



**BOARD OF COUNTY COMMISSIONERS
WARREN COUNTY, OHIO**

406 Justice Drive, Lebanon, Ohio 45036

www.co.warren.oh.us

commissioners@co.warren.oh.us

Telephone (513) 695-1250

Facsimile (513) 695-2054

TOM GROSSMANN

SHANNON JONES

DAVID G. YOUNG

ENTER INTO CONTRACT WITH INLAND WATERS POLLUTION CONTROL, INC. FOR THE WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

WHEREAS, pursuant to Res. 18-1581, adopted October 16, 2018, this Board approved a Notice of Intent to Award Bid for the Waynesville Collection System Improvements, Phase 1 Project to Inland Waters Pollution Control, Inc., for a total bid price of \$349,635.00; and

WHEREAS, all documentation, including performance bonds, insurance certificates, etc., has been submitted by the contractor; and

NOW THEREFORE BE IT RESOLVED, to enter into contract with Inland Waters Pollution Control, Inc., 1510 Klondike Rd., Ste. 400, Conyers, Georgia, for a total contract price of \$349,635.00; as attached hereto and made a part hereof.

Mrs. Jones moved for adoption of the foregoing resolution being seconded by Mr. Young. Upon call of the roll, the following vote resulted:

Mr. Grossmann – yea

Mr. Young – yea

Mrs. Jones – yea

Resolution adopted this 6th day of November 2018.

BOARD OF COUNTY COMMISSIONERS

Tina Osborne, Clerk

KH\

cc: c/a—Inland Waters Pollution Control, Inc.
Water/Sewer (file)
OMB Bid file



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APPROVE NOTICE OF INTENT TO AWARD BID TO INLAND WATERS POLLUTION CONTROL, INC FOR WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

WHEREAS, bids were closed at 11:00 a.m., on October 4, 2018, and the bids received were opened and read aloud for the Waynesville Collection Systems Improvements, Phase 1 Project, and the results are on file in the Commissioners' Office; and

WHEREAS, upon review of such bids by Chris Brausch, Inland Waters Pollution Control Inc. has been determined to be the lowest and best bidder; and

NOW THEREFORE BE IT RESOLVED, upon recommendation of the Warren County Sanitary Engineer, that it is the intent of this Board to award the contract to Inland Waters Pollution Control, Inc., 4086 Michigan Avenue, Detroit, Michigan, for a total bid price of \$349,635.00; and

BE IT FURTHER RESOLVED, that the President of the Board is hereby authorized to execute a "Notice of Intent to Award."

Mr. Young moved for adoption of the foregoing resolution, being seconded by Mr. Grossmann upon call of the roll, the following vote resulted:

Mrs. Jones- absent

Mr. Grossmann- yea

Mr. Young- yea

Resolution adopted this 16th day of October 2018.

BOARD OF COUNTY COMMISSIONERS

Tina Osborne, Clerk

KH\

cc: Water/Sewer (file)
OMB Bid file



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DAVID G. YOUNG

BID OPENING

October 4, 2018

BID OPENING – WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS- PHASE 1

Bids were closed at 11:00 a.m. this 4th day of October and the following bids were received, opened and read aloud for the Waynesville Collection System Improvements, Phase 1 Project for the Warren County Water and Sewer Department:

Inland Water Pollution Control Detroit, Michigan	\$ 349,635.00
Insituform Lebanon, Ohio	\$ 396,972.90
Granite Inliner Hilliard, Ohio	\$ 357,610.00
Insight Pipe Harmony, Pennsylvania	\$ 350,408.45

Chris Wojnicz, Warren County Deputy Sanitary Engineer, will review bids for a recommendation at a later date.

cc: Bid File

OMB

W/S (file)

September 28, 2018

ADDENDUM #1

**Waynesville Collections System improvements – Phase
1**

2 PAGES TOTAL

This Addendum No. 1 is issued to make certain revisions, additions, and clarifications to the original Contract Documents and shall be incorporated into the original Specifications. This Addendum takes precedence over any and all information previously issued. No other revisions to the Specifications are to be inferred.

BID TAB

Please insert Bid Tab enclosed in Section 00100 when submitting.

CLARIFICATIONS:

- 1) Substantial Completion of Project – 150 Days from Notice to Proceed.
- 2) Contract Closeout – 180 Days from Notice to Proceed
- 3) Warrant of Work is 1 Year from Acceptance which is the same as the substantial completion.

THIS ADDENDUM MUST BE SIGNED AND ATTACHED TO YOUR BID.

Acknowledged by

Date

PROPOSED BID

No.	Description	Units	Quantity	Unit Cost	Cost
1	Temporary Sediment and Erosion Control	LS	1		
2	Maintenance of Traffic	LS	1		
3	Seeding & Mulching	SY	178		
4	Sewer Cleaning	LF	6,245		
5	CCTV Video Inspection	LF	6,245		
6	Bypass Pumping, Complete	LS	1		
7	8" Cured-in-Place Pipe, Thickness per ASTM F1216, Including Reinstatement of Laterals	LF	5,825		
8	18" Cured-in-Place Pipe, Thickness per ASTM F1216, Including Reinstatement of Laterals	LF	420		
9	Cementitious Grouting, as Directed by County	CF	5		
10	Chemical Grouting, as Directed by County	Gal.	10		
11	Urethane / Epoxy Composite Manhole Rehabilitation	Ver. Ft.	108		
12	Mortar / Epoxy Composite Manhole Rehabilitation	Ver. Ft.	107		
13	Reinforced Epoxy Structural Manhole Rehabilitation	Ver. Ft.	60		
14	Chimney Seal (Flex Seal Product or Equal)	EA	30		
15	Open Cut Point Repair, 8" Pipe	LF	10		
16	Lateral Trimming (Protruding)	EA	1		
17	OPWC Sign	EA	1		
TOTAL BID PRICE					

TOTAL BID PRICE (In Words)

NOTE:

- Quantities are based upon construction plans for Waynesville Collection System Improvement Project and prepared by the Warren County Water and Sewer Department.

BID/CONTRACT DOCUMENTS

**WAYNESVILLE COLLECTION SYSTEM
IMPROVEMENTS PROJECT, PHASE 1**

WARREN COUNTY WATER & SEWER
DEPARTMENT

WARREN COUNTY BOARD OF COMMISSIONERS
406 JUSTICE DRIVE
LEBANON, OHIO 45036
(513) 695-1250

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VOLUME II

TECHNICAL SPECIFICATIONS - AUGUST 2018

SECTION 00040 - INVITATION TO BIDDERS

Separate sealed bids for the Waynesville Collection System Improvements Project, Phase 1 will be received by the Warren County Board of Commissioners at the Office of the Warren County Commissioners, 406 Justice Drive, Lebanon, Ohio 45036, until October 4, 2018 @ 11:00 a.m. and then at said time publicly opened and read aloud.

Bid documents, drawings and specifications are available online at the Warren County's Website at <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>. Existing sanitary sewer video is available upon request. Please Contact Chris Wojnicz at Warren County Water and Sewer Department, (513) 695- 1646.

The project description: Work includes a Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5, 500 feet), two segments of 18- inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes. The Engineer's opinion of probable construction cost is \$900,000.

A Bid guaranty, as required by Ohio Revised Code, Section 153.54, shall accompany each proposal submitted, as follows:

1. A Certified check, cashier's check, or letter of credit equal to ten (10) percent of the bid. A letter of credit may only be revocable by the Owner. Upon entering into a contract with the Owner, the contractor must file a performance bond for the amount of the contract, and the bid guaranty will then be returned to the successful and unsuccessful bidders upon contract execution. **OR**
2. A form of bid guaranty bond (attached) for the full amount of the bid. Such bond is retained for the successful bidder, but returned to unsuccessful bidders after the contract is executed.

Attention of bidders is called to all of the requirements contained in the bid packet. No bidder may withdraw his bid within sixty (60) days after the actual date of the opening thereof. All bids shall be properly signed by an authorized representative of the bidder. All bids shall be sealed and plainly marked:

BID OPENING– WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS PHASE 1, PROJECT, OCTOBER 4, 2018 @ 11:00 a.m.

Warren County reserves the right to reject any or all bids submitted, to waive any irregularities in bids, and enter into a contract with the Bidder who in Warren County's consideration offered the lowest and best bid.

By order of the Board of County Commissioner, County of Warren, State of Ohio.

Tina Osborne, Clerk

SECTION 00100 - BID PROPOSAL

The undersigned declares that the only persons or parties in this Bid are as stated; that the Bid in make without any collusion with other persons, firms, or corporations; that all the Contract Documents as prepared have been carefully examined; that the undersigned is fully informed in regard to all conditions pertaining to the Work and the place where it is to be done, and from them the undersigned makes this Bid. The undersigned do hereby propose to furnish all labor, materials, tools, equipment, etc., necessary to complete the work along High and Main Streets in Waynesville, Ohio. The premiums for all Bonds required shall be paid by the Contractor and shall be included in the Contract Price. The undersigned Bidder further agrees that the Bid Security accompanying this Bid shall become the property of the County if the Bidder fails to execute the Agreement.

The undersigned hereby agrees that the Contract Time shall commence on the date stipulated in the Notice to Proceed and to complete the work in accordance with the terms as stated in the Contract Agreement, and in accordance with the following schedule milestones:

The Owner shall issue a "Notice to Proceed" within 14 days of contract execution. The start of the project shall be determined by the successful bidder and identified in a written preliminary project schedule submitted by the Bidder to the Owner within 30 days of the effective date of the Contract Agreement. The Bidder shall complete the work in accordance with the terms as stated in the Contract Agreement, and in accordance with the following schedule milestones:

- a. Substantial completion shall be within 150 days from Notice to Proceed
- b. Final completion, site restoration work complete, and Contract Closeout shall be within 180 days from Notice to Proceed

The undersigned acknowledges receipt of the following Addenda:

No. _____, dated _____, 2018

No. _____, dated _____, 2018

No. _____, dated _____, 2018

Bids shall include all costs incurred for the Work including materials, equipment, supplies, labor, permit fees, taxes, insurance, miscellaneous costs, overhead, and profit. All Material must comply with the specifications shown on the contract drawings.

The written/typed Total Bid price is for the convenience of the Owner in comparing bids. Any discrepancy between the actual sum of the line item totals and the written/typed total bid price shall be resolved in favor of the actual sum of the correct individual line item.

The undersigned hereby certifies under the penalty of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person or entity. The bid proposals shall remain in full force and effect for ninety (90) days after the date of opening bids. The full name and address of all persons and parties interested in the foregoing bids as principals are as follows:

Individual, Partnership, or Corporation

Signature of Corporate Officer, President, or Owner

Notice of acceptance should be mail or delivered to the following:

(Contact Name)

(Contact Title)

(Company Name)

(Business Address)

(City and State)

(Contact Number)

Date: _____

SECTION 00120 - EXCEPTION SHEET

Exceptions: Exceptions to any bid specification must be clearly stated on this sheet. This sheet must be submitted with each bid. If there are no exceptions, please indicate "none" below.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____
- 7) _____
- 8) _____
- 9) _____
- 10) _____

SECTION 00130 - BIDDER IDENTIFICATION

ATTENTION BIDDER: Please fill out this form and submit with your bid.

