SPECIAL PROVISIONS & TECHNICAL SPECIFICATIONS
FOR
CARRIAGE LANE ROAD
STORM SEWER AND ROADWAY IMPROVEMENTS

PORTER CO. DEPARTMENT OF DEVELOPMENT & STORMWATER MANAGEMENT
DECEMBER 2023

The following Special Provisions & Technical Specifications shall apply to and govern the project designated as **Carriage Lane Road - Storm Sewer and Roadway Improvements**. Such Special Provisions & Technical Specifications supplement the specifications contained in the documents listed in the table below and, in case of conflict with any part or parts of said specifications, the Engineer shall determine which specifications shall take precedence and govern. The following hierarchy will be applied by the Engineer in resolving any conflict, error, ambiguity, or discrepancy in or between said specifications.

Specification	Issuing Agency	Adopted/Dated
Special Provisions & Technical Specifications for Carriage Lane Road - Storm Sewer and Roadway Improvements	Porter Co. Department of Development & Storm Water Management	December 8, 2023
Construction Plans for Carriage Lane Road - Storm Sewer and Roadway Improvements	Porter Co. Department of Development & Storm Water Management	December 8, 2023
General Specifications	Porter Co. Department of Development & Storm Water Management	February 1, 2024

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**SPECIAL PROVISIONS AND TECHNICAL SPECIFICATIONS
CARRIAGE LANE ROAD- STORM SEWER AND ROADWAY IMPROVEMENTS**

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1. Overview of this Section

This section identifies and provides: a) Modifications, additions, deletions, and clarifications to the General Specifications Section of these Bidding Documents; b) Modifications, additions, deletions, and clarifications to the Indiana Department of Transportation (INDOT) Standard Specifications, latest edition; and c) Additional technical specifications that are not provided for in the General Specifications and INDOT Standard Specifications.

The INDOT Standard Specifications, latest edition for road and bridge construction and maintenance are the technical specifications on this contract except as noted in these special provisions and technical specifications.

2. Modification of Terms in the INDOT Standard Specifications

Related Documents

- A. INDOT Standard Specifications: Various Sections

Modifications

- A. "Department of Transportation" and "Indiana Department of Transportation" shall be changed to the "Storm Water Management Board of Porter County, Indiana acting through its authorized representative, the Department of Development and Storm Water Management."
- B. "Engineer" and "Chief Engineer", shall be changed to "County Engineer, of Porter County".
- C. "State" shall be changed to "Porter County, Indiana".
- D. "Bituminous" shall be changed to "Asphalt".
- E. Owner and County shall mean Storm Water Management Board of Porter County.

3. Method of Measurement and Payment

Related Documents

- A. General Specifications: 109, "Measurement and Payment"
- B. INDOT Standard Specifications: Various Sections

Modifications

- A. The methods of measurement and payment shall be as defined in these Special Provisions and Technical Specifications for each bid item.

4. Coordination of the Contract Documents

Related Document

- A. General Specifications: 105.05, "Coordination of the Contract Documents"

Modifications

- A. Special provisions and technical specifications hold over construction plans and general specifications; and
- B. Construction plans hold over general specifications.

5. Warranty and Maintenance Bond

Related Documents

- A. General Specifications, Section 105.19, "Warranty and Guarantee"

Modifications

- A. The cost incurred by the Contractor in complying with the requirements of this article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

6. Samples, Tests, and Cited Specifications

Related Documents

- A. General Specifications: 106.04, "Samples, Tests, and Cited Specifications"

Modifications

- A. The Contractor shall collect all samples and conduct all tests for all earthwork, backfill, compaction, aggregate base, asphalt, and concrete. Testing shall be performed by an independent testing agency hired by the Contractor.
- B. Testing shall be performed in accordance with the "Manual for Frequency of Sampling and Testing for INDOT and Basis for Use of Materials", latest edition and INDOT Standard Specifications, latest edition.
- C. The Contractor shall include the cost of samples and testing in other bid items. Re-sampling and re-testing costs shall be paid for by the Contractor.
- D. Any representative materials sampled and found to be in non-compliance with contract specifications by said testing laboratory will be cause for the Owner to reject all materials incorporated into this project.
- E. The Owner, at his discretion, may elect to accept a Certified Statement of Compliance for materials or workmanship in lieu of testing.

Method of Measurement and Basis of Payment

- A. Testing will not be paid for separately but shall be included in the cost of other items.

7. Geotechnical Exploration

Related Documents

- A. General Specifications: 104.05, "Differing Site Conditions"

Modifications

- A. A total of five (5) geotechnical soil borings were collected for this project. The Report of Geotechnical Exploration for this project (dated May 18, 2023) is provided as an Appendix to the bidding documents. Contractors, prior to submitting a bid to the Department, shall make whatever additional borings necessary to fully acquaint themselves with conditions as they exist so that they may fully understand the conditions which may affect the cost of the work. Failure to make such borings or any borings made which do not provide a complete understanding of the conditions encountered shall not relieve the Contractor of the responsibility for carrying out all the work to completion as shown on the plans, or as specified, at the price specified to be paid for the work.

Method of Measurement and Payment

- A. Contractor will not be paid for borings and the cost to repair damages caused by borings shall be paid for by the Contractor.

8. Matching Old Work to New and Saw Cutting

Related Documents

- A. None

Modifications

- A. Where new work is to be fitted to old work the Contractor shall check all leading dimensions and conditions in the field and report any errors or discrepancies to the Owner or assume responsibility for their correctness and the fit of new parts to old. If such parts do not fit properly, the Contractor shall make and pay for such alterations and/or new parts as may be necessary to assure proper fits and connections meeting the approval of the Owner.
- B. All concrete and bituminous edges shall be full depth saw cut prior to the new material being placed next to the existing material.
- C. All concrete areas and drives shall be saw cut at existing joints as directed by the Engineer.

Method of Measurement and Payment

- A. The cost incurred by the Contractor in complying with the requirements of this article shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

9. Contractor Notifications

Related Documents

- A. General Specifications: 105.07, "Cooperation by Contractor"; 105.08, "Cooperation with Utilities"; 107.07, "Public Convenience and Safety"

Modifications

- A. Sufficient notice shall be given by the Contractor to all County Departments, utilities and property owners whose pipes, poles, tracks, wires, conduits or other structures may be affected by the work in order that they may protect, adjust, remove or rebuild said items, or take such measures as they may desire to minimize inconvenience. He shall notify the Porter County Highway Department, Porter County Engineer, surrounding fire department(s), Duneland School Corporation, and Porter County Sheriff Department forty-eight (48) hours in advance of the temporary blocking of any street or any street closures.
- B. The Contractor shall communicate with residents on all phases of the project. Communication may entail discussions with individual residents during construction, door hangers, and attending public meetings as directed by the Owner.

Method of Measurement and Payment

- A. Contractor notifications will not be paid for separately. It shall be included in the cost of other items.

10. Preconstruction Audio-Video Survey

Related Documents

- A. None

Modifications

- A. Intent - Prior to the start of construction on the Contract, the Contractor shall furnish to the Engineer videos of the construction areas. The videos shall remain available for viewing by the Contractor and may be reviewed by him for any assistance that the tapes may provide in resolving disputes, which arise with the property owners claiming improper restoration of their properties. The videos will also be used as a guide by the Engineer, prior to issuance of final

- payments, in determining the adequacy of restoration and the extent of damages attributable to the Contractor's work.
- B. Technical Requirements - The total audio-video recording system and the procedures employed in its use shall be such as to produce a finished product that will fulfill the technical requirements of the project, as well as those more subjective requirements of high-quality audio and video production. The video portion of the recording shall reproduce bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls, or any other form of picture imperfection. The audio portion of the recording shall reproduce precise and concise explanatory notes by the camera operator with proper volume, clarity and freedom from distortion.
 - C. Tapes - The Contractor shall supply the Owner with two sets of DVDs or USBs.
 - D. Camera - The video documentation shall be recorded in high definition video.
 - E. Character Printout - The video recordings shall include Contents Index, Time and Date.
 - F. Audio - At the start of production and at the beginning of a new street or easement, an identification summary shall be read into the record while, at the same time, a wide-angle view with numeric displays shall be provided for a visual record. This summary shall include 1) tape number; 2) job title; 3) job location; 4) positional location at job start; 5) date and time; 6) weather; and 7) any other notable conditions.
 - G. Coverage - The recording shall include coverage of all surface features located within the construction zone-of-influence. This zone shall be defined as 1) the area within the permanent and temporary easements and areas adjacent to these easements which may be affected by routine construction operations; 2) road right-of-way, and 3) areas directed by the Owner. The surface features within the construction zone shall include, but not be limited to, all roadways, pavements, curbs, driveways, sidewalks, culverts, headwalls, retaining walls, buildings, landscaping, shrubbery and fences. Of particular concern shall be the existence or non-existence of any faults, fractures or defects.
 - H. Visibility - No recording shall be done during periods of significant precipitation, mist, or fog. The recording shall only be done when sufficient sunlight is present to properly illuminate the subjects of recording. No recording shall be performed when the ground area is covered with snow unless otherwise authorized by the Engineer.
 - I. Rate of Travel - The rate of travel shall be indirectly proportional to the number, size, and value of the surface features within the construction area's zone-of-influence. The average rate of travel shall not exceed 48 feet per minute.
 - J. Camera Elevation - To ensure proper perspective and to capture optimal detail, the camera lens shall be placed at optimum height above the ground.
 - K. Recording Schedule - The recording shall be performed prior to the placement of any construction materials or equipment on the proposed construction site.
 - L. File Name Indexing - All filenames shall be properly identified by videotape index number, project title, and general project location. Provide a log that shall describe 1) the various segments contained on that tape in terms of the names and the sides of the streets or easements; 2) coverage start, direction and end points with corresponding videotape player counter numbers. A cumulative index correlating the various segments of coverage to their corresponding tapes shall be typed and supplied to the Owner.
 - M. Unacceptable Documentation - The Owner will have the authority to reject all or any portion of the video documentation not conforming to the Specifications. Those rejected portions shall be re-taped at no additional cost to the Owner.
 - N. The cost of the preconstruction audio-video survey will not be paid for directly but shall be included in the cost of the other pay items of the Contract.