COMPANY NAME: _____

CHIEF EXECUTIVE OFFICER: _____

ADDRESS: _____

PHONE NUMBER: _____

FAX NUMBER: _____

PROJECT CONTACT PERSON: _____

PHONE NUMBER: _____

E-MAIL ADDRESS: _____

FEDERAL ID #: _____

WEBSITE ADDRESS: _____

SECTION 00200 - GENERAL INSTRUCTIONS TO BIDDERS

1. **Receipt and Opening of Bids:** The Warren County Board of Commissioners (herein referred to as "Owner"), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the Office of the Warren County Board of Commissioners until October 4, 2018 @ 11:00 a.m. and then at said office publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to Warren County Board of Commissioners at 406 Justice Drive, Lebanon, Ohio 45036, and shall be clearly marked

BID OPENING– WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS PHASE 1 PROJECT, OCTOBER 4, 2018 @ 11:00 a.m.

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual date of the opening thereof.

2. **Bid Documents:** Bid documents, construction drawings, specifications, geotechnical report, addenda, plan holders list, and other information are available online, free of charge, at the Warren County's Website at <http://www.co.warren.oh.us/commissioners/Resources/Default.aspx>. Contact Chris Wojnicz at christopher.wojnicz@co.warren.oh.us to be added to the plan holders list. All Addenda will be posted on the aforementioned website and shall not be mailed to the bidders. Bidders shall be responsible for checking the website prior to submitting their bids.

3. **Withdraw of Bid:** A Bidder may withdraw his bid from consideration if the price bid was substantially lower than the other bids, provided the bid was submitted in good faith and the reason for the price being substantially lower was a clerical mistake as opposed to a judgment mistake and was actually due to an unintentional omission of a substantial quantity of work, labor or material made directly in the compilation of the bid. Request to withdraw such bid must be made in writing and filed with the Owner within two business days after the opening of bids and prior to the acceptance thereof.

4. **Preparation of Bid:** Each bid must be submitted on the prescribed form and such documents as hereunder described. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures, and the foregoing certifications must be fully completed and executed when submitted.

5. **Method of Bidding:** Bids shall be submitted at the time and place indicated in the Invitation to Bidder and shall be included in a sealed envelope, marked with the project title and name and address of the bidder and accompanied by the bid security and other required documents.

Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted at any time prior to the opening of bids.

The Owner invites unit price bids for the construction described in the plans and specifications. These unit prices shall be extended by estimated quantities to develop a total price for the project.

The estimate of quantities of work, if included in the Proposal, is approximate only, and will not become the basis for calculating final payment for the work. However, the estimated quantities shall be used by the Owner in calculating the total amount of the Proposal for comparison of bids.

If the total price received from the lowest and best bidder exceeds the amount of funds available to finance the contract, the Owner may:

- a. Reject all bids;
 - b. Augment the funds available in an amount sufficient to enable award to the lowest and best bidder or bidders;
 - c. Reduce the scope of work by eliminating certain items of work to produce a total bid which is within available funds;
 - d. Reduce the scope of work by reducing the quantity of certain items of work to produce a total bid which is within available funds;
 - e. Reduce the scope of work by a combination of adjustments as outlined in "c" and "d" above to produce a total bid which is within available funds.
 - f. The Owner may reject all bids or may award the contract on the base bid or on the base bid combined with additions or deductible alternates as produces a net amount which is within the available funds.
 - g. The Owner may consider informal and may reject any bid not prepared and submitted in accordance with the provisions hereof. The Owner reserves the right to reject all bids, to waive any informalities or irregularities in the bids received, and to accept any bid which is deemed lowest and best.
6. **Qualification of Bidder:** The Owner may make such investigations as he/she deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein; conditional bids will not be accepted.
7. **Bid Security:** Each bid must be accompanied by cash, cashier's check, certified check of the bidder, letter of credit equal to ten (10) percent of bid, or a bid bond prepared on the form of bid bond attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner. (See Invitation to Bidders for required amounts) Such cash, checks or bid bonds will be returned to bidders after the Owner has awarded the bid and has executed the contract, or, if no award has been made within 60 days after the date of the opening of

bids, upon demand of the bidder at any time thereafter, so long as he/she has not been notified of the acceptance of his/her bid.

8. **Liquidated Damages for Failure to Enter into Contract:** The successful bidder, upon his/her failure or refusal to execute and deliver the contract and bonds required within 10 days after he/she has received notice of the acceptance of his/her bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid.

9. **Time of Completion and Liquidated Damages:** The Owner shall issue a "Notice to Proceed" within 14 days of contract execution. The start of the project shall be determined by the successful bidder and identified in a written project schedule submitted by the Bidder to the Owner within 14 days of executing the contract. The Bidder shall complete all work within the following requirements:

- a. Substantial completion shall be within 150 days from Notice to Proceed.
- b. Final completion, site restoration work complete, and Contract Closeout shall be within 180days from Notice to Proceed.

Bidder agrees to pay as liquidated damages the sum of \$1,000.00 for each consecutive calendar day thereafter. See the General Conditions and Supplemental Conditions for the definition and requirements of substantial completion.

10. **No Damage for Delay:** No payment, compensation or adjustment of any kind shall be made to the contract price for damages incurred by the contractor because of hindrances or delays in the progress of the work from any cause that is not proximately caused by the Owner's action or failure to act. Whether such hindrances or delays are avoidable or unavoidable, the contractor agrees that he or she will make no claim for compensation, damages or mitigation of liquidated damages for any such delays. Examples of delays include (but are in no manner limited to) obtaining all necessary permission from any government agency or any private party, any act or failure to act by any other contractor, subcontractor and/or supplier, all foreseen and unforeseen events and any conditions or acts of God. It is understood and agreed that the contractor assumes all risks of delays in prosecuting or completing the work under the contract that are not proximately caused by the Owner's action or failure to act. The contractor will accept in full satisfaction for such delays, an extension of time, if any, agreed to by the Owner.

11. **Conditions of Work:** Each bidder must inform him/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to carry out the provisions of his/her contract. Insofar as possible the contractor, in carrying out the work, must employ such methods or means or will not cause any interruption of or interference with the work of any other contractor. No plea of ignorance of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work as the result of failure to make such examination and investigation, will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill in every respect, all the requirements of the

Contract, nor will the same be accepted as a basis for any claim whatsoever for extra compensation or for an extension of time.

12. **Addenda and Interpretations:** No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation must be in writing and emailed Chris Wojnicz, christpher.wojnicz@co.warren.oh.us. **All questions must be submitted by 4:00 p.m., Wednesday, September 26, 2018.** All such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be posted on the Warren County's website at <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>, no later than three days prior to the date fixed for the opening of bids. Addenda **will not** be mailed, emailed, or faxed to potential bidders or individuals on the plan holders list. Failure of any bidder to monitor and download any such addendum or interpretations from the website shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.

13. **Security for Faithful Performance:** Simultaneously with his/her delivery of the executed contract, the Contractor shall furnish a performance (surety) bond as security for faithful performance of this contract and for the payment of all persons performing labor on the project under the contract and furnishing materials in connection with the contract. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owner. Please note that upon execution of the Contract if a Bid Guaranty/Contract Bond was submitted with your original bid a Performance Bond will not be required.

14. **Power of Attorney:** Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

15. **Laws and Regulations:** The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

16. **Method of Award:** The Owner may reject all bids or may award the contract on the base bid or on the base bid combined with additions or deductible alternates, to the lowest and best bidder, as produces a net amount which is within the available funds.

17. **Obligation of Bidder:** At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect of his/her bid.

18. **Safety Standards and Accident Prevention:** With respect to all work performed under this contract, the Contractor shall:

- a. Comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published

by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of title 29 of the code of Federal Regulations, Section 1518 as published in the "Federal Register", Volume 36, N. 75, Saturday, April 17, 1971.

- b. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.
 - c. Maintain at his/her office or other well known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or doctor's care of persons (including employees) who may be injured at the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.
19. **Examination of Site**: Each bidder shall, and is hereby directed to inspect the entire site of the proposed work and judge for him/herself as to all the circumstances affecting the cost and progress of the work and shall assume all patent and latent risks in connection therewith.
20. **Water Supply**: All water for construction purposes, except for the expense of having water conveyed about the work, will be provided by the Owner.
21. **Working Facilities**: The plans show, in the general manner, the existing structures and the land available for construction purposes. The bidders must satisfy themselves of the conditions and difficulties that may be encountered in the execution of the work at this site.
22. **Permits**: No permits are required for this construction.
23. **Signature of Bidders**: The firm, corporate or individual name of the bidder must be signed in ink in the space provided for the signatures on the proposed blanks. In the case of a corporation, the title of the officer signing must be stated and such officer must be thereunto duly authorized and the seal of said corporation duly affixed. In the case of a partnership, the signature of at least one of the partners must follow the firm name, using the term "member of the firm." In the case of an individual, use the terms "doing business as", or "sole owner." The bidder shall further state in his proposal the name and address of each person or corporation interested therein.
24. **Right to Accept or Reject Proposals**: The Owner may consider informal and may reject any bid not prepared and submitted in accordance with the provisions hereof. The Owner reserves the right to reject all bids, to waive any informalities or irregularities in the bids received, and to accept any bid which is deemed lowest and best.
25. **Non-Collusion Affidavit**: The successful bidder will be required to submit a non-collusion affidavit on the form included in these Bid/Contract documents (SECTION 00220). This affidavit shall be dated and executed as part of this bid.
26. **EEO Compliance**: Bidders please see SECTION 00340 for EEO Compliance Requirements and Affidavit.

27. **Wage Rates:** This contract is subject to Ohio Prevailing Wage Laws, Chapter 4115 of the Ohio Revised Code and the Contractor and all subcontractors shall comply with all provisions contained therein or as otherwise provided by this note. The Contractor and all Subcontractors shall comply with the Wage Rate Requirements contained in Section 00500.

28. **Subletting of Contract:** The Contractor shall not sublet, sell, transfer or assign any portion of the contract without written consent of the Owner of his designated agent. When such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his own organization, work amounting to no less than fifty percent of the total contract cost, except that any time designated in the contract before computing the amount of work required to be performed by the Contractor with his own organization, no subcontract, or transfer of contract, shall in any way release the Contractor of his liability under the contract and bonds.

29. **Required Insurance:** In accordance with the specifications, the Contractor, without restricting the obligations and liabilities assumed under the Contract Documents, shall at his own cost and expense purchase and maintaining in force until final acceptance of his work, the forms of insurance coverage listed below.

Certificates from the insurance carrier stating the limits of liability and expiration date shall be filed with the Owner before operations are begun. Such certificates shall not merely name the types of policy provided, **but shall specifically refer to this Contract** and shall name the Board of Warren County Commissioners as additionally insured. However, the original policy for Owner's Protective Bodily Injury (Item F) and Property Damages (Item G) shall at this time be delivered to the Owner for its possession.

All policies as hereinafter required shall be so written that the Owner will be notified of cancellation or restrictive amendment at least ten days prior to the effective date of such cancellation or amendment.

Item A - Workmen's Compensation and/or Employer's liability Insurance as required or specified by State Law.

Item B – Comprehensive General Liability Insurance: In an amount not less than \$1,000,000.00 per occurrence for Bodily Injury and \$500,000 for explosion underground and collapse, commonly known as “XCU.” The following endorsement documents provided by Warren County:

- a. CG 20 10 10 01 – additional insured endorsement (or equivalent)
- b. CG 20 37 10 01 – additional insured endorsement (or equivalent)
- c. CG 25 03 03 97 – designated location aggregate (or equivalent)

General Liability needs to be written on Primary/Non-contributory basis for the benefit of the additional insured.

Item C – Umbrella: In an amount not less than \$1,000,000 occurrence and \$1,000,000 aggregate. Umbrella needs to attach to General Liability, Employers Liability, Auto Liability. Umbrella needs to be written on follow-form primary.

Item D - Bodily Injury Liability Insurance covering motor vehicles either owned by the Contractor or being used in connection with the prosecution of the work embraced under this contract.

Item E - Property Damage Liability Insurance covering motor vehicles either owned by the Contractor or being used in connection with the prosecution of the work embraced under this contract.

Item F - (If Applicable) - Such Protective (including Railroad Protective) and Contractual Bodily Injury Liability Insurance and such Protective (including Railroad Protective) and Contractual Property Damage Liability Insurance as shall be required by the railroad and other utility companies whose property, facilities or rights-of-way may be affected by the work to be done under this contract, in such amounts and in such form as each such utility company may require.

If any part of the work is sublet, insurance of the same types and limits as required by above items numbered A, B, C, D, E, F, and I shall be provided by or on behalf of the Subcontractors to cover that part of the work they have contracted to perform including Property Damage Liability Special Hazards coverage if so required by this contract.

Protective and Contractual Bodily Injury Liability Insurance required by Item F (if applicable) shall be in an amount and form as each railroad or utility company may require.

Builders Risk Insurance: All Risk form, including subsidence and theft of materials from the job site. Such coverage shall be maintained until final acceptance of the Contract by the Owner and payable to the Owner for the benefit of the contractor. The limit for Builders Risk shall be the full value of construction.

30. **Maintenance of Property:** All work activities including storage and stockpiling of materials, is to be conducted within the Owner's property. Bracing, scaffolding, and rigging shall be located within the property unless work agreements are secured from the adjacent property Owners. It is the Contractor's responsibility to secure these work agreements, if deemed necessary. Copies of the work agreements shall be delivered to the Engineer and Owner prior to any work beginning on the affected property.

31. **Foreign Corporation and Contractors:** Definition: "Foreign Corporation" means a corporation incorporated under the laws of another state. No contract shall be entered into with a foreign corporation until the Secretary of State has certified that such corporation is authorized to do business in Ohio: and until, if the bidder so awarded the Contract is a person or partnership, it has filed with the Secretary of State a Power of Attorney designating the Secretary of State as its agent for the purpose of accepting service of summons in any action brought under Ohio Revised Code, Section 153.05 or under Sections 4123.01 to 4123.94, inclusive.

32. **Subcontracts:** Contractor shall provide upon request of the Owner an explanation of all subcontractors intended to be used in performance of the work. In the event the Owner does not object, Contractor may have such work performed by a subcontractor. Contractor shall bind every subcontractor to, and every subcontractor must agree to be bound by the terms of, the Agreement, as far as applicable to the subcontractor's work particularly pertaining to Prevailing Wages and EEO requirements. Nothing contained in the Agreement shall create any contractual relationship between any subcontractor and Owner, nor create any obligations on the part of the Owner to pay or see to the payment of any sums to any subcontractor.

33. **Real and/or Personal Property Tax Affidavit:** All bidders must complete the Real and/or Personal property tax affidavit (Section 00320) and submit with your bid. This section should be fully completed whether or not you as a vendor/contractor own property in Warren County, Ohio.

34. **Description of Project:**

Work includes Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5,500 feet), two segments of 18- inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes. The Engineer's opinion of probable construction cost is \$900,000.

35. **Scope of Work:** Provide all work as described in the Specifications and Drawings herein as necessary to provide for project completion.

36. **Required Forms:** Each Bidder shall complete and submit the following forms with his/her bid:

SECTION 00100 – Bid Proposal

SECTION 00120 - Exception Sheet

SECTION 00130 - Bidder Identification

SECTION 00220 - Non-Collusion Affidavit

SECTION 00260 - Bid Guaranty & contract Bond

SECTION 00300 - Experience Statement

SECTION 00320 - Affidavit of Non-Delinquency of Taxes

SECTION 00340 - Certificate of Compliance Non-Discrimination and Equal Employment
Opportunity Affidavit

SECTION 00360 - Findings for Recovery Affidavit

37. **Subcontractors:** The successful Contractor may be required, at the request of the Owner, to submit a list of sub-contractors and/or suppliers for said project.

38. **Additional Obligations Upon Contact Award:** Upon award of the bid but prior to execution of the final agreement and notice to proceed, the Contractor shall submit all of the following documents, completed as required:

- 1) Contract
- 2) Performance Bond
- 3) Certificates of Insurance

39. Entire bid packet must be completed (except SECTION 00400 - Contract) and returned with bid proposal, as the entire bid packet becomes part of the contract documents.

40. **Changes In Work:** Owner may find it necessary and desirable to make changes and/or alterations in the lines, plans, equipment, or materials from time to time, either before or after construction has begun.

The Owner shall notify the Contractor in writing about all changes in the work at any time, and it shall be completed according to the said changes without any alteration in the Contract Price except in those cases where the changes materially affect the amount of work to be done and the cost thereof. The decision of the Owner regarding changes in work shall be final in all cases where no alteration in price is involved. Changes in work which involve any alteration in the amount to be paid to the Contractor shall not be commenced until approved in writing by the Owner.

If the Contractor claims that any written instructions from the Owner, by drawings or otherwise, involved extra cost or an extension of time, he/she shall so notify the Owner in writing within seven (7) days after receipt of such instructions and before proceeding to execute the work.

41. **Partial Payments to Contractor:** The Owner will make partial payments to the Contractor during construction on the basis of an estimate of the value of work performed during the preceding calendar month under this Contract. The partial payment shall be made in accordance with the applicable sections of the Ohio Revised Code. Owner will furnish an estimate of the quantities of work. Owner will determine the value of work performed and prepare the monthly partial estimate.

All materials and work covered by partial payments made shall thereupon become the sole property of the Owner. This provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of work upon which payments have been made or the restoration of any damaged work. The payment of monthly partial estimates does not waive the right of the Owner to require the fulfillment of all the terms of the Contract Documents.

42. **Owner's Right to Withhold Certain Amounts and Make Applicable Thereof:** The Contractor may be required by the Owner to furnish from time to time, satisfactory evidence that all persons who have done work or furnished materials under this Contract, or may have suffered and claimed damage on account of the Contractor's operation, have been fully paid or secured; and in case such evidence is not furnished as aforesaid, the Owner may in addition to the Portion of any estimate retained under the preceding provisions of these Contract Documents, also withhold sufficient amount of any payment otherwise due to the Contractor to cover:

- a. Payments that may be past due or payable for just claims for labor or materials furnished in an about the performance of the work or for damages sustained under this Contract;
- b. For defective work not remedied as hereinbefore provided, and;
- c. For failure of the Contractor to make proper payments to his Subcontractors.

If the Contractor fails to carry on the work within the time set out in his Proposal, the Owner may retain from the moneys that are, or which may become due said Contractor, the Owner's estimated

daily cost of the completed work, for each and every calendar day the completion of the work be delayed beyond the time specified herein for such completion. The Contractor shall not be entitled to a bonus for early completion.

43. **The Right of Owner to Terminate Contract:** In the event that any of the provisions of these Contract Documents are violated by the Contractor or any of his/her Subcontractors, the Owner may serve written notice upon the Contractor and the Surety, of his intention to terminate such Contract, such notices to contain the reasons for such intention to terminate the Contract, and unless within ten (10) days after the serving of such notice upon the Contractor such violation shall cease and satisfactory arrangements for corrections be made, the Contract shall, upon the expiration of said ten (10) days cease and terminate. In the event of any termination, the Owner shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the Contract, provided, however, that if the Surety does not commence performance thereof within thirty (30) days from the date of the mailing of such Surety or Notice of Termination, the Owner may take over the work and prosecute same to completion by contract for the amount and at the expense of the Contractor, and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may take possession of and utilize in completing the work, such appliances and shop drawings as may be on the site of the work and necessary therefore.

44. **Other Contracts:** The Owner reserves the right to allow other work or to enter into other Contracts for work to be constructed or placed in or about the work herein described, and to order the starting and progress of such other Contracts at any time prior to the completion of this Contract. The Contractor hereby waives any claims for damages or extra compensation by reason of any real or supposed interference with his work.

45. **Suspension of Work:** The Owner reserves the right to suspend the whole or any part of the work to be done hereunder if work is not proceeding in accordance with the Contract Documents, without compensation to the Contractor for such suspension other than extending the time for completing the work as much as it may have been delayed by such suspension. Such suspension shall be in the form of a written "Stop Order" issued by the Owner.

46. **Retainer:** In accordance with ORC Section 153.12 partial payments to the Contractor for labor performed under either a unit or lump sum price contract shall be made at the rate of ninety-two per cent of the estimates prepared by the Contractor and approved by the Engineer. All labor performed after the job is fifty per cent completed shall be paid for at the rate of one hundred per cent of the estimates submitted by the Contractor and approved by the Engineer.

When the major portion of the project is substantially completed and occupied, or in use, or otherwise accepted, and there exists no other reason to withhold retainage, the retained percentages held in connection with such portion shall be released and paid to the contractor, withholding only that amount necessary to assure completion.

47. **Final Inspection:** Owner shall make a final inspection upon completion of work; and if all the work required to be done under the Contract is found acceptable as required by the Contract Documents, he shall prepare and provide the Contractor a written statement indicating completion of all the work under the Contract.

48. **Final Estimate:** The Owner will pay to the Contractor the total earned compensation as stated in the Final Estimate, less all prior payments. All prior estimates and payments, including those relating to "Changes in Work" or "Ext a Work" shall be subject to correction by this Final Estimate for payment of the work included under these Contract Documents. The one (1) year guarantee period shall commence on the date of the Final Estimate. Final payment will not be released until a written waiver of liens is signed and submitted by all subcontractors and material suppliers.