Method of Measurement and Payment

- A. The above item(s) will be paid per LUMP SUM and shall include labor, materials and equipment necessary as required for the project.

- B. The above item(s) will be paid for per the pay item and unit as follows:

PRECONSTRUCTION AUDIO-VIDEO SURVEY.....LS

11. Mobilization and Demobilization

Related Documents

- A. INDOT Standard Specifications, latest edition: 110

Modifications

- A. None

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid per LUMP SUM and shall include labor, materials, equipment necessary, furnishing, and installing as required for the project.
B. Contractor shall not request more than 50% of this pay item until the project is substantially complete.
C. The above item(s) will be paid for per the pay item and unit as follows:

MOBILIZATION AND DEMOBILIZATION.....LS

12. Construction Engineering

Related Documents

- A. INDOT Standard Specifications, latest edition: 105
B. General Specifications: 105.10, "Survey Control Points"; 105.11, "Construction Layout & Survey"; 105.13, "Verification of Lines, Grades, Elevations, & Dimensions"

Modifications

- A. None

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid per LUMP SUM and shall include labor, materials, equipment necessary, furnishing, and installing as required for the project.
B. The above item(s) will be paid for per the pay item and unit as follows:

CONSTRUCTION ENGINEERING.....LS

13. Maintaining Traffic

Related Documents

- A. INDOT Standard Specifications, latest edition: 104.04, 107, 801
B. 2011 Indiana Manual on Uniform Traffic Control Devices with Revisions 1 & 2 & 3
C. 2015 INDOT Work Zone Safety and Mobility Policy
D. General Specifications: 107.09, "Maintenance of Traffic".

Modifications

- A. Traffic must be maintained to all residences at all times during construction.
B. The Contractor shall provide all signage, flagmen, barricades, etc. as per the Indiana Department of Transportation Standard Drawings (i.e., E801-TCFO-01, etc.). All traffic control devices shall be in accordance with the latest version of the Indiana Manual of Uniform Traffic Control Devices.

- C. The Contractor shall coordinate with Porter County Highway Department prior to any road, sidewalk and driveway closures. The Contractor shall submit a proposed traffic control plan to the Owner and Engineer for review and approval prior to construction.
- D. The minimum allowable lane width shall be 10 feet wide.
- E. Traffic may be restricted by use of flagging operations to one lane operation during daylight hours only and outside of the hours between 7:00 a.m. to 8:00 a.m. and 4:00 p.m. to 6:00 p.m.
- F. Incomplete construction shall be backfilled and plated or otherwise secured at the end of each work day to allow local traffic access and access to each approach.
- G. The Contractor shall provide notices to each homeowner within the one block work area of the impending closure a minimum of 48 hours prior to the road, sidewalk and driveway, closure.
- H. The names and telephone numbers of the Superintendent and one other responsible employee shall be furnished to the project engineer, and the Porter County Highway Department. These employees shall be on call or available at nights, weekends, or during other nonworking periods to repair or replace all traffic control devices that may become damaged or inoperative. The Contractor shall contact the Porter County Highway Department and all emergency service providers to this road and its local school district at least 48 hours prior to the commencement of lane restrictions and closures. The Contractor shall also furnish a schedule of traffic restrictions anticipated the following work week to the Porter County Highway Department every Thursday during the construction period. This schedule shall include the planned restrictions for each day during the work week including the location(s) and direction(s) of travel affected.
- I. All signs, barricades and channelizing devices shall comply as to construction, dimensions, color, lettering and mountings as set out in the current Indiana Manual on Uniform Traffic Control Devices for Streets and Highways and the 2022 Indiana Department of Transportation Specifications, Section 801 and Standard Drawings with exceptions:
 - a. Oil burning torches will not be permitted.
 - b. Flashing beacons shall flash at a rate for each beacon of 50 to 60 times per minute with the illuminated period from $\frac{1}{2}$ to $\frac{2}{3}$ of the total cycle. Second beacons, if specified, shall flash alternatively except for intersection control beacons which shall flash simultaneously.
- J. It shall be the Contractor's responsibility to provide sufficient numbers of each type of sign/barricade or protective devices, as shown in the INDOT Misc. Standard Drawing Detour Sheets and as directed by the Engineer to positively inform the motorist or pedestrian of the obstruction or danger which exists. The Contractor shall provide designation for any work area where danger exists whether it be storage of equipment and materials, excavation, work areas or work having been performed and not accepted.
- K. All cost for the materials, erection, maintenance, lighting, flagman, etc. and the removal of such will be paid for as defined below.
- L. Existing traffic signage shall be maintained throughout all road projects, this shall include street name signs, speed signs, stop sign, etc.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid per LUMP SUM and shall include labor, materials, equipment necessary, furnishing, installing, maintaining, and removing of all maintenance of traffic control measures (i.e. all traffic control devices, including advanced signing for lane closures/restrictions, detour signage, flashing arrow signs, all other signs, temporary pavement markings, aggregate for temporary drives, and other costs for maintenance of traffic and detours) as required for the project.
- B. The above item(s) will be paid for per the pay item and unit as follows:

MAINTAINING TRAFFIC....LS

14. Record Drawings

Related Documents

- A. General Specifications: 105.13, "Verification of Lines, Grades, Elevations, & Dimensions"

Modifications/Additions

- A. Provide an electronic "As-Built" drawing in AutoCAD 18 or newer. Engineer will provide a base drawing in AutoCAD format. Provide digital pictures and GPS coordinates for all items (piping, foundations, structures, etc..) that are identified during the project and are left in-place. Mark these items on the "As-Built" drawings. For all items abandoned in-place, mark the depth below finished grade and provide coordinates or dimensions, which will allow the Contractor to locate the item later. Provide the physical size of all items abandoned in-place. Mark new information that is important to the Contractor but was not shown on Contract Drawings or Record Drawings. Provide one (1) electronic file in AutoCAD 18 and one hard copy of the "As-Built" drawings to the Contractor Representative every 30 days for review. The "As-built" drawings shall be updated to reflect Work that has occurred in the previous 30 days. Provide three (3) copies of the final record drawing sets to the Contractor Representative and an electronic file in AutoCAD 18.

Method of Measurement and Payment

- A. The above item(s) will be paid per LUMP SUM.
B. The above item(s) will be paid for per the pay item and unit as follows:

RECORD DRAWINGS...LS

15. Clearing Right of Way

Related Documents

- A. INDOT Standard Specifications, latest edition: 201

Modifications

- A. None

Method of Measurement and Payment

- A. The above item(s) will be paid for per LUMP SUM and shall include labor, materials, equipment necessary for the clearing and removal of trees and vegetation, removal of stumps and roots, and stripping and stockpiling of topsoil within the construction limits.
B. Trees, vegetation, stumps, and roots shall be disposed of off-site, at an appropriate and, if applicable, properly permitted off-site location. Disposal will not be paid for separately but shall be included in the cost of the above item.
C. The removal of any landscaping, trees, bushes or pipes not specifically called out for removal on the plans will not be paid for separately but shall be included in the cost of the above item.
D. The above item(s) will be paid for per the pay item and unit as follows:

CLEARING RIGHT OF WAY...LS

16. Temporary Erosion and Sediment Control

Related Documents

- B. INDOT Standard Specifications, latest edition: 205

Modifications

- A. None

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LUMP SUM and shall include labor, materials, equipment necessary, furnishing, installing, maintaining, and removing of all temporary erosion and sediment control measures and temporary seeding as required for the project.
- B. The above item(s) will be paid for per the pay item and unit as follows:

TEMPORARY EROSION AND SEDIMENT CONTROL....LS

17. Excavation, Common

Related Documents

- A. INDOT Standard Specifications, latest edition: 203, 205

Modifications

- A. The cost for saw cutting of existing asphalt or concrete material to be removed will not be paid for directly, but the cost thereof shall be included in the price bid for the cost of other items under this contract.
- B. The removal of asphalt pavement shall be included in the removal of EXCAVATION, COMMON.
- C. It is assumed that all excavated material will not be reusable and shall be hauled off-site by the Contractor. Any borrow material shall be clean fill material meeting all applicable INDOT material standards and delivered from an off-site source.

Method of Measurement and Basis of Payment

- A. The above item(s) EXCAVATION, COMMON will be paid for per CUBIC YARD and shall include the cost of all labor, materials, disposal, and appurtenances for the fully functional installation of each item in place.
- B. The quantity provided on the bid form will not be adjusted for payment. It is the responsibility of the Bidder/Contractor to independently verify the quantity and adjust his/her unit price to account for any differences in quantity.
- C. The above item(s) will be paid for per the pay items and units as follows:

EXCAVATION, COMMON...CYD

18. Curb & Gutter, Remove

Related Documents

- A. INDOT Standard Specifications, latest edition: 202

Modifications

- A. None

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LINEAR FOOT and shall include the cost of all labor, materials, disposal, and appurtenances for the fully functional removal of the concrete curb and gutter.
- B. The quantity provided on the bid form will not be adjusted for payment. It is the responsibility of the Bidder/Contractor to independently verify the quantity and adjust his/her unit price to account for any differences in quantity.
- C. The above item(s) will be paid for per the pay items and units as follows:

CURB & GUTTER, REMOVE...LFT

19. Structure, Remove

Related Documents

- A. INDOT Standard Specifications, latest edition: 202

Modifications

- A. None.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per EACH and shall include labor, materials, equipment necessary, disposal, furnishing, installing, and maintaining, as required for the project.
- B. Items covered under this are included but not limited to inlets, manholes, and catch basins.
- C. The above item(s) will be paid for per the pay item and unit as follows:

STRUCTURE, REMOVE...EA

20. Structure, Abandon

Related Documents

- A. INDOT Standard Specifications, latest edition: 202

Modifications

- A. None.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per EACH and shall include labor, materials, equipment necessary, disposal, removal of top of manhole, concrete, sand, stone, backfill, structure backfill, grout and maintaining, as required for the project.
- B. Items covered under this are included but not limited to inlets, manholes, and catch basins.
- C. The above item(s) will be paid for per the pay item and unit as follows:

STRUCTURE, ABANDON...EA

21. Pipe, Remove

Related Documents

- A. INDOT Standard Specifications, latest edition: 202

Modifications

- A. None.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LINEAR FOOT and shall include labor, materials, equipment necessary, disposal, furnishing, installing, and maintaining, as required for the project.
- B. The above item(s) will be paid for per the pay item and unit as follows:

PIPE, REMOVE...LFT

22. Curb and Gutter, Concrete, Rolled

Related Documents

- A. INDOT Standard Specifications, latest edition: 605
- B. Porter County Construction Standards and Specifications: Section IV

Modifications

- A. Slag will not be allowed for use in concrete mix.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LINEAR FOOT and shall include the cost of all labor, materials, equipment necessary, and appurtenances for the fully functional installation of each item.
- B. The cost warping the curb to construct the inlet offset shall be included in this item and will not be paid for separately.
- C. Curb turnouts will not be paid for separately but shall be included in the cost of this item.
- D. The above item(s) will be paid for per the pay item and unit as follows:

CURB AND GUTTER, CONCRETE, ROLLED...LFT

23. Milling, Surface, 1.5-Inches

Related Documents

- A. INDOT Standard Specifications, latest edition: 306

Modifications

- A. None

Method of Measurement and Payment

- A. The above item will be paid for per SQUARE YARD and shall include the cost of all labor, materials, equipment, and disposals, as required for the project.
- B. Surface Milling shall not be paid for where full depth pavement removal is identified.
- C. The above item(s) will be paid for per the pay item and unit as follows:

MILLING, SURFACE, 1.5-INCHES...SYD

24. HMA Surface or Intermediate, Type B

Related Documents

- A. INDOT Standard Specifications, 2012 edition: 401, 406
- B. Porter County Construction Standards and Specifications: Section IV

Modifications

- A. Slag aggregate will not be allowed for use in any portion of the HMA mixture(s).
- B. The Bituminous paving machine shall be gated to the actual width of the bituminous lay required for surface course. Overlapping of longitudinal joint on adjacent bituminous surface lays will not be permitted.
- C. An INDOT Certified plant shall produce all HMA pavements with materials certified by INDOT.
- D. The Contractor shall perform smoothness tests for all base, intermediate, and surface pavements in accordance with the most current edition of the INDOT Standard Specification Section 401.18. The test shall be done in the presence of an Owner representative. The Contractor shall straight edge each course prior to the placement of the next course.
- E. Damages will be assessed if the Contractor varies from the above specification.
- F. Tack coat shall be applied prior to placement of each lift of HMA at a rate of 0.00025 tons/sq. yd. per application. Surface shall be clean prior to application of tack coat.
- G. The cost of tack coat on approaches shall be included in the cost of other.
- H. Any necessary cleanup for excess tack placed outside of the paving limits shall be performed by the Contractor at no cost to the Owner.

Method of Measurement and Basis of Payment

- A. The cost of tack coat shall be included in the cost of other items.
- B. The cost of joint adhesive and joint sealant will not be paid for separately but shall be included in the cost of other items.

- C. The above item(s) will be paid for per TON as indicated on the itemized proposal sheet and shall include labor, materials, equipment necessary, furnishing, installing, and compacting.
- D. The quantity provided on the bid form will not be adjusted for payment. It is the responsibility of the Bidder/Contractor to independently verify the quantity and adjust his/her unit price to account for any differences in quantity.
- E. The above item(s) will be paid for per the pay items and units as follows:

HMA SURFACE, TYPE B...TON
HMA INTERMEDIATE, TYPE B...TON

25. Compacted Aggregate, No. 53

Related Documents

- A. INDOT Standard Specifications, latest edition: 303
- B. Porter County Construction Standards and Specifications: Section IV

Modifications

- A. Slag aggregate and crushed concrete will not be allowed for use as compacted aggregate.
- B. The removal and disposal of the existing roadway subbase will not be paid for separately but shall be included in the cost of the other contract items.
- C. The aggregate shall contain sufficient moisture to avoid segregation during loading, hauling, placing and shaping operations. The Contractor shall add sufficient water to the aggregate as required to produce an optimum moisture for the aggregate which is expected to be in the range of 7 to 9 percent of the dry aggregate weight to ensure proper placement and compaction. Moisture content of aggregate shall be checked and water added if necessary before spreading or compaction as required. The Contractor shall add water to the aggregate in such a way as not to flush the fine aggregate content from the material and cause segregation of the aggregates.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per TON and shall include labor, materials, equipment necessary, furnishing, installing, compacting, and all water added to the aggregate as required or directed by the Engineer.
- B. The quantity provided on the bid form will not be adjusted for payment. It is the responsibility of the Bidder/Contractor to independently verify the quantity and adjust his/her unit price to account for any differences in quantity.
- C. The above item(s) will be paid for per the pay item and unit as follows:

COMPACTED AGGREGATE, NO. 53...TON

34. Subgrade Treatment, Type II Allowance

Related Documents

- A. INDOT Standard Specifications, latest edition: 207

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per SQUARE YARD of Subgrade Treatment provided and shall include the cost of all labor, materials, placement, removal and disposal of poor material, and appurtenances for the fully functional installation of each item.
- B. A quantity is provided on the bid form. The amount of quantity to be used is not guaranteed. No adjustment to the unit price will be allowed unless mutually agreed upon by the Owner and Contractor.

- C. The above item(s) will be paid for per the pay item and unit as follows:

SUBGRADE TREATMENT, TYPE II ALLOWANCE...SYD

26. Geogrid

Related Documents

- A. Porter County Construction Standards and Specifications: Section IV

Modifications

- A. None

Method of Measurement and Payment

- A. The above item will be paid for per SQUARE YARD of geogrid provided and shall include the cost of all labor, materials, and appurtenances for the fully functional installation of the item.
B. The above item(s) will be paid for per the pay item and unit as follows:

GEOGRID...SYD

27. Driveway, Remove and Replace

Related Documents

- A. Construction drawings and general provisions, including General and Supplementary Conditions and other Special Provisions.
B. Prevailing Specifications: INDOT Standard Specification, latest edition: 202, 203, 610
C. Additions: PCCP for Approaches, 6" will be paid for per SYS, complete and in place

Modifications

- A. Drives shall only be removed as shown on the plans and at the direction of the Engineer.
B. Drives or portions of drives shall be removed from locations at the existing joints.
C. The Contractor shall provide a jointing plan for the driveway replacement to the Engineer for approval prior to placement of the concrete for the drive.
D. The maximum spacing between joints shall be 6 feet.
E. Residential driveways shall consist of 6-inches PCCP on dense graded subbase, 6-inch on subgrade treatment type II (6-inches no. 53 compacted aggregate).
F. The use of slag shall not be allowed.

Method of Measurement and Basis of Payment

- A. This item includes all labor, materials, and equipment for the removal and replacement of drives. The item includes all removals, compaction, the installation of subgrade treatment, compacted aggregate base, and geogrid, as necessary.
B. The above item(s) will be paid for per the pay item and unit as follows:

DRIVEWAY, REMOVE AND REPLACE...SYD

28. Fence, Remove and Reset

Related Documents

- A. INDOT Standard Specifications, latest edition: 603

Modifications

- A. None.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LINEAR FOOT and shall include labor, materials, equipment necessary, disposal, furnishing, installing, and maintaining, as required for the project.
- B. The above item(s) will be paid for per the pay item and unit as follows:

FENCE, REMOVE AND RESET...LFT

29. Restore Disturbed Areas

Related Documents

- A. INDOT Standard Specifications, latest edition: 621

Modifications

- A. Seeding shall be Mulched Seeding, Type U.
- B. Topsoil shall be spread at a depth of 6 inches.
- C. All areas disturbed during construction shall be restored.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LUMP SUM and shall include the cost of all labor, materials, equipment necessary, and appurtenances for the fully functional installation of each item including seed, mulching material, topsoil, erosion control blanket, straw, fertilizer, and watering.
- B. The quantity provided on the bid form will not be adjusted for payment. It is the responsibility of the Bidder/Contractor to independently verify the quantity and adjust his/her unit price to account for any differences in quantity.
- C. The above item(s) will be paid for per the pay item and unit as follows:

RESTORE DISTURBED AREAS ...LS

30. Storm Sewer Structures

Related Documents

- A. INDOT Standard Specifications, latest edition: 720
- B. Porter County Construction Standards and Specifications: Section VII

Modifications

- A. Each storm sewer structure includes the specified frame and cover.
- B. Each storm sewer structure includes the specified stone bedding/backfill and geotextile fabric.
- C. Half pipe depth concrete benching shall be provided.