49. The Engineer's Opinion of Probable Construction Cost is \$900,000.

50. **STATEMENT: Do not submit confidential documents or documents of any type that contain trade secrets. All materials submitted become public records once opened and may be copied upon request to anybody including competitive bidders.**

51. **Steel Products Made in the United States (OPWC Requirement)** Domestic steel use requirements as specified in Ohio Revised Code §153.011 apply to this project. Copies of §153.011 can be obtained from any of the offices of the department of administrative services or through <http://codes.ohio.gov/orc/153.011>.

52. **Ohio Worker's Compensation Coverage (OPWC Requirement):** The Contractor must secure and maintain valid Ohio workers' compensation coverage until the project has been finally accepted by the OWNER. A certificate of coverage evidencing valid workers' compensation coverage must be submitted to the OWNER before the contract is executed.

The Contractor must immediately notify the OWNER, in writing, if it or any subcontractor fails or refuses to renew their workers' compensation coverage. Furthermore, the Contractor must notify the OWNER, in writing, if its or any of its subcontractor's workers' compensation policies are canceled, terminated or lapse.

The failure to maintain valid workers' compensation coverage shall be considered a breach of contract which may result in the Contractor or subcontractor being removed from the project, withholding of pay estimates and/or termination of the contract.

53. **Drug-Free Workplace Program (OPWC Requirement):** In accordance with Ohio Revised Code §153.03 and during the life of this project, the Contractor and all its Subcontractors that provide labor on the Project site must be enrolled in and remain in good standing in the Ohio Bureau of Worker's Compensation ("OBWC") Drug-Free Workplace Program ("DFWP") or a comparable program approved by the OBWC.

54. **Ohio Preference (OPWC Requirement):** In accordance with Ohio Revised Code §164.05 (A)(6), to the extent practicable, the Contractor and subcontractor shall use Ohio products, materials, services and labor in connection with this project.

55. **Ohio Ethics Law (OPWC Requirement):** CONTRACTOR agrees that it is currently in compliance and will continue to adhere to the requirements of Ohio Ethics law as provided by Section 102.03 and 102.04 of the Ohio Revised Code.

SECTION 00220 - NONCOLLUSION AFFIDAVIT

State of _____

BID Identification _____

CONTRACTOR _____, being first duly sworn, deposes and says that he is _____ (sole owner, a partner, president, secretary, etc.) of _____, the party making the foregoing BID; that such BID is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that such BID is genuine and not collusive or sham; that said BIDDER has not directly or indirectly colluded, conspired, connived or agreed with any BIDDER or any one else to put in a sham BID, or that any one shall refrain from Bidding; that said BIDDER has not in any manner, directly or indirectly, sought by agreement, communication or conference with any one to fix the BID price of said BIDDER or of any other BIDDER, or to fix any overhead, profit, or cost element of such BID price, or of that of any other BIDDER, or to secure any advantage against the OWNER awarding the contract or anyone interested in the proposed contract; that all statement contained in such BID are true; and, further, that said BIDDER has not, directly or indirectly, submitted his BID price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid and will not pay any fee in connection therewith, to any corporation, partnership, company, association, organization, BID depository, or to any member or agent thereof, or to any other individual except to such person or persons who have a partnership or other financial interest with said BIDDER in his general business.

Signed:

Subscribed and sworn to before
me this ___ day of _____, 2018.

Seal of Notary

SECTION 00240 - BONDING AND INSURANCE REQUIREMENTS

A state or local unit of government receiving a grant from the federal government which requires contracting for construction of facility improvement shall follow its own requirements relating to bid guarantees, performance bonds, and payment bonds, except for contracts or subcontracts exceeding \$100,000. For contracts or subcontracts exceeding \$100,000, the Federal agency may accept the bonding policy and requirements of the grantee provided the Federal agency has made a determination that the Government's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

- a. A bid guaranty from each bidder. The "bid guaranty" shall consist of a firm commitment such as a bid bond in the amount of one hundred (100) percent of the bid price, or ten (10) percent of the bid price if certified check or other negotiable instrument accompanying a bid, as assurance the bidder will, upon acceptance of his/her bid, execute such contractual documents as may be required within the time specified.
- b. A performance bond on the part of the Contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

SECTION 00260 - BID GUARANTY AND CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

(Insert full name or legal title of Contractor and Address)

as Principal and _____
(Insert full name or legal title of Surety)

as Surety, are hereby held and firmly bound unto the Warren County Board of Commissioners hereinafter called the Oblige, in the penal sum of the dollar amount of the bid submitted by the Principal to the Oblige on _____ to undertake the project known as:

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

The penal sum referred to herein shall be the dollar amount of the Principal's bid to the Oblige, incorporating any additive or deductive alternate proposals made by the Principal on the date referred to above to the Oblige, which are accepted by the Oblige, In no case shall the penal sum exceed the amount of _____ DOLLARS, \$ _____. If this item is left blank, the penal sum will be the full amount of the Principal's bid, including alternates. Alternatively, if completed, the amount stated must not be less than the full amount of the bid, including alternates in dollars and cents. A percentage is not acceptable.

For the payment of the penal sum well and truly to be made we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above named Principal has submitted a bid on the above referred to project;

NOW, THEREFORE, if the Oblige accepts the bid of the Principal and the Principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the Principal pays to the Oblige the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid and such larger amount for which the Oblige may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the Oblige does not award the contract to the next lowest bidder and resubmits the project for bidding, the Principal will pay the Oblige the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising, and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect. If the Oblige accepts the bid of the Principal and within TEN days after the awarding of the contract, enters into a proper contract in accordance with

the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as though set forth herein; and

IF THE SAID PRINCIPAL SHALL well and faithfully perform each and every condition of such contract; and indemnify the Obligee against all damage suffered by failure to perform such contract according to the provisions thereof and in accordance with the plans, details, specifications, and bills of material therefore; and shall pay all lawful claims of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract: we agreeing and assenting that this undertaking shall be for benefit of any materialman or laborer having a just claim, as well as for the Obligee herein; THEN THIS OBLIGATION SHALL be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of said contract or in or to the plans and specifications therefor shall in any wise affect the obligations of said surety on its bond, and it does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

SIGNED AND SEALED this _____ day of _____ 2018.

PRINCIPAL

SURETY

By: _____

By: _____

Attorney-in-fact

Title: _____

Surety Agent's Name and Address:

SECTION 00280 - PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called
(Corporation, Partnership or Individual)

Principal, and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

WARREN COUNTY OHIO, BOARD OF COMMISSIONERS
406 Justice Drive
Lebanon, OH 45036

hereinafter called OWNER, in the penal sum of _____ Dollars, \$(_____) in
lawful money of the United States, for the payment of which sum well and truly to be made, we bind
ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a
certain contract with the OWNER, dated the _____ day of _____, 2018,
a copy of which is hereto attached and made a part hereof for the construction of:

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the
undertakings, covenants, terms, conditions, and agreements of said contract during the original term
thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to
the Surety and during the guaranty period(s), and if he shall satisfy all claims and demands incurred
under such contract, and shall fully indemnify and save harmless the OWNER from all costs and
damages which it may suffer by reason of failure to do so, and shall reimburse and repay the
OWNER all outlay and expense which the OWNER may incur in making good any default, then this
obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received, hereby stipulates and agrees that
no change, extension of time, alteration or addition of the terms of the contract or the WORK to be
performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its

obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in counterparts, each one of which shall be deemed an original, this the _____ day of _____ 2018.

ATTEST:

(Principal)

(SEAL)

By _____

ATTEST:

(SEAL)

(Surety)

IMPORTANT: Pursuant to Ohio Revised Code §122.87(A) defines surety company as, “. . . a company that is authorized by the department of insurance to issue bonds as a surety”.

SECTION 00300 - EXPERIENCE STATEMENT

The Bidder is required to state in detail in the space provided below, what work he has done of a character similar to that included in the proposed contract, to give references and such other detailed information as will enable the Owner to judge of his responsibility, experience, skill and financial standing. Completion of this statement is required and must be submitted with the Bid in order to qualify for consideration for award of contract.

SUBMITTED FOR:

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

SUBMITTED BY:

Name: _____

(Print or Type Name of Bidder)
(A Corporation/A Partnership/An Individual)
[Bidder to strike out inapplicable terms.]

Address: _____

The undersigned certifies under oath the truth and correctness of all statements and of all answers to questions made hereinafter.

(Note: Attach Separate Sheets as Required)

1.0 How many years has your organization been in business as a contractor?

2.0 How many years has your organization been in business under its present name?

3.0 Has any construction contracts to which you have been a party been terminated by the owner; have you ever terminated work on a project prior to its completion for any reason; has any surety which issued a performance bond on your behalf ever completed the work in its own name or financed such completion on your behalf; has any surety expended any monies in connection with a contract for which they furnished a bond on your behalf? If the answer to any portion of this question is "yes", please furnish details of all such occurrences including name, address, phone number, and contact person of owner, architect or engineer, and surety, and name and date of project.

No _____ Yes _____, If yes, attach details described above.

10.0 List the states in which your organization is legally qualified to do business.

11.0 List name, address and telephone number of an individual who represents each of the following and whom OWNER may contact for a financial reference:

11.1 A surety:

Name _____

Contact _____

Address _____

_____ Phone No. _____

Financial Reference _____

11.2 A bank:

Name _____

Contact _____

Address _____

_____ Phone No. _____

Financial Reference _____

11.3 A major material supplier:

Name _____

Contact _____

Address _____

Phone No. _____

Financial Reference _____

12.0 Dated at _____, this ___ day of _____, 2018.

(Print or Type Name of Bidder)

By: _____

(Seal, if corporation)

------(Affidavit for Individual)-----

_____, being duly sworn, deposes and says that all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Partnership)-----

_____, being duly sworn, deposes and says that he/she is a member of the partnership of _____ and that all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Corporation)-----

_____, being duly sworn, deposes and says that he/she is _____ of _____, and that all of (Full name of Corporation)

the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Joint Venture)-----

_____ and _____, being duly sworn, deposes and says that they are members of _____ (Full Name of Joint Venture)

, and that all of the foregoing qualification information is true, complete, and accurate.

------(Acknowledgment)-----

_____, being duly sworn, deposes and says that he/she is
of _____;
(Name of Bidder)

affidavit and that he/she makes it on behalf of () himself/herself; () said partnership; () said corporation.

Sworn to before me this _____ day of _____, 2018, in the County of _____, State of _____.

(Notary Public)

My commission expires _____

(Seal)

END OF SECTION

WARNING: MAKING A FALSE STATEMENT ON THIS AFFIDAVIT MAY BE
PUNISHABLE BY A FINE AND/OR IMPRISONMENT

**SECTION 00340 - EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS, BID
CONDITIONS, NON-DISCRIMINATION, AND EQUAL EMPLOYMENT OPPORTUNITY
AFFIDAVIT**

All prime contractors must secure a valid Certificate of Compliance from the Department of Administrative Services, Equal Opportunity Division, prior to execution of a construction contract.