Method of Measurement and Basis of Payment

- A. The above items will be paid for EACH and shall include labor, materials, equipment, furnishing, installing, and connections. Excavation, disposal of excavated material, dewatering, stabilization of subgrade, structures, gaskets, bedding, backfill, compaction and testing are included in the price for the item.
- B. The above item(s) will be paid for per the pay items and units as follows:

INLET, TYPE J10 ...EA

CATCH BASIN, TYPE E7 ...EA

STORM MANHOLE, TYPE 1 ...EA

STORM MANHOLE, TYPE 2, (DIAMETER)" DIA. ...EA

31. (Diameter)" Pipe End Section

Related Documents

- A. INDOT Standard Specifications, latest edition: 715
- B. Porter County Construction Standards and Specifications: Section VII

Modifications

- A. None.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per EACH and shall include labor, materials, equipment necessary, installing, bedding, pipe connection, toe plate anchors, galvanized bolts as required for the project.
- B. All pipe end sections in the roadway clear zone shall be safety metal end sections.
- C. The above item(s) will be paid for per the pay item and unit as follows:

(DIAMETER)" PIPE END SECTION...EA

33. Storm Sewer, RCP CL III, (Diameter)"

Related Documents

- A. INDOT Standard Specifications latest edition: 715

Modifications

- A. The pipe type shall be reinforced concrete, Class III in accordance with ASTM C76, latest edition and shall be gasketed in accordance with ASTM C443, latest edition.
- B. Bedding, initial backfill, and final backfill shall be per the drawings and in accordance with Porter County standards.
- C. All storm sewer shall be inspected via closed circuit television not less than 30 days after the pipe has been installed and the backfilling has been completed. Such inspection shall be performed in the presence of the Engineer. All storm sewers shall be cleaned as necessary to allow for such inspection.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LINEAR FOOT and shall include labor, materials, equipment necessary, furnishing, installing, and connections, as required for the project.
- B. Excavation, disposal of excavated material, dewatering, sheeting and shoring, bracing and support of adjacent utilities, stabilization of subgrade, pipe, connections to structures and other pipe, concrete pipe saddles, removal of pipe within trench, bedding, backfill, compaction and testing are included in the price for the item.
- C. Video inspection of the installed storm sewer shall be included in the cost.
- D. No additional payment shall be provided for over-excavation and/or extra stone or stabilization materials beneath the pipe without authorization by the Owner via written approval.
- E. Measurement for payment shall be from outside of structure to outside of structure.
- F. Connections to existing structures shall not be paid for separately but shall be included in the cost of STORM SEWER, RCP CL III, (DIAMETER)".
- G. The above item(s) will be paid for per the pay item and unit as follows:

STORM SEWER, RCP CL III, (DIAMETER)" ...LFT

34. Storm Sewer, HDPE, 4"

Related Documents

- A. INDOT Standard Specifications, latest edition: 715

Modifications

- A. The pipe shall be HDPE, single wall perforated (SWP) pipe per Porter County Standards.
- B. The Contractor shall provide tees on each drain and connect to private drains where required. A connection to the drain shall be provided for each property located along each drain.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LINEAR FOOT and shall include labor, materials, equipment necessary, disposal, furnishing, installing, and maintaining, as required for the project.
- B. Excavation, disposal of excavated material, dewatering, stabilization of subgrade, pipe, caps, bedding and backfill material and installation, geofabric material and installation, connections to structures, compaction and testing are included in the price for the item. The price for this item shall also include the cost of providing connections to private drains and capping previous connections, as required.
- C. The above item(s) will be paid for per the pay item and unit as follows:

STORM SEWER, HDPE, 4"...LFT

35. Storm Sewer, HDPE, 8"

Related Documents

- A. INDOT Standard Specifications, latest edition: 715

Modifications

- A. The pipe shall be HDPE, single wall perforated (SWP) pipe per Porter County Standards.
- B. The Contractor shall provide tees on each drain and connect to private drains where required. A connection to the drain shall be provided for each property located along each drain.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LINEAR FOOT and shall include labor, materials, equipment necessary, disposal, furnishing, installing, and maintaining, as required for the project.
- B. Excavation, disposal of excavated material, dewatering, stabilization of subgrade, pipe, caps, bedding and backfill material and installation, geofabric material and installation, connections to structures, compaction and testing are included in the price for the item. The price for this item shall also include the cost of providing connections to private drains and capping previous connections, as required.
- C. The above item(s) will be paid for per the pay item and unit as follows:

STORM SEWER, HDPE, 8"...LFT

36. Underdrain, HDPE, 6"

Related Documents

- A. INDOT Standard Specifications, latest edition: 715
- B. Porter County Construction Standards and Specifications: Section VII

Modifications

- A. The pipe shall be HDPE, single wall perforated (SWP) pipe per Porter County Standards.

- B. The Contractor shall provide tees on each drain and connect to private drains where required. A connection to the drain shall be provided for each property located along each drain.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LINEAR FOOT and shall include labor, materials, equipment necessary, disposal, furnishing, installing, and maintaining, as required for the project.
- B. Excavation, disposal of excavated material, dewatering, stabilization of subgrade, pipe, bedding and backfill material and installation, coarse aggregate no. 8, geofabric material and installation, connections to structures, compaction and testing are included in the price for the item. The price for this item shall also include the cost of providing connections to private drains, as required.
- C. The above item(s) will be paid for per the pay item and unit as follows:

UNDERDRAIN, HDPE, 6" ...LFT

37. Grout Pipe

Related Documents

- A. Construction drawings and general provisions, including General and Supplementary Conditions and other Special Provisions.

Modifications

- A. None

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per LINEAR FOOT and shall include the cost of all labor, materials, equipment, and disposal for the complete abandonment of pipe by grouting in accordance with the plans and details.
- B. The above item(s) will be paid for per the pay item and unit as follows:

GROUT PIPE...LFT

38. Unsuitable Storm Sewer Subgrade Allowance

Related Documents

- A. INDOT Standard Specifications, latest edition: 207

Modifications

- A. As directed by the Engineer, the Contractor shall remove unsuitable material and install either IN No. 2 and/or IN No. 53 compacted limestone surrounded by geofabric to a depth directed by the Engineer.

Method of Measurement and Basis of Payment

- A. The above item(s) will be paid for per CUBIC YARD of aggregate IN No. 2 and/or IN No. 53 stone and shall include the cost of all labor, materials, placement, disposal, and appurtenances for the fully functional installation of each item.
- B. The cost shall include excavation and removal of unacceptable soils from the site.
- C. The cost shall include geofabric for separation of the stone and the native soils.
- D. A quantity is provided on the bid form. The amount of quantity to be used is not guaranteed. No adjustment to the unit price will be allowed unless mutually agreed upon by the Owner and Contractor.
- E. The above item(s) will be paid for per the pay item and unit as follows:

UNSUITABLE STORM SEWER SUBGRADE ALLOWANCE ...CYD

39. Other Items

Related Documents

- A. INDOT Standard Specifications, latest edition
- B. Porter County Construction Standards and Specifications, latest edition
- C. General Specifications Section 105.08, "Cooperation with Utilities"
- D. General Specifications Section 107.15, "Protection and Restoration of Property"

Modifications and/or Additions

- A. The Contractor shall protect existing storm sewers, sanitary sewers, water utilities, gas utilities, cable utilities, electric utilities, fiber optic utilities and pipeline utilities except those that shall be removed and replaced during the road reconstruction. Any damage to any part of the existing storm or sanitary sewer system (that is not to be removed or replaced) caused by the Contractor's operations or equipment, shall be satisfactorily replaced or repaired by the Contractor at his own expense.
- B. All work shown on the drawings not identified as a pay item including but not limited to:
 - a. Removing and resetting mailboxes;
 - b. Removing and resetting all street signs;
 - c. Removing and resetting existing light poles;
 - d. And all other removals, protections, and coordination items not specifically called out on the plans

Shall be included in the work.

Method of Measurement and Basis of Payment

- A. The above item(s) will not be paid for directly, but the cost thereof shall be included in the price bid for the cost of CLEARING RIGHT OF WAY.