See <http://www.das.ohio.gov/Divisions/EqualOpportunity/CertificateofCompliance/tabid/129/Default.aspx> for instructions for electronic filing.

- Does this bidder have a valid Certificate of Compliance? ___Yes ___No
- If "No" to the above, will this bidder be able to obtain a valid Certificate of Compliance prior to the execution of a contract? ___Yes ___No

Bidder must provide a "Yes" answer to one or the other of the above questions.

BIDDER'S AFFIRMATIVE ACTION REQUIREMENTS:

Each prime contract bidder must submit an affirmative action program regarding equal employment opportunity to and receive approval from the State Equal Employment Opportunity (EEO) Coordinator prior to the bid opening, **OR** the prime contract bidder must have evidence within its bid adoption of the minority and female utilization work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

- Has the prime contract bidder prepared and submitted an Affirmative Action Program to the State Equal Employment Opportunity Coordinator and that program has been approved by the State Equal Employment Opportunity Coordinator prior to the bid opening ? ___Yes ___No
- If "no", with this bid response, the prime contract bidder hereby adopts the minority and female work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

BIDDER'S EEO COVENANTS:

Throughout its performance of any contract awarded to it on this State-assisted project, the prime contract bidder agrees to the following covenants:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry or sex. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, ancestry or sex. Such action shall include, but is not limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will in all solicitations or advertisements for employees placed by or on behalf of the prime contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry or sex.

(3) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the State Administering Agency advising the said labor union or workers' representatives of the contractor's commitments under this covenant and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of the Ohio Department of Administrative Services, Equal Opportunity Division and with the implementing rules, regulations and applicable orders of the State Equal Employment Opportunity Coordinator.

(5) The contractor agrees to fully cooperate with the State Administering Agency, the State Equal Employment Opportunity Coordinator and with any other official or agency, or the State or Federal government which seeks to eliminate unlawful employment discrimination, and with all other State and Federal efforts to assure equal employment practices under its contract and the contractor shall comply promptly with all requests and directions from the State Administering Agency, the State Equal Employment Opportunity Coordinator and any of the State of Ohio officials and agencies in this regard, both before and during construction.

(6) Full cooperation as expressed in clause (5), above, shall include, but not be limited to, being a witness and permitting employees to be witnesses and complainants in any proceeding involving questions of unlawful employment practices, furnishing all information and monthly utilization work hour reports required by the OAC 123: 2-9-01 and by the rules, regulations and orders of the State Equal Employment Opportunity Coordinator pursuant thereto, and permitting access to its books, records, and accounts by the State Administering Agency and the State Equal Employment Opportunity Coordinator for purposes of investigation to ascertain compliance with such rules, regulations and orders. Specifically, contractors will submit workforce utilization reports to the State Equal Opportunity Coordinator by the 10th of each month. The monthly reports must be electronically submitted through the following website: <http://das.ohio.gov/EOD/CCInputForm29.htm>

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of its contract or with any of the said rules, regulations, or orders, its contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further State Contracts or State-assisted Construction Contracts in accordance with procedures authorized in OAC 123:2-3 through 2-9 and such other sanctions may be instituted and remedies invoked, as provided in OAC 123:2-3 through 2-9 or by regulation, or order of the State Equal Employment Opportunity Coordinator, or as otherwise provided by law.

In the event that its contract is terminated for a material breach of OAC 123:2-3 through 2-9 the contractor shall become liable for any and all damages which shall accrue to the State Administering Agency and Applicant and the State of Ohio as a result of said breach.

(8) The contractor will require the inclusion of language reflecting these same eight covenants within every subcontract or purchase order it executes in the performance of its contract unless exempted by rules, regulations or orders of the State Equal Employment Opportunity Coordinator issued pursuant to O.A.C. 123:2-3-02 so that these provisions will be binding upon each subcontractor or vendor. The contractor will take such actions as the Administering Agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in any litigation with a subcontractor, vendor or other party as a result of such direction by the State Administering Agency, the contractor may be requested to protect the interests of the State.

- The prime contract bidder hereby adopts the foregoing covenants ? ___Yes ___No

NOTE: Only a bidder possessing a valid certificate will be awarded a contract pursuant to Chapter 153 of the Revised Code by an owner referred to in section 153.01 of the Revised Code. Application shall be made at least ten working days prior to the date that the bidder expects to receive the certificate. The bidder's failure to elect one of the two Bidder's Affirmative Action Requirements, adopt the Bidder's EEO Covenants, and complete the foregoing certification may cause the bidder's proposal to be rejected as being non-responsive to the State's Equal Employment Opportunity Requirements and in non-compliance with the State Equal Employment Opportunity Bid Conditions. In addition, the bidder must, prior to the execution of a contract, submit to the local subdivision a valid Certificate of Compliance for Equal Employment Opportunity purposes.

"APPENDIX B" OF THE STATE EEO BID CONDITIONS

SPECIFIC AFFIRMATIVE ACTION STEPS

The following Affirmative Action steps are directed at increasing minority utilization:

(1) The contractor should maintain a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the contractor, and the reasons therefore. If such individual was sent to the union hiring hall for referral and not referred back by the union or if referred back by the union or if referred, not employed by the contractor, the file should document this and the reason therefore.

To Demonstrate Compliance: Maintain a file of the names, addresses, telephone numbers, and craft of each minority and female applicant showing (a) the date of contact and whether the person was hired; if not, the reason, (b) if the person was sent to a union for referral, and the results (c) follow-up contacts when the contractor was hiring.

(2) The contractor should promptly notify the State Contracting Agency when the Union or Unions with which the contractor has collective bargaining agreements does not refer to the contractor a minority or female worker referred (to the union) by the contractor, or when the contractor has information that the union referral process has impeded efforts to meet its goals.

To Demonstrate Compliance: Have a copy of letters sent, or do not claim the union is impeding the contractors' efforts to comply.

(3) The contractor should disseminate its Equal Employment Opportunity policy within its organization by including it in any company newsletters and annual reports; by advertising at reasonable intervals in union publications; by posting of the policy; by specific review of the policy with minority and female employees; and by conducting staff meetings to explain and discuss the policy.

To Demonstrate Compliance: Have a written EEO policy which includes the name and how to contact the contractor's EEO Officer and (a) include the policy in any company policy manuals, (b) post a copy of the Policy on all company bulletin boards (in the office and on all job sites), (c) records, such as reports or diaries, etc., that each minority and female employee is aware of the Policy and that it has been discussed with them, (d) that the policy has been discussed regularly at staff meetings and (3) copies of newsletters and annual reports which include the Policy.

(4) The contractor should continually monitor all personnel activities to ensure that its EEO policy is being carried out, including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.

To Demonstrate Compliance: Have records that the company EEO Officer reviews all: (a) monthly workforce reports, (b) hiring and terminations, (c) training provided on-the-job, (d) minority and female employees quarterly for promotion and encourages them to prepare for and seek promotion. The records should be the EEO Officer's job description, reports, memos, personnel files, etc., documenting the activities for possible discriminatory patterns.

(5) The contractor should disseminate its EEO policy externally by informing and discussing it with all recruiting sources; by advertising it in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.

To Demonstrate Compliance: Have copies of (a) letters sent, at least six months or at the start of each new major contract, to all recruiting sources (including labor unions) requiring compliance with the Policy, (b) advertising, which has the EEO "tagline" on the bottom, and (c) purchase order and subcontract agreement forms will include or make reference to the State EEO Covenant, Appendix A or B of the Ohio Administrative Code 123:2-3-02.

(6) The contractor should make specific and reasonably recurrent oral and written recruitment efforts directed at minority and women's organizations, and training organizations with the contractor's recruitment area.

To Demonstrate Compliance: Have a record either in a follow-up file for each organization or on the reverse of the notification letter sent under Item 1, above, of the dates, individuals contacted and the results of the contract from telephone calls or personal meetings with the individuals or groups notified under Item 1.

(7) The contractor, where reasonable, should develop on-the-job training opportunities and participate and assist in all Department of Labor funded and/or approved training programs (including Apprenticeship) Programs relevant to the contractor's employee needs consistent with its obligations in the Bid Conditions.

To Demonstrate Compliance: Have records of contributions in cash, equipment supplied and/or contractor personnel provided as instructors for Bureau of Apprenticeship and Training approved or Department of Labor funded training programs and records of the hiring and training of minorities and females referred to Company by such programs.

(8) The contractor should solicit bids for subcontracts (and joint ventures) from available minority and female subcontractors engaged in the trades covered by the Bid Conditions, including circulation of minority and female contractors associations.

To Demonstrate Compliance: Have copies of letters or other direct solicitation of bids for subcontracts/joint ventures from minority/female contractors with a record of the specific response and any follow-up the contractor has done to obtain a price quotation or to assist a minority/female contractor in preparing or reducing a price quotation; have a list of all minority/female subcontracts awarded or joint ventures participated in with dollar amounts, etc.

EXPLANATION OF AN ACCEPTABLE AFFIRMATIVE ACTION PROGRAM:

An Affirmative Action Program is a set of specific and result-oriented procedures to which a Contractor shall apply every good faith effort. The objective of those procedures and efforts is to assure equal employment opportunity. An acceptable Affirmative Action Program will include an analysis of all trades employed by the Contractor within the last year with an explanation of whether Minorities are currently being under-utilized in any one or more trades. A necessary prerequisite to the development of a satisfactory Affirmative Action Program is the identification and analysis of

problem areas inherent in Minority employment and an evaluation of opportunities for utilization of Minority group personnel.

Part I - Basic Contents of an Affirmative Action Program:

1. Development or reaffirmation of the contractor's EEO policy in all personnel actions.
2. Formal internal and external dissemination of contractor's EEO policy.
3. Establishment of responsibilities for implementation of the contractor's affirmative action program.
4. Identification of problem areas (deficiencies) by organizational units and job classification.
5. Establishment of goals and objectives by organizational units and job classification, including timetables for completion.
6. Development and execution of action oriented programs designed to eliminate problems and further designed to attain established goals and objectives.
7. Design and implementation of internal audit and reporting systems to measure effectiveness of the total programs.
8. Compliance of personnel policies and practices with Federal sex discrimination guidelines (41 CFR Part 60-20).
9. Active support of local and national community action programs and community service programs, designed to improve the employment opportunities of minorities.
10. Consideration of ethnic minorities and women not currently in the work force having requisite skills who can be recruited through affirmative action measures.
11. Summary data on applicant flow, hires, terminations and promotions, and training for the last twelve months or the last one hundred applicants, hires, etc., whichever is less.

Part II - Analysis of Individual Trades

1. The minority population of the labor area surrounding (contractor's) projects.
2. The size of the minority unemployment force in the labor area surrounding (the contractor's) projects.
3. The percentage of minority work force as compared with the total work force in the immediate labor area.
4. The general availability of minorities having requisite skills in the immediate labor area.
5. The availability of minorities having requisite skills in the area in which the contractor can reasonably recruit.
6. The availability of promotable minority employees within the contractor's organization.
7. The anticipated expansion, contraction, and turnover of an in the work force.
8. The existence of training institutions capable of training minorities in the requisite skills.
9. The degree of training which the contractor is reasonably able to undertake as a means of making all job classes available to minorities.