APPENDIX A

REPORT OF GEOTECHNICAL EXPLORATION

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The Department of
**DEVELOPMENT &
STORM WATER
MANAGEMENT**
Porter County, Indiana



REPORT OF
GEOTECHNICAL ENGINEERING EXPLORATION
Proposed Storm Sewers on Carriage Lane Road
Carriage Hills Residential Subdivision
Carriage Lane Road and CR N550E
Westville, Jackson Township,
Porter County, Indiana
AES Project No. 2023-1052G

Prepared For

Ms. Chelsey Gordon, PE
Stormwater Program Manager
**Porter County-Department of Development
& Stormwater Management**
155 Indiana Ave.; Suite 311
Valparaiso, Indiana 46383

May 18, 2023

May 18, 2023

Ms. Chelsey Gordon, PE
Stormwater Program Manager
Porter County-Department of Development & Stormwater Management
155 Indiana Ave.; Suite 311
Valparaiso, Indiana 46383

Re: Report of Geotechnical Engineering Exploration
Proposed Storm Sewer on Carriage Lane Road at Carriage Hills Residential Subdivision
Carriage Lane Road and CR N550E
Westville, Jackson Township, Porter County, Indiana
AES Project No. 2023-1052G

Dear Mr. Kenning:

Advanced Engineering Services (AES) is pleased to submit herewith a report of a geotechnical engineering exploration for the proposed storm sewer on Carriage Lane Road at Carriage Hills residential subdivision in Westville, Jackson Township, Porter County, Indiana. This study was performed in accordance with AES Proposal No. 2023-137G dated March 6, 2023, which was authorized via Porter County Work Order executed on March 27, 2023.

This report contains field and laboratory test results, an engineering interpretation of the data with respect to the available project characteristics and our recommendations to aid design and construction of the proposed improvements and other earth-related phases of this project.

AES appreciates the opportunity to be of service to you on this project. If we can be of any further assistance, or if you have any questions regarding this report, please do not hesitate to contact us at your convenience.

Respectfully submitted,
Advanced Engineering Services (AES) Inc.

Caitlynn E. Hunt

Caitlynn (Cait) Hunt
Project Scientist
ceh@adv-engrs.com



Akhtar Zaman

Akhtar (Art) Zaman, PE
Principal Engineer
anz@adv-engrs.com

Distribution (email): Ms. Chelsey Gordon, PE, (Email: Chelsey.gordon@porterco.org)

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APPENDIX

Boring Location Plan
Test Boring Logs and Laboratory Test Results
Field Classification System for Soil Exploration

1.0 INTRODUCTION

This report presents the results of a geotechnical engineering exploration for the proposed storm sewer on Carriage Lane Road at the Carriage Hills residential subdivision in Westville, Jackson Township, Porter County, Indiana. This study was performed in accordance with AES Proposal No. 2023-137G dated March 6, 2023.

1.1 Purpose and Scope

The purpose of the study was to: obtain information regarding existing subsurface soil and groundwater conditions present at the site based on soil test borings, evaluate the suitability of the encountered materials to support the proposed construction, provide recommendations based on the field and laboratory tests for the design of the proposed improvements and earth-related phases of the project.

The scope of this exploration includes: a limited site reconnaissance, soil borings, field and laboratory testing, and an engineering evaluation of the encountered subsurface conditions based on the soil borings.

Please note that our recommendations are prepared solely based on the results of the field test borings and in accordance with generally accepted geotechnical engineering principles and practices. It is important to understand that the subsurface soil conditions at other locations may be different and hence no warranties are expressed or implied in this report. We are not responsible for independent conclusions, opinions or recommendations made by others.

1.2 Site and Project Description

Porter County-Department of Development & Stormwater Management is planning to replace existing storm sewers and reconstruct roadway along Carriage Lane at the Carriage Hills residential subdivision in Westville, Jackson Township, Indiana.

We understand that the existing storm sewers are in poor condition and need replacement. The total length of the project is reportedly about 2,358 linear ft between Stations 10+00 and 33+58. While no details of the project are available, we were informed that the new sewers will presumably consist of 12 inches to 36 inches diameter pipes bearing no deeper than about 8 ft to 18 ft below the existing surface.

2.0 FIELD AND LABORATORY EXPLORATIONS

2.1 Field Exploration

As requested, the field exploration program consisted of five (5) soil borings at the approximate locations shown approximately on the Boring Location Plan included in the Appendix. Borings B-1 through B-5 were drilled to depths of 15 ft to 25 ft below the existing grade.

All test locations were established in the field by AES representatives by estimating distances from various site features, adjusting test locations due to existing utilities, accessibility and based on the available drawings. Since these measurements are not precise, the boring locations reported should be considered approximate. The ground surface elevations reported on the boring logs were estimated from topographic drawings.

Indiana-811 was notified to locate all existing underground utilities at the site prior to any field drilling. The soil borings were completed using a truck-mounted drill-rig. Conventional hollow-stem augers were used to advance the boreholes through the soil. Standard Penetration Tests (SPT) were performed in accordance with applicable ASTM standards. Representative split-spoon samples were obtained at selected intervals. The SPT (N) value corresponding to each split-spoon sample provides general information about the strength and consistency of the naturally occurring materials. The Soil Classification Sheet provided in Appendix explains the SPT test procedure in brief.

Groundwater observations were made during and immediately after completion of the drilling operations. SPT values and groundwater observations are noted on the respective Test Boring Logs. All soil borings were backfilled and patched after drilling.

2.2 Laboratory Explorations

All samples were brought to AES laboratory for further analysis. Soil samples from the field were placed in sealed containers. The laboratory program included a supplementary visual classification on all samples and the field logs were edited accordingly. Moisture and organic contents, pH, unconfined strength testing were completed on selected samples and the results are included in the Appendix.

The Test Boring Logs in the Appendix describe visual classifications of all soil strata encountered using the Unified Soil Classification System (USCS). Soil classification explaining terms and symbols used on the logs is provided in the Appendix. Please note that we will store the samples for sixty (60) days after which they will be discarded unless you request otherwise.

3.0 GENERAL SUBSURFACE CONDITIONS

3.1 General

The subsurface materials encountered and groundwater observations at all borings are described in detail on the Test Boring Logs provided in Appendix. It should be noted that stratification lines shown on the boring logs represent approximate transitions between material types. In-situ strata changes could occur gradually or at slightly different levels. Also, it should be noted that the boring logs depict conditions at the test locations only and the subsurface conditions at other locations may vary. Some conditions, such as groundwater conditions, could change with time.

3.2 Subsurface Soil Profile

Borings B-1 through B-5 revealed about 11 inches to 13 inches of asphalt and granular aggregate base at the existing grade. Boring B-1 then revealed old fills consisting of dark brown to black sandy clay with trace organics to a depth of about 3 ft below the existing ground surface. The moisture and organic contents of the fill sample were about 27.3% and 3.3%, respectively.

All soil borings then revealed predominantly brown to gray lean clay (CL), with interbedded clayey sand (SC), sandy clay (CL and silty clay (CL-ML) to the termination depths of 15 ft and 25 ft below the existing ground surface. Based on the field Standard Penetration Test (SPT) values, the natural granular soils were very loose and the cohesive soil was very soft to very stiff. Moisture content on the native clayey sample varied between about 11.1% and 23.5%.

3.3 Groundwater Profile

Groundwater observations were made during and immediately after the drilling operation in the open boreholes. No free water was noted at any location during or immediately after drilling.

Please note that short-term groundwater observations do not provide an accurate groundwater level information and groundwater conditions may change due to precipitation, and other factors. Perched water in sand seams or old drain tiles are common and may be encountered at shallow depths during construction.

3.4 Laboratory Test Results

Various laboratory tests were completed to understand the engineering characteristics of the subsurface soil and reported on the Test Borings Logs or provided in the Appendix. Moisture content and organic content tests performed on selected samples were discussed earlier and are reported on the respective logs. The following is a summary of other tests completed on selected samples collected from the site.

The following table summarizes pH tests that were performed on selected soil samples:

Table 3.1: Summary of pH Test Results

Boring Nos.	Depth Ft	Classification	pH
B-1	13.5-15	Gray Lean Clay (CL)	7.8
B-2	18.5-20	Gray Sandy Clay (CL)	7.7
B-3	8.5-10	Brown Lean Clay (CL)	7.9
B-5	13.5-15	Gray Lean Clay (CL)	7.9

4.0 GEOTECHNICAL RECOMMENDATIONS

4.1 General

Based upon our analysis of the soil conditions revealed by the test borings and the available project information, the following recommendations were developed. Please note that if the project characteristics are changed from those assumed herein, our recommendations must be reviewed to see whether any modifications are needed.

The soil borings identified actual subsurface conditions only at the test locations. It was necessary to extrapolate these conditions in order to characterize the entire project site. Hence, the subsurface conditions encountered during construction may vary somewhat from the test boring results and may in the extreme case, differ to the extent that modifications to the recommendations become necessary. Therefore, we recommend that AES be retained as the geotechnical consultant throughout the earth-related phases of the project to correlate actual soil conditions with the test data, identify variations, conduct additional tests that may be needed and recommend solutions to earth-related problems that may develop during construction.

4.2 Site Preparation

Proper subgrade preparation is essential for long-term performance for any utility and roadway improvement project. Please note that improper earthwork may deteriorate an otherwise suitable subgrade. This is especially important for this site as existing clayey subgrade soil may deteriorate during construction and become unstable, which may require additional special stabilization. The time period between late spring and early fall is typically favorable for earthwork in the project area. Earthwork activities undertaken during late fall and winter often encounter substantial difficulties associated with snow, rain and cold temperatures.

In the reconstruction areas, all existing pavement, vegetation, topsoil, highly organic (over 5%), frozen, wet, soft, loose or otherwise unsuitable material should be replaced or adequately stabilized. All mass grading and excavations should be performed in a manner consistent with good erosion and sediment control practice. Maintaining positive site drainage is an important part of successful earthwork operations and long-term performance.

Adequate drainage must be provided to minimize any increase in moisture content of the subgrade soils. The contractor should maintain the construction area in a well-drained condition both during and after construction. Improper site drainage during grading can increase the need for remedial treatment of excessively wet soils. To minimize percolation of rainwater, disturbed areas should be sealed off with rubber tired or smooth drum roller at the end of each day and prior to anticipated inclement weather. Ditches must be kept open at all times and the subgrade should be graded at the end of each day to facilitate drainage. It is recommended that the construction be performed in segments to minimize deterioration of the subgrade.

Once the subgrade elevation is reached and prior to placing any new fill, the exposed subgrade should be proof rolled as per INDOT Standard Specification (ISS) Section 203.26. The purpose of the proof-rolling is to locate soft, weak, or excessively wet soils present at the surface or beneath a thin crust of relatively stronger soil. Unsuitable bearing soils revealed by proof-rolling should either be undercut and replaced with suitable Structural Fill (Section 4.5) or adequately stabilized.

The test borings suggest that the subgrade consist of clayey soils with trace organics. Depending on the weather conditions, these materials may become soft or unstable under construction traffic particularly if the construction is performed immediately after precipitation or during colder temperatures. The extent to which this may be a problem is difficult to determine beforehand since it is dependent upon several factors including cut and fill depths, weather conditions, drainage provisions, variations in soil conditions across the site, sequencing and scheduling of the earthwork and construction traffic, etc. Construction traffic must be controlled to minimize disturbance and deterioration of the subgrade. It is further recommended that the pavement construction be performed in segments to minimize deterioration of the subgrade.

In general, yielding subgrade problems are more prominent in cut areas (where saturated or nearly saturated clayey soils are exposed by the excavation) or where little or no fill is placed. Depending on these factors, it may be possible to stabilize some yielding subgrade soils by disking, aerating and then re-compacting the soils. However, this is often unsuccessful, particularly when the weather conditions do not permit drying of wet soil. In such case, it may be necessary to undercut and replace with coarse aggregate and geo-grid or to use chemical modification (such as lime, fly-ash, cement, etc.). A contingency should be in place incase unstable subgrade soil is encountered during construction. An AES representative should be present during the earthwork to identify areas where special stabilization may be necessary and verify that these recommendations are implemented during construction.

4.3 Excavation and Slope Stability

Based on the soil borings, there should not be any significant difficulties in excavating soils at this site with conventional equipment. Unless specified otherwise, all permanent cut slopes should be no steeper than 3 horizontal to 1 vertical. Flatter cut slopes may be required in cases where there is ground water seepage or the foundation soils are particularly poor. All temporary excavations for the construction of the improvements should be properly laid back or braced in accordance with Occupational Safety and Health Administration (OSHA) requirements.

Where new fill is placed against existing slopes that are steeper than 4 (horizontal) to 1 (vertical), it will be necessary to bench (at least 10 ft wide) the new fill into the existing slope to provide a good bond between the existing soil and the new fill and to prevent weak interface. If spatial constraints will not permit an open cut, bracing will be required for any excavation deeper than 5 ft.

Care must be exercised when excavating near the existing streets, underground utilities, etc., to protect the integrity of the existing facilities. Bracing may be required if it becomes necessary to excavate below and in close proximity to such facilities. All temporary bracing for deep excavations should be designed and installed by an experienced specialty contractor.

4.4 Recommendations for Utility Pipe Installation

The subsurface soil noted in the soil borings appear to be generally suitable to support utilities. However, if very soft or highly organic materials are encountered, it must be replaced or adequately stabilized for long-term performance of the utilities.

Sheeting or trench-boxes may be needed for open excavations especially if the excavation encounter sandy soils. Slope failures are more likely with an increase in loading from machinery and excavated soil stockpiles and the decrease in support resulting from removal of soil. Excavated material should not be stockpiled immediately adjacent to the cut nor should equipment be allowed to operate too closely to open excavations.

All existing pavement, vegetation, highly organic (over 5%) and otherwise unsuitable materials should be removed from the proposed utility subgrade to suitable bearing soil where they will be installed using the open cut method. All excavations should be performed as per OSHA guidelines. All utility excavations should be observed by an AES representative to verify that all unsuitable material is removed.

Once the subgrade appears satisfactory, approved bedding materials should be placed before placing the pipes. The bedding material around the pipe should be in accordance with Section 211 of the Indiana Department of Transportation (INDOT) Standard Specifications (ISS). The pipes should be adequately covered with bedding materials, as specified. Hand-or remote-guided vibratory compactors are recommended for compacting the bedding material and backfill on either side of the structure.

The first few lifts of backfill over the structure should be compacted with small vibratory compactor to assure proper compaction is achieved and to prevent damage from heavier and higher energy compactors. Compaction equipment should run parallel to the axis of the pipes, starting at the extremity and progressing toward the structures. Compaction with heavy equipment should not begin until a minimum of 2 to 3 lifts have been placed, hand compacted and tested. The remaining structural fill may then be placed and compacted as an engineered fill (Section 4.5).

All pipe joints should be wrapped with a geotextile drainage fabric to prevent soils from "piping" into the pipe through the joints. A filter fabric such as Mirafi 180 N or equivalent may be placed over each joint, extending at least 12 inches beyond the joint. The fabric should completely encircle each pipe joint and overlapped as per manufacturer's recommendations.

Utility trenches that are left open, backfilled without proper compaction or backfilled with open-graded stone, may become water collection points and allow infiltration into the surrounding soil. This condition may destabilize the subgrade around the trenches such that undercutting, and repair will be needed. We recommend using controlled soil fill or dense-graded base stone (such as INDOT Coarse Aggregate No. 53 or similar) to backfill utility excavations to minimize the potential for water collection points. It is advantageous to use dense graded coarse aggregate as it can be more easily compacted. Clayey soil may be used for backfilling after the pipes have been adequately covered with bedding materials. In addition, weepholes should be provided in drop inlets and catch basins to prevent water from ponding.

Pipes may experience heavy thrust forces, especially where there is a significant change in horizontal or vertical alignment. This force may cause separation at the pipe joints and undermine the underlying soil. In order to resist the thrust at horizontal and vertical elbows, pipe sections should be supported on concrete thrust blocks (as needed), which should be designed to withstand the horizontal and vertical forces, generated as a result of change of alignment.

4.5 Engineered Fill

We understand that the project will likely require minimal cut and fill to achieve finished grade. Once the subgrade has been properly prepared as per the guidelines discussed earlier, new fills may be placed in order to attain desired final grades. In general, any non-organic, non-expansive soils can be used for engineered fill that meets the requirements for INDOT Structural Fill (ISS, Section 904.05).

Engineered fill should be placed about 8 inches loose lifts and compacted to a minimum of 95% of the standard Proctor maximum dry density (ASTM D698). Aggregate base, however, should be compacted to at least 100% of the same Proctor density.

All engineered fills should be placed in thin lifts in accordance with Section 203.09 of the INDOT Standard Specifications. It is likely that some drying of the fill material will be required before being placed in order to meet the specification for fill placement. It is probable that this will also be the case for most of the soil materials encountered within the range of the subgrade. A granular material may be necessary to satisfy the minimum compaction requirements.

It is recommended that AES be retained to perform continuous review of construction of the soils related phases of this project. Otherwise, we can assume no responsibility for construction compliance with the design concepts, specifications, or our recommendations. Field density tests should be performed frequently to assist in the evaluation of the fill with respect to the above recommendations.

4.6 Pavement Subgrade Recommendations

Based on the test borings, it is anticipated that the subsurface conditions should generally provide adequate support for the proposed project improvements, provided the subgrade is prepared as per the guidelines included in this report. A California Bearing Ratio (CBR) value of 3 may be estimated for the anticipated subgrade based on the soil borings.

All pavement surfaces should be sloped to facilitate positive drainage and prevent water ponding. Edges of the pavement should provide a mean of water outlet by extending the aggregate base through to side ditches or storm sewers, where practical. The subgrade surface should be uniformly sloped to facilitate drainage through the granular base and to avoid any ponding of water below the pavement. Please note that inadequate surface and subsurface drainage often result in pavement failure.

In areas where pavement will be milled and overlaid (rather than reconstruction), we recommend that the existing pavement be carefully observed for cracking, deterioration other type of failure. Any portions of pavement that exhibit failure should be removed and re-constructed.

Due to the presence of old fills as well as clayey subgrade, unstable conditions may be encountered during construction. In such case, all unsuitable soils must be removed and replace with suitable engineered fill or adequately stabilized. A contingency should be in place if unstable soils are

encountered during the construction. An AES representative should be present throughout the earthwork to verify that they are performed as recommended and identify areas where special stabilization may be necessary. All pavement aggregate base and asphalt construction should meet the minimum requirements of Indiana Department of Transportation (INDOT) Standard Specifications (ISS) latest edition.

4.7 Corrosion Protection

The soil samples tested for pH during the laboratory tests (reported earlier) resulted in pH values between about 7 and 8. Based on the lab pH values, corrosion potential from the subsurface soil appears to be fairly low. However, this study did not include a comprehensive evaluation of the corrosion characteristics of the soils below the site. A corrosion expert should be consulted for a detailed corrosion study.

4.8 Erosion Protection

Highly erodible, granular material (such as B borrow) should not be used within 12 inches of the final grade of side slopes. The material required to encase the embankment should be non-erodible, cohesive material free from deleterious materials and suitable for sustaining vegetation. The final slopes should be seeded or sodded for erosion control. If seeded, the slope should be protected with an erosion control blanket to provide for adequate seed germination and rooting.