Goals, timetables and affirmative action commitments must be designed to correct any identifiable deficiencies. Where deficiencies exist and where numbers or percentages are relevant in developing corrective action, the contractor shall establish and set forth specific goals and timetables. Such goals and timetables, with supporting data and the analysis thereof shall be a part of the contractor's written affirmative action program. Where the contractor has not established a goal, its written affirmative action program must specifically analyze each of the factors listed above, and must detail its reason for a lack of a goal. The goals and timetables should be attainable in terms of the contractor's analysis of its deficiencies and its entire action. Thus, in establishing its goals and timetables, the contractor should consider the results which could be reasonably expected from its good faith efforts to make its

overall affirmative action program work. If the contractor does not meet its goals and timetables, the contractor's good faith efforts shall be judged as to whether the contractor is following its program and attempting to make the program work toward the attainment of its goals.

Support data for the above analysis and program shall be compiled and maintained as part of the contractor's affirmative action program. This data should include applicant flow data and applicant rejection ratios indicating minority status.

Compliance Status: No State Contractor's compliance status shall be judged alone by whether or not he reaches his goals and meets his timetables. Rather each Contractor's compliance posture shall be reviewed and determined by reviewing the contents of his program, the extent of his adherence to his program and his good faith efforts to make his program work toward the realization of the program's goals within the timetables set for completion.

“APPENDIX C” OF THE STATE EEO BID CONDITIONS

FEMALE UTILIZATION GOALS

OAC 123:2-3-05 Required utilization analysis and goals

(A) Each state-involved contractor shall include in his/her affirmative action program the information and analysis required pursuant to part IV 401-C of appendix A of rule 123:2-1-01 of the Administrative Code, in addition to female utilization requirements pursuant to the governor's "Executive Order 84-9" and this rule.

(B) As required by the governor's "Executive Order 84-9", the utilization of women shall be, at a minimum, that currently in use by the federal government as of February 15, 1984. This requirement stated at C.F.R. part 60-4 is 6.9 percent utilization of women. This requirement shall remain at 6.9 percent unless further amended by the governor in a subsequent order. This requirement shall be met by a determination of work hours utilized in the same manner as minority utilization hours are calculated.

SECTION 00360 - FINDINGS FOR RECOVERY AFFIDAVIT

STATE OF _____
COUNTY OF _____, SS:

_____, upon being duly cautioned and sworn, hereby states the following based on personal knowledge:

- 1) That he/she is _____ (title), of _____ (name of bidder) and authorized to execute this affidavit; and,
- 2) That _____ (name of bidder) is not a person or entity against whom a finding for recovery has been issued by the Auditor of State, which finding for recovery is unresolved as defined in Ohio Revised Code [General Provisions] Section 9.24 (B); and,
- 3) That _____ (name of bidder) does not appear in the database of unresolved findings of recovery maintained by the Auditor of State pursuant to Ohio Revised Code [General Provisions] Section 9.24 (D).

The CONTRACTOR agrees that if this representation is deemed to be false, the Contract shall be void ab initio as between the parties to this contract, and any funds paid by the State of Ohio through the Ohio Public Works Commission or any other state program shall be immediately repaid to the OWNER, or an action for recovery may be immediately commenced by the OWNER for recovery of said funds.

Affiant

Sworn to and subscribed in my presence this ____ day of _____, 2018.

Notary Public

My Commission expires: _____

SECTION 00400 - CONTRACT

SECTION 00400 - CONTRACT

THIS AGREEMENT, made this _____ day of _____, 2018, with the Warren County Board of Commissioners, 406 Justice Drive, Lebanon, Ohio, hereinafter called "Owner" and **ENTER CONTRACTOR NAME AND ADDRESS HERE**, doing businesses as (an individual, partner, a corporation) hereinafter called "Contractor."

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Owner, the Contractor hereby agrees with the Owner to commence and complete the construction described as follows:

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

hereinafter called the project, for the sum of **\$ENTER AMOUNT HERE AND WRITE IT OUT HERE**, and all work in connection therewith, under the terms as stated in the Conditions of the Contract; and as his (its or their) own proper cost and expense furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, Conditions of the Contract, the Specifications and Contract Documents. "Contract Documents" means and includes the following:

- ADDENDUMS
- VOLUME I
- SECTION 00040 - INVITATION TO BIDDERS
- SECTION 00100 - BID PROPOSAL
- SECTION 00120 - EXCEPTION SHEET
- SECTION 00130 - BIDDER IDENTIFICATION
- SECTION 00200 - GENERAL INSTRUCTIONS TO BIDDERS
- SECTION 00220 - NONCOLLUSION AFFIDAVIT
- SECTION 00240 - BONDING AND INSURANCE REQUIREMENTS
- SECTION 00260 - BID GUARANTY AND CONTRACT BOND
- SECTION 00280 - PERFORMANCE BOND
- SECTION 00300 - EXPERIENCE STATEMENT
- SECTION 00320 - AFFIDAVIT OF NON-DELINQUENCY OF REAL AND/OR PERSONAL PROPERTY TAX
- SECTION 00340 - EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS, BID CONDITIONS, NON-DISCRIMINATION, AND EQUAL EMPLOYMENT OPPORTUNITY AFFIDAVIT
- SECTION 00360 - FINDINGS FOR RECOVERY AFFIDAVIT
- SECTION 00400 - CONTRACT
- SECTION 00500 - WAGE RATE DETERMINATION
- SECTION 00700 - GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT
- SECTION 00730 - TECHNICAL SPECIFICATIONS

CONTRACTOR hereby agrees to commence work under this contract on or before a date to be specified in a Written "Notice to Proceed" of the OWNER and shall complete all work within the following requirements:

- a. Substantial completion shall be within 300 days from Notice to Proceed.
- b. Final completion, site restoration work complete, and Contract Closeout shall be within 335 days from Notice to Proceed.

Contractor also agrees to pay as liquidated damages, the sum of \$1,000.00 for each consecutive calendar day thereafter.

This Agreement may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms of this Agreement. The nonperforming party shall have fifteen calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party.

OWNER may terminate or suspend performance of this Agreement for OWNER'S convenience upon written notice to the CONTRACTOR. CONTRACTOR shall terminate or suspend performance of the services/work on a schedule acceptable to the OWNER.

The CONTRACTOR will indemnify and save the OWNER, their officers and employees, harmless from loss, expenses, costs, reasonable attorneys fees, litigation expenses, suits at law or in equity, causes of action, actions, damages, and obligations arising from (a) negligent, reckless or willful and wanton acts, errors or omissions by CONTRACTOR, its agents, employees, licensees, consultants, or subconsultants; (b) the failure of the CONTRACTOR, its agents, employees, licensees, consultants or subconsultants to observe the applicable standard of care in providing services pursuant to this agreement; (c) the intentional misconduct of the CONTRACTOR, its agents, employees, licensees, consultants, or subconsultants that result in injury to persons or damage to property for which the OWNER may be held legally liable.

The CONTRACTOR does hereby agree to indemnify and hold the OWNER harmless for any and all sums for which the OWNER may be required to pay or for which the OWNER may be held responsible for failure of the CONTRACTOR or any subcontractors to pay the prevailing wage upon this project.

The OWNER agrees to pay the CONTRACTOR in the manner and at such times as set forth in the General Provisions such amounts as required by the Contract Documents.

This Contract shall be construed under the laws of the State of Ohio, and the parties hereby stipulate to the venue for any and all claims, disputes, interpretations, litigation of any kind arising out of this Contract being exclusively in the Warren County, Ohio Court of Common Pleas (unless both parties mutually agree in writing to alternate dispute resolution), as well as waiving any right to bring or remove such matters in or to any other state or federal court.

This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

Contractor shall bind every subcontractor to, and every subcontractor must agree to be bound by the terms of, this Agreement, as far as applicable to the subcontractor's work particularly pertaining to Prevailing Wages and EEO requirements. Nothing contained in this Agreement shall create any contractual relationship between any subcontractor and Owner, nor create any obligations on the part of the Owner to pay or see to the payment of any sums to any subcontractor.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in two counterparts, each of which shall be deemed an original on the date first above written.

WARREN COUNTY BOARD OF COMMISSIONERS
(Owner)

Tom Grossmann, President

ATTEST:

David G. Young

Name

Shannon Jones

(Seal)

ATTEST:

ENTER CONTRACTOR NAME HERE
(Contractor)

By: _____
Name

Title

Approved as to Form:

Assistant Prosecutor

SECTION 00500 - WAGE RATE DETERMINATION

PART 1 GENERAL

1.01 PREVAILING WAGES

This contract is subject to Ohio Prevailing Wage Laws, Chapter 4115 of the Ohio Revised Code and the Contractor and all subcontractors shall comply with all provisions contained therein. The Contractor guarantees that the prevailing wage scale to be paid to all laborers and mechanics employed on this contract shall be in accordance with the schedule of the prevailing hourly wage and fringe benefits as determined by the Ohio Department of Commerce for Warren County. The failure to pay prevailing wages to all laborers and mechanics employed on this project shall be considered a breach of contract. Such a failure may result in the revocation of the contractor's and/or subcontractor's certificate of qualification and debarment. A schedule of the most current prevailing wage rates may be accessed by logging in/registering with the Ohio Department of Commerce, Labor and Worker Safety Division, Wage and Hour Bureau at the following web address:

<http://198.234.41.198/w3/webwh.nsf/wrlogin/?openform>

The Contractor and all subcontractors shall compensate the employees on this contract at a pay rate not less than the hourly wage and fringe rate listed on the website noted above, for the applicable job classification or as may be modified by the Ohio Department of Commerce, Division of Labor and Worker Safety Wage and Hour Bureau, when new prevailing rates are established.

Overtime shall be paid at one and one-half times the basic hourly rate for any hours worked beyond forty hours during a pay week. The Contractor and all subcontractors shall pay all compensation by company check to the worker and fringe benefit program.

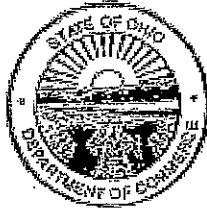
The wage and fringe rates determined for this project or as may be later modified, shall be posted by the Contractor in a prominent and accessible place on the project, field office, or equipment yard where they can be easily read by the workers or otherwise made available to the workers. On the first pay date of contract work the Contractor and all subcontractors shall furnish each employee covered by prevailing wage a completed form (WHPW-1512) in accordance with section 4115.05 of the Ohio Revised Code, showing the classification, hourly pay rate, and fringes, and identifying the public authority's Prevailing Wage Coordinator, if such employees are not covered by a collective bargaining agreement or understanding between employers and bona fide organizations of labor. These forms shall be signed by the Contractor or subcontractor and the employee and kept in the Contractor's or subcontractor's payroll files.

The Contractor and all subcontractors shall submit to the Prevailing Wage Coordinator, certified payrolls on form WHPW-1512 or equivalent, in accordance with sections 4115.07 and 4115.071 (C) of the Ohio Revised Code, three weeks after the start of work and every subsequent week until the completion of the contract. Additionally, a copy of the “Apprentice Certification” obtained from the Ohio State Apprenticeship Council, must accompany all certified payrolls submitted, for all apprentices working on this project. Upon completion of the contract and before the final payment, the Contractor shall submit to the Prevailing Wage Coordinator a final wage affidavit in accordance with section 4115.07 of the Ohio Revised Code stating that wages have been paid in conformance with the minimum rates set forth in the contract. Please be aware that it is ultimately the responsibility of the Contractor to ensure that all laws relating to prevailing wages in Chapter 4115 of the Ohio Revised Code are strictly adhered to by all subcontractors.

The Contractor and all subcontractors shall make all of its payroll records available for inspection, copying or transcription by any authorized representative of the contracting agency. Additionally, the Contractor and all subcontractors shall permit such representatives to interview any employees during working hours while the employee is on the job.

John R. Kasich
Governor

Jacqueline T. Williams
Director



The Ohio Department of Commerce
Division of Industrial Compliance and Labor
Bureau of Labor and Worker Safety
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
614-644-2223
<http://www.com.ohio.gov>

PREVAILING WAGE PACKET

This packet of information is provided as a summary of the Prevailing Wage guidelines and responsibilities. The Ohio Revised Code, Chapter 4115 should be referred to for the exact words of the law. Also included are references and forms which should be helpful in the compliance of the Prevailing Wage Law.

PACKET INFORMATION INDEX

- A. The Ohio Department of Commerce – Division of Industrial Compliance, Wage and Hour Administration Investigators and their assigned counties
 - 1. The Wage and Hour Investigators for the State of Ohio are listed with their contact information
 - a. If you have questions or need assistance pertaining to Prevailing Wage, you can contact the Investigator in your area
- B. Prevailing Wage Guide for Public Authorities
 - 1. Notice of change of the Prevailing Wage Threshold Level
 - a. A notification will be sent to you when there is a change of the Prevailing Wage threshold level
 - 2. Outline of the Public Authority's responsibilities for Prevailing Wage
 - 3. Public Authority's Compliance Checklist form
 - a. A form for tracking the progress of a Prevailing Wage project
 - 4. Request form for Prevailing Wage Rates
 - a. PW Rates can be obtained on the website www.com.ohio.gov
 - 1. Prevailing Wage Determination Schedule of wages must be attached to and made part of the specifications for the project, and must be printed on the bidding blanks where the work is done by contract
 - 5. Bid Tabulation form
 - a. A form to be completed and returned to ODOC-DIC-Bureau of Wage and Hour Administration when the contract has been awarded
 - 6. Prevailing Wage Bonds form
 - a. Information needed to be kept on file by the PW Coordinator when bonds from the Public Authority are used for a project
- C. Prevailing Wage Guidelines for the Public Authority's Coordinator
 - 1. Guideline for the Prevailing Wage Coordinator
 - a. The Prevailing Wage complaint form and instructions can be obtained on the website www.com.ohio.gov
 - 2. Record of the Certified Payroll Reports Received form
 - a. Helpful form for recording the Certified Payroll Reports and the dates received from the contractors and subcontractors
 - 3. Employee Interview form
 - a. Helpful form for the use by the PW Coordinator when making on-site visits
 - 4. Employee vs. Independent Contractor
 - a. Helpful questions when determining if a person is an Employee or an Independent Contractor
- D. Prevailing Wage Guide for Contractors
(Incorporate this section in the Specs. or supply copies for the pre-construction meeting)
 - 1. Outline of responsibilities for the Prevailing Wage Contractor
 - 2. Notification form from the Contractor to the Employee
 - a. The contractor must submit to employees a completed and signed notification form
 - b. Some PW Coordinators may require a copy of the completed Notification to the Employee form be submitted with the Certified Payroll Reports
 - 3. Certified Payroll Report form
 - a. The contractor can use any form/format he chooses as long as ALL the information has been provided
 - 4. Certified Payroll Report form instruction sheet
 - 5. Corrected Certified Payroll Report Example
 - 6. Affidavit of Compliance form
 - a. No Public Authority shall make final payment unless the Final Affidavits have been filed by the contractors and subcontractors



John R. Kasich
Governor

Jacqueline T. Williams
Director

INVESTIGATORS CONTACT INFORMATION

OHIO DEPARTMENT OF COMMERCE
Division of Industrial Compliance
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
Fax: 614-728-8639
www.com.ohio.gov
TTY/TDD: 1-800-750-0750

The Ohio Department of Commerce is an Equal Opportunity Employer and Service Provider



Department of Commerce

Division of Industrial Compliance

John R. Kasich, Governor
Jacqueline T. Williams, Director

Bureau of Wage and Hour Administration
6606 Tussing Road - PO Box 4009
Reynoldsburg, OH 43608-9009
Phone 614-644-2239 | Fax 614-728-8639
TTY/TDD 800-750-0750
com.ohio.gov

An Equal Opportunity Employer and Service Provider

PREVAILING WAGE CONTRACTOR RESPONSIBILITIES

This is a summary of prevailing wage contractors' responsibilities. For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

General Information

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$250,000 for new construction or \$75,000 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$91,150 for new construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction or \$27,309 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting of a public improvement that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction.

- a) Thresholds are to be adjusted biennially by the Administrator of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration
- b) Biennial adjustments to threshold levels are made according to the Price Deflator for Construction Index, United States Department of Commerce, Bureau of the Census*, but may not increase or decrease more than 3% for any year

Penalties for violation

Violators are to be assessed the wages owed, plus a penalty of 100% of the wages owed.

Intentional Violations

If an intentional violation is determined to have occurred, the contractor is prohibited from contracting directly or indirectly with any public authority for the construction of a public improvement. Intentional violation means "a willful, knowing, or deliberate disregard for any provision" of the prevailing wage law and includes but is not limited to the following actions:

- Intentional failure to submit payroll reports as required, or knowingly submitting false or erroneous reports.
- Intentional misclassification of employees for the purpose of reducing wages.
- Intentional misclassification of employees as independent contractors or as apprentices.
- Intentional failure to pay the prevailing wage.
- Intentional failure to comply with the allowable ratio of apprentices to skilled workers as required by the regulations established by Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration.
- Intentionally employing an officer, of a contractor or subcontractor, that is known to be prohibited from contracting, directly or indirectly, with a public authority.

Responsibilities

- A. Pay the prevailing rate of wages as shown in the wage rate schedules issued by the Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration, for the classification of work being performed.
 1. Wage rate schedules include all modifications, corrections, escalations, or reductions to wage rates issued for the project.

2. Overtime must be paid at time and one-half the employee's base hourly rate. Fringe benefits are paid at straight time rate for all hours including overtime.
 3. Prevailing wages must be paid in full without any deduction for food, lodging, transportation, use of tools, etc.; unless, the employee has voluntarily consented to these deductions in writing. The public authority and the Director of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration - must approve these deductions as fair and reasonable. Consent and approval must be obtained before starting the project.
- B. Use of Apprentices and Helpers cannot exceed the ratios permitted in the wage rate schedules.
1. Apprentices must be registered with the U.S. Department of Labor Bureau of Apprenticeship and Training.
 2. Contractors must provide the Prevailing Wage Coordinator a copy of the Apprenticeship Agreement for each apprentice on the project.
- C. Keep full and accurate payroll records available for inspection by any authorized representative of the Ohio Department of Commerce, Division of Industrial Compliance, and Labor, Bureau of Wage and Hour Administration or the contracting public authority, including the Prevailing Wage Coordinator. Records should include but are not limited to:
1. Time cards, time sheets, daily work records, etc.
 2. Payroll ledger/journals and canceled checks/check register.
 3. Fringe benefit records must include program, address, account number, & canceled checks.
 4. Records made in connection with the public improvement must not be removed from the State for one year following the completion of the project.
 5. Out-of-State Corporations must submit to the Ohio Secretary of State the full name and address of their Statutory Agent in Ohio.
- D. Prevailing Wage Rate Schedule must be posted on the job site where it is accessible to all employees.
- E. Prior to submitting the initial payroll report, supply the Prevailing Wage Coordinator with your project dates to schedule reporting of your payrolls.
- F. Supply the Prevailing Wage Coordinator a list of all subcontractors including the name, address, and telephone number for each.
1. **Contractors are responsible for their subcontractors' compliance with requirements of Chapter 4115 of the Ohio Revised Code.**
- G. Before employees start work on the project, supply them with written notification of their job classification, prevailing wage rate, fringe benefit amounts, and the name of the Prevailing Wage Coordinator for the project. A copy of the completed signed notification should be submitted to Prevailing Wage Coordinator.
- H. Supply all subcontractors with the Prevailing Wage Rates and changes.
- I. Submit certified payrolls within two (2) weeks after the initial pay period. Payrolls must include the following information:
1. Employees' names, addresses, and social security numbers.
 - (a) Corporate officers/owners/partners and any salaried personnel who do physical work on the project are considered employees. All rate and reporting requirements are applicable to these individuals.
 2. Employees' work classification.
 - (a) Be specific about the laborers and/or operators (Group)
 - (b) For all apprentices, show level/year and percent of journeyman's rate
 3. Hours worked on the project for each employee.

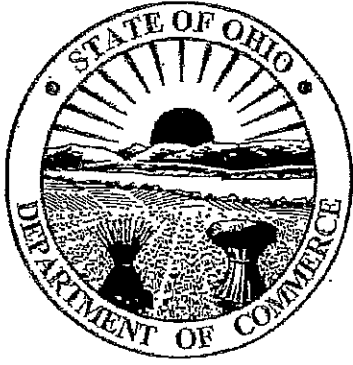
- (a) The number of hours worked in each day and the total number of hours worked each week.
 - 4. Hourly rate for each employee.
 - (a) The minimum rate paid must be the wage rate for the appropriate classification. The Department's Wage Rate Schedule sets this rate.
 - (b) All overtime worked is to be paid at time and one-half for all hours worked more than forty (40) per week.
 - 5. Where fringes are paid into a bona fide plan instead of cash, list each benefit and amount per hour paid to program for each employee.
 - (a) When the amount contributed to the fringe benefit plan and the total number of hours worked by the employee on all projects for the year are documented, the hourly amount is calculated by dividing the total contribution of the employer by the total number of hours worked by the employee.
 - (b) When the amount contributed to the fringe benefit is documented but not the total hours worked, the hourly amount is calculated by **dividing the total yearly contribution by 2080**.
 - 6. Gross amount earned on all projects during the pay period.
 - 7. Total deductions from employee's wages.
 - 8. Net amount paid.
- J. The reports shall be certified by the contractor, subcontractor, or duly appointed agent stating that the payroll is correct and complete; and that the wage rates shown are not less than those required by the O.R.C. 4115.
- K. Provide a Final Affidavit to the Prevailing Wage Coordinator upon the completion of the project.