4.9 Groundwater Control

Although no free water was observed during or after drilling operations, ground water readings may change due to precipitation or other factors. The contractor must be prepared to handle both surface and groundwater during excavations and utility installations.

If water accumulates or ponds in the construction area, it should be promptly and properly removed. Minor water may be removed from sump in excavations terminating in clayey soils. However, any dewatering should be done with caution as any improper dewatering may damage an otherwise suitable subgrade.

It should be noted that the saturated sandy and silty soils may result in a "quick condition" where the soil loses its shear strength especially when excavated and the confinements are removed. If any excavation extends into saturated silty soils, the dewatering contractor must realize that fine silty soils may migrate along with water when dewatering is performed and may result in loss of support and greatly impact the long-term performance of the proposed improvements. It is recommended that the dewatering operation be closely monitored to make sure that the fine particles are not being transported and resulting in loss of support. Any dewatering should be designed and performed by an experienced contractor.

5.0 LIMITATIONS OF STUDY

Differing Site Conditions

Geotechnical engineering recommendations were developed based on the information obtained from the test borings. Please note that soil test borings only depict the subsurface soil and groundwater conditions at the specific locations and time at which they were made. The soil conditions at other locations at the site may differ from those occurring at the soil boring locations. Groundwater condition may change over time. If deviations from the noted subsurface conditions are encountered during construction, please notify us immediately for recommendations.

Not Final Design

This report and the recommendations included in the report are not a final design, but rather as a basis for the final design to be completed by others (architect, civil or structural engineers, etc.). It is the client's responsibility to ensure that the recommendations are properly integrated into the design, and that the geotechnical engineer is provided the opportunity for design input and comment, as needed. We recommend that this firm be retained to review the final construction documents to confirm that the proposed project design sufficiently reflects the recommendations presented in the report. We also suggest that our firm be represented at pre-bid and/or pre-construction meetings regarding this project to offer any needed clarification of the geotechnical information to all involved.

Changes in Plans

The recommendations presented herein are based on the preliminary design details furnished by the client and/or as assumed herein. Any revision in the plans for the proposed construction from those anticipated in this report should be brought to the attention of the geotechnical engineer to determine whether any changes in the foundation or earthwork recommendations are necessary.

Construction Issues

Although general constructability issues have been considered in this report, the means, methods, techniques, sequences and operations of construction, safety procedure, and all items incidental thereto and consequences of, are the responsibility of parties to the project other than AES. Please contact us if additional guidance is needed.

Report Interpretation

AES is not responsible for the conclusions, opinions, or recommendations made by others based upon the data included herein. It is the client's responsibility to seek any guidance and clarifications from the geotechnical engineer needed for proper interpretation of this report.

Environmental Considerations

The scope of our services does not include any environmental assessment or exploration for the presence or absence of hazardous or toxic materials in the soil, surface or groundwater, water within or beyond the site studied. Unless complete environmental information regarding the site is already available, an environmental assessment is recommended prior to the development of this site.

Standard of Care

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This statement is made in lieu of all other warranties either expressed or implied.

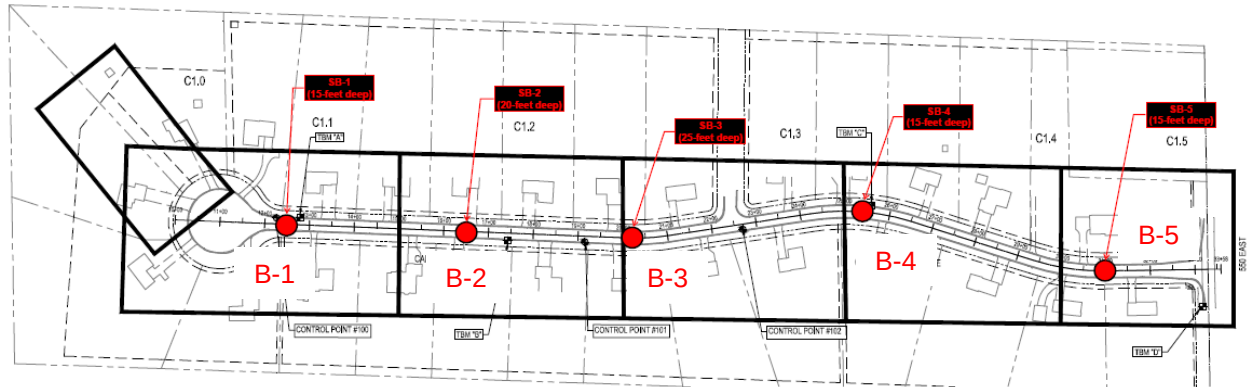
APPENDIX

BORING LOCATION PLAN

TEST BORING LOGS

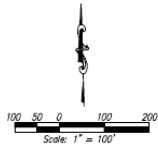
LABORATORY TEST RESULTS

FIELD CLASSIFICATION SYSTEM FOR SOIL EXPLORATION



DRAWING INDEX

1
CD-1



CONTROL POINT INFORMATION (SHOWN ON DETAIL NO.1)

CONTROL POINT DATA				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	2301250	2884398	830.72	MSS
101	2301197	2885087	843.88	MSS
102	2301255	2885440	843.06	MSS

TEMPORARY BENCH MARKS TBM (SHOWN ON DETAIL NO.1)



ORIGINAL DRAWING PROVIDED BY CLIENT
ALL TEST LOCATIONS ARE APPROXIMATE

BORING LOCATION PLAN

PROPOSED STORM SEWERS ON CARRIAGE LANE ROAD
CARRIAGE HILLS RESIDENTIAL SUBDIVISION
CARRIAGE LANE ROAD AND CR N550E
WESTVILLE, PORTER COUNTY, INDIANA
CLIENT: PORTER CO. DEPT. OF DEV & STORMWATER

PROJECT NUMBER: 2023-1052G

DRAWN BY: CH

DATE: 03-27-23

SCALE: NONE

REVIEWED: AZ

aes
advanced engineering services

FIGURE
1



Advanced Engineering Services
844 169th St.
Hammond, IN 46324
Telephone: 219.933.7888

BORING NUMBER B-1

PAGE 1 OF 1

CLIENT	Porter County Dept. of Development & Stormwater Management	PROJECT NAME	Stormsewers on Carriage Lane
PROJECT NUMBER	2023-1052G	PROJECT LOCATION	Carriage Hills Subdivision, Westville, Indiana
DATE STARTED	4/19/23	COMPLETED	4/19/23
DRILLING CONTRACTOR	GTC	GROUND ELEVATION	833 ft
DRILLING METHOD	HSA	HOLE SIZE	4 inches
LOGGED BY	ERA	CHECKED BY	JV
NOTES	Ground elevations estimated from Google Earth.		
GROUND WATER LEVELS:		AT TIME OF DRILLING	
		--- None	
		AT END OF DRILLING	
		--- None	
		AFTER DRILLING	
		--- Cave at 13.5 ft.	

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY %	STD. PEN. TEST SPT (N VALUE)	HAND PEN. (TSF)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			UNCONF. COMP STRENGTH (TSF)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Asphalt- 4 in., Aggregate Base- 9 in.										
		(FILL) Dark Brown to Black Sandy Clay, Trace Organics	SS 1		1-1-1 (2)			27.3				
		SS#1: Organics= 3.3%										
		(CL) Brown to Gray Lean Clay, Trace Sand, Gravel, Moist, Medium Stiff to Very Stiff	SS 2		3-3-3 (6)	1.0		21.5				
5			SS 3		2-4-5 (9)	4.5		16.1				
			SS 4		4-7-12 (19)	4.0		15.6				
10		(CL) Gray Lean Clay, Trace Sand, Gravel, Moist, Medium Stiff to Stiff	SS 5		3-4-6 (10)	4.5		17.5				
		SS#6: pH= 7.8	SS 6		5-5-6 (11)	4.5		13.2				
15		Bottom of borehole at 15.0 feet.										

REC GRAPHICS BH COLUMN - GINT STD US LAB AES.GDT - 5/18/23 12:29 - H:\2023\1052G PORTER CO CARRIAGE DRIVE WESTVILLE INCARRIAGE DRIVE.GPJ



Advanced Engineering Services
844 169th St.
Hammond, IN 46324
Telephone: 219.933.7888

BORING NUMBER B-2

PAGE 1 OF 1

CLIENT Porter County Dept. of Development & Stormwater Management **PROJECT NAME** Stormsewers on Carriage Lane
PROJECT NUMBER 2023-1052G **PROJECT LOCATION** Carriage Hills Subdivision, Westville, Indiana
DATE STARTED 4/19/23 **COMPLETED** 4/19/23 **GROUND ELEVATION** 841 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR GTC **GROUND WATER LEVELS:**
DRILLING METHOD HSA **AT TIME OF DRILLING** --- None
LOGGED BY ERA **CHECKED BY** JV **AT END OF DRILLING** --- None
NOTES Ground elevations estimated from Google Earth. **AFTER DRILLING** --- Cave at 23 ft.