OHIO DEPARTMENT OF COMMERCE Division of Industrial Compliance Bureau of Wage and Hour Administration Chief, Stephen Clegg	6606 Tussing Road, PO Box 4009 Reynoldsburg, Ohio 43068-9009 614-644-2239 Fax: 614-728-8639 www.com.ohio.gov
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INVESTIGATORS and THEIR ASSIGNED COUNTIES

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John R. Kasich
Governor

Jacqueline T. Williams
Director

PREVAILING WAGE GUIDE
FOR
PUBLIC AUTHORITIES

OHIO DEPARTMENT OF COMMERCE
Division of Industrial Compliance
Bureau of Wage and Hour Administration
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PREVAILING WAGE THRESHOLD LEVELS

IMPORTANT NOTICE

Before advertising for bids, contracting, or undertaking construction with its own forces, to construct a public improvement, the Public Authority shall have the Ohio Department of Commerce-Division of Industrial Compliance, Bureau of Wage and Hour Administration determine the prevailing rates of wages for workers employed on the public improvement. The wage determination must be included in the project specifications and printed on the bidding blanks where work is done by contract.

“New” construction threshold for <i>Building Construction</i>:	\$250,000
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“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” threshold level for <i>Building Construction</i>:	\$75,000
---	-----------------

As of January 1, 2018:

“New” construction that involves <i>roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction</i> threshold level has been adjusted to:	\$91,150
---	-----------------

“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” that involves <i>roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction</i> threshold level has been adjusted to:	\$27,309
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- A) Thresholds are to be adjusted biennially by the Director of the Ohio Department of Commerce.
- B) Biennial adjustments to threshold levels are made according to the Building Cost for Skilled Labor Index published by McGraw-Hill’s Engineering News-Record, but may not increase or decrease more than 3% for any year.

If there are questions concerning this notification, please contact:

Ohio Department of Commerce
 Division of Industrial Compliance
 Bureau of Wage and Hour Administration
 6606 Tussing Road, PO Box 4009
 Reynoldsburg, Ohio 43068-9009
 Phone: 614-644-2239
 Fax: 614-728-8639
www.com.ohio.gov

Public Authority Responsibilities
ORC Chapter 4115: Wages and Hours on Public Works
(Prevailing Wage Coordinator)

1. Before advertising for bids, contracting, or undertaking construction with its own forces, to construct a public improvement, the public authority shall have the Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour Administration determine the prevailing rates of wages for workers employed on the public improvement. The wage determination must be included in the project specifications and printed on the bidding blanks where work is done by contract.
 - a) "New" construction has a threshold level of \$250,000.
 - b) "Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting" has a threshold level of \$75,000.
 - c) "New" construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction has a threshold level of \$91,150.
 - d) "Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting" that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction has a threshold of \$27,309.
 - i.) Thresholds are to be adjusted biennially by the Director of Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour Administration.
 - ii.) Biennial adjustments to threshold levels are made according to the Price Deflator for Construction Index, United States Department of Commerce, Bureau of the Census, but may not increase or decrease more than 3% for any year.
2. Every contract for public work shall contain a provision that each worker employed by the contractor or subcontractor, or other person about or upon the public work, must be paid the prevailing rate of wages.
3. If contracts are not awarded or construction undertaken within ninety days (90) from the date of the determination of the prevailing wage there shall be a re-determination of the wage rates before the contract is awarded.
4. Within seven (7) working days after the receipt of notification of a change in the prevailing wage rates, the public authority shall notify all affected contractors and subcontractors. If it is determined that a contractor or subcontractor has violated sections 4115.03 to 4115.16 of the Ohio Revised Code because they were not notified as required, **the public authority is liable** for any back wages, fines, damages, court costs and attorney's fees for the period of time covering the receipt of wage changes, until they give the required notice.
5. No public authority shall award a contract for a public improvement to any contractor or subcontractor whose name appears on the list of debarred contractors. This list is filed with the Secretary of State by the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration **The filing of the notice of conviction with the secretary of state constitutes notice to all public authorities.** These contractors are prohibited from working on public improvements for periods ranging from one to three years. The list of debarred contractors can be located on the website www.com.ohio.gov/laws
6. A public authority must designate and appoint **one of its own employees** to serve as the Prevailing Wage Coordinator during the life of the contract for constructing the public improvement. A Prevailing Wage Coordinator must be appointed no later than ten days before the first payment of wages by contractors to employees working on the public improvement.

PUBLIC AUTHORITY'S COMPLIANCE CHECKLIST FOR PREVAILING WAGE

Project:		Number:
Department:		Phone#:
PW Coordinator:		Phone#:
Architect/Engineer:		Phone#:
Contractor:		Phone#:
Contact Person:		Title:
General Contractor:		Prime Contractor:
		Construction Mgr:
Date Completed		Compliance Item Description
	1.	Request Prevailing Wage Determination Schedule from ODOC-DIC-Wage & Hour
	2.	Received Prevailing Wage Determination Schedule
	3.	Incorporate Determination Schedule in Specs./Bidding Blanks
	4.	Incorporate notice of Prevailing Wage requirements in Invitation for Bids/Notice to Bidders
	5.	Incorporate Prevailing Wage requirements in Contract
	6.	Submit complete Invitation for Bid to ODOC-DIC-Wage & Hour
	7.	Invitation for Bids
	8.	Bid Opening
	9.	Check Listing of Violators
	10.	Award of Contract. (see note)
	11.	Submit Bid Tabulation/Award to ODOC-DIC-WAGE & HOUR
	12.	Notice to Successful Bidder
	13.	Work Commenced...(see note)
	14.	Appoint Prevailing Wage Coordinator
	15.	Received list of Subcontractors' names, addresses, phone #'s & email's
	16.	Received Payroll Date Schedule
	17.	Received Registered Apprenticeship Agreement Certifications
	18.	Received Deduction Agreements
	19.	Received Payroll Reports with Certification...(see attachment)
	20.	Visited project site
	21.	Received Changes to Determination Schedule
	22.	Notice to Contractors of Determination Schedule change
	23.	Request Final Compliance Affidavit from contractors & subcontractors
	24.	Received Final Affidavits from all contractors & subcontractors
	25.	Certify Final Payment

Note: If contract is not awarded or construction undertaken within 90 days from the date of establishment of the Prevailing Wage Rates, a re-determination of the Prevailing Wage Rates is required.

REQUEST FOR STATE OF OHIO PREVAILING WAGE RATES

Date	(Mark (X) One) ~ Residential ~ Construction	
Project Information (only one project and one county per request form please)		
County of Project	Project Name	This form MUST be filled out COMPETELY & CORRECTLY for us to process your request. Forms not completed correctly will be RETURNED TO THE SENDER.
Site Address	City	
Owner/Public Authority		Prevailing Wage Rates can be obtained on the website www.com.ohio.gov
Address	Telephone Number	ODOC-DIC-WAGE & HOUR DATE STAMP
City	Zip Code	
PW Coordinator	Telephone Number	
Issuing Authority of Bonds	Type of Financing	
Estimated Total Overall Project Cost		PLEASE MAIL THIS REQUEST TO: Ohio Department of Commerce Division of Industrial Compliance Bureau of Wage & Hour Administration 6606 Tussing Road, PO Box 4009 Reynoldsburg, Ohio 43068-9009 PHONE: (614) 644-2239 FAX: (614) 728-8639
~ New Construction ~ "Old" Construction *		
A copy of this form will be returned to you with your wage rates. You must send that copy to us with your bid tabulations once the contract has been awarded.		
Expected Date of Contract Award		
Projected Completion Date		
Send Wage Rates to: (contractors are charged \$5.00 per county)		ODOC-DIC-W&H DATE STAMP (bid tab)
~ Mail ~ Pick Up		
~ Federal Express Account Number		
Name	Company or Public Authority	
Address		
City	Zip	Telephone Number
* "Old" construction is reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.		

INDUSTRIAL DEVELOPMENT BONDS

Bond Projects require the Public Authority to keep the following information on file			
1. Type of Bonds issued:	Amount:		
2. The total cost of the Project:			
3. The other type of financing involved in the project:			
4. Portion of the project being constructed with each type of financing:			
5. Are Prevailing Wage Rates being applied to all construction on the project: ~ Yes ~ No			
6. The name of the political subdivision who issued the bonds:			
7. When were the bonds issued:			
8. For what purpose were the bonds issued:			
9. Who handles the funds once the bonds are sold:			
10. Who is the lending institution that purchased the bonds:			
11. How are the funds to be paid out:			
12. When are the funds to be paid out: .			
13. Who is the Bond Council:			
14. Who has been appointed as the Prevailing Coordinator:			
PWC Address:			
City:	OHIO	Zip:	Telephone #:
15. Obtain a copy of the inducement and other official documents for the issuance of the bonds.			



John R. Kasich
Governor

Jacqueline T. Williams
Director

PREVAILING WAGE GUIDELINES
FOR THE
PUBLIC AUTHORITIES
PW COORDINATOR

OHIO DEPARTMENT OF COMMERCE
Division of Industrial Compliance and Labor
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
Fax: 614-728-8639
www.com.ohio.gov
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Prevailing Wage Coordinator Guidelines

For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

- A. Attend any pre-bid and/or pre-construction meetings.
 - 1. To explain the prevailing wage rate requirements.
 - 2. To explain the contractor's responsibilities.
- B. Set up and maintain files containing all contractors' and subcontractors' payroll reports, affidavits, and related documents. These files must be available for public inspection.
- C. Obtain from each contractor a list of their subcontractors' names, addresses, telephone numbers, and email addresses.
- D. Require each contractor and subcontractor to provide their project dates. This will be used to make a time schedule for receiving their certified payrolls.
- E. Obtain from each contractor, the name and address of their Bonding/Surety Company.
- F. Obtain from out-of-state corporations, the name and address of their Statutory Agent. (This agent must be located in the State of Ohio and registered with the Ohio Secretary of State.)
 - 1. Records made in connection with the public improvement must not be removed from the State of Ohio for the period of one year following the completion of the project.
- G. Supply contractors with any changes in the Prevailing Wage Rates.
- H. Within two weeks after the first pay, obtain a certified payroll report from each contractor. A certified report is one that is sworn to and signed by the contractor.
 - 1. If the job will exceed four months, all reports after the initial report can be filed once per month. (The initial report must be filed within two weeks.)
 - 2. If the job will last less than four months, all reports are to be filed weekly after the initial report.
- I. Establish and follow procedures to monitor compliance by contractors and subcontractors.
 - 1. Visit project to verify posting requirements and job classifications.
 - 2. Review certified payroll reports to ensure they are submitted in a timely