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY %	STD. PEN. TEST SPT (N VALUE)	HAND PEN. (TSF)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			UNCONF. COMP STRENGTH (TSF)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Asphalt- 3 in., Aggregate Base- 8 in.										
		(CL) Brown Sandy Clay, Trace Gravel, Moist, Very Soft to Medium Stiff	SS 1		2-4-3 (7)	2.75		19.0				
5			SS 2		3-4-5 (9)	2.0		21.6				
			SS 3		2-2-2 (4)	1.25		20.1				
10			SS 4		0-1-1 (2)	0.5	109.3	23.0	26	15	11	0.5
		(CL) Brown Lean Clay, Trace Sand, Gravel, Moist, Medium Stiff	SS 5		1-2-4 (6)	3.0		16.4				
15		(SC) Brown Clayey Sand, Trace Gravel, Moist, Very Loose	SS 6		0-0-2 (2)			22.2				
		(CL) Gray Sandy Clay, Trace Gravel, Moist, Medium Stiff to Stiff										
20		SS#7: pH= 7.7	SS 7		3-4-5 (9)	1.75		13.0				
25			SS 8		1-4-7 (11)	2.0		11.1				
Bottom of borehole at 25.0 feet.												

REC GRAPHICS BH COLUMN - GINT STD US LAB AES.GDT - 5/18/23 12:29 - H:\2023\1052G PORTER CO CARRIAGE DRIVE WESTVILLE INCARRIAGE DRIVE.GPJ



Advanced Engineering Services
844 169th St.
Hammond, IN 46324
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BORING NUMBER B-3

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CLIENT	Porter County Dept. of Development & Stormwater Management	PROJECT NAME	Stormsewers on Carriage Lane
PROJECT NUMBER	2023-1052G	PROJECT LOCATION	Carriage Hills Subdivision, Westville, Indiana
DATE STARTED	4/19/23	COMPLETED	4/19/23
DRILLING CONTRACTOR	GTC	GROUND ELEVATION	848 ft
DRILLING METHOD	HSA	HOLE SIZE	4 inches
LOGGED BY	ERA	CHECKED BY	JV
NOTES	Ground elevations estimated from Google Earth.		
GROUND WATER LEVELS:		AT TIME OF DRILLING	
		--- None	
		AT END OF DRILLING	
		--- None	
		AFTER DRILLING	
		--- Cave at 17.5 ft.	

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY %	STD. PEN. TEST SPT (N VALUE)	HAND PEN. (TSF)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			UNCONF. COMP STRENGTH (TSF)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Asphalt- 4 in., Aggregate Base- 9 in.										
		(CL) Brown Lean Clay, Trace Sand, Gravel, Moist, Soft to Medium Stiff	SS 1		2-2-2 (4)	2.0		21.3				
5			SS 2		1-2-2 (4)	1.5		21.3				
			SS 3		2-2-2 (4)	1.5		21.0				
10		SS#4: pH= 7.9	SS 4		3-3-5 (8)	1.75		15.8				
		(CL-ML) Brown Silty Clay with Sand, Trace Gravel, Moist, Medium Stiff	SS 5		2-3-6 (9)	1.5		20.3				
15			SS 6		3-3-4 (7)	1.25	118.9	14.9	20	14	6	1.2
		(CL) Gray Lean Clay, Trace Sand, Gravel, Moist, Stiff to Very Stiff	SS 7		2-4-10 (14)	2.0		12.7				
20												
25			SS 8		4-6-13 (19)	4.0		12.4				
Bottom of borehole at 25.0 feet.												

REC GRAPHICS BH COLUMN - GINT STD US LAB AES.GDT - 5/18/23 12:29 - H:\2023\1052G PORTER CO CARRIAGE DRIVE WESTVILLE INCARRIAGE DRIVE.GPJ



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BORING NUMBER B-4

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CLIENT	Porter County Dept. of Development & Stormwater Management	PROJECT NAME	Stormsewers on Carriage Lane
PROJECT NUMBER	2023-1052G	PROJECT LOCATION	Carriage Hills Subdivision, Westville, Indiana
DATE STARTED	4/19/23	COMPLETED	4/19/23
DRILLING CONTRACTOR	GTC	GROUND ELEVATION	843 ft
DRILLING METHOD	HSA	HOLE SIZE	4 inches
LOGGED BY	ERA	CHECKED BY	JV
NOTES	Ground elevations estimated from Google Earth.		
GROUND WATER LEVELS:		AT TIME OF DRILLING	
		--- None	
		AT END OF DRILLING	
		--- None	
		AFTER DRILLING	
		--- Cave at 13 ft.	

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY %	STD. PEN. TEST SPT (N VALUE)	HAND PEN. (TSF)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			UNCONF. COMP STRENGTH (TSF)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Asphalt- 3 in., Aggregate Base- 9 in.										
		(CL) Brown Lean Clay, Trace Sand, Gravel, Moist, Medium Stiff to Stiff	SS 1		2-2-4 (6)	0.75		20.8				
5			SS 2		4-6-7 (13)	3.5		14.7				
			SS 3		4-6-7 (13)	4.0		13.1				
10		(CL) Brown Sandy Clay, Trace Gravel, Moist, Medium Stiff	SS 4		4-4-4 (8)	2.5		13.8				
		(CL) Gray Lean Clay, Trace Sand, Gravel, Moist, Medium Stiff to Stiff	SS 5		2-3-6 (9)	3.0		11.6				
15			SS 6		3-5-8 (13)	2.75		11.9				

Bottom of borehole at 15.0 feet.



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BORING NUMBER B-5

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CLIENT	Porter County Dept. of Development & Stormwater Management	PROJECT NAME	Stormsewers on Carriage Lane		
PROJECT NUMBER	2023-1052G	PROJECT LOCATION	Carriage Hills Subdivision, Westville, Indiana		
DATE STARTED	4/19/23	COMPLETED	4/19/23		
DRILLING CONTRACTOR	GTC	GROUND ELEVATION	847 ft		
DRILLING METHOD	HSA	HOLE SIZE	4 inches		
LOGGED BY	ERA	CHECKED BY	JV		
NOTES	Ground elevations estimated from Google Earth.				
GROUND WATER LEVELS:		AT TIME OF DRILLING		--- None	
		AT END OF DRILLING		--- None	
		AFTER DRILLING		--- Cave at 13.5 ft.	

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY %	STD. PEN. TEST SPT (N VALUE)	HAND PEN. (TSF)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			UNCONF. COMP STRENGTH (TSF)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Asphalt- 4 in., Aggregate Base- 8 in.										
		(CL) Brown Lean Clay, Trace Sand, Gravel, Moist, Soft to Stiff	SS 1		5-9-5 (14)	2.5		23.5				
5			SS 2		2-2-2 (4)	1.25		21.8				
			SS 3		2-2-2 (4)	1.5		16.1				
10			SS 4		4-6-7 (13)	2.75		15.3				
			SS 5		4-5-5 (10)	4.0		15.9				
		(CL) Gray Lean Clay, Trace Sand, Gravel, Moist, Stiff										
15		SS#6: pH= 7.9	SS 6		4-6-8 (14)	4.25		14.8				

Bottom of borehole at 15.0 feet.



FIELD CLASSIFICATION SYSTEM FOR SOIL EXPLORATION

NON-COHESIVE SOILS

(Silt, Sand, Gravel and Combinations)

<u>Density</u>		<u>Particle Size Identification</u>	
Very Loose	5 blows/ft or less	Boulders	12 inch diameter or more
Loose	6 to 10 blows/ft	Cobbles	12 to 3 inch diameter
Medium Dense	11 to 30 blows/ft	Gravel	Coarse 3 to 3/4 inch
Dense	31 to 50 blows/ft		Fine 3/4 inch to 4.75mm (No. 4)
Very Dense	51 blows/ft or more	Sand	Course 4.75mm to 2mm (No. 10) (dia. Of pencil lead)
			Medium 2.00mm to 0.425mm (No.40) (Dia. of broom straw)
			Fine 0.425mm to 0.075mm (No.200) (dia. of human hair)
<u>Relative Proportions</u>		Silt/Clay	0.075mm or Smaller (cannot see particles)
<u>Descriptive</u>	<u>Percent</u>		
Trace	1 to 10		
Little	11 to 20		
Some	21 to 35		
And	36 to 50		

COHESIVE SOILS

(Clay, Silt and combinations)

<u>Consistency</u>		<u>Plasticity</u>	
		<u>Degree of Plasticity</u>	<u>Plasticity Index</u>
Very Soft	3 blows/ft or less	None to slight	0 to 4
Soft	4 to 5 blows/ft	Slight	5 to 7
Medium Stiff	6 to 10 blows/ft	Medium	8 to 22
Stiff	11 to 15 blows/ft	High to Very High	over 22
very Stiff	16 to 30 blows/ft		
Hard	31 blows/ft or more		

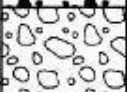
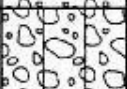
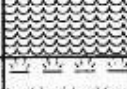
Classification on logs are made by visual inspection of samples.

Standard Penetration Test (SPT)- Driving a 2.0" O.D. 1-3/8" I.D. sampler a distance of 1ft into undisturbed soil with a 140 pound hammer free falling a distance of 30.0 inches. It is customary for ATC to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and making the test are recorded for each 6.0 inches of penetration on the drill log (Example-6/8/9). The standard penetration test result can be obtained by adding the last two figures (i.e., 8+9=17 blows/ft). (ASTM D-1586-08).

Strata Changes - In the column "Soil Descriptions" on the drill log the horizontal lines represent strata changes. A solid line (____) represents an actually observed change. A dashed line (_____) represents an estimated change.

Groundwater observations were made at the times indicated. Porosity of soil strata, weather conditions, site topography, etc., may cause changes in the water levels indicated on the logs.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

APPENDIX B

CONSTRUCTION PLANS

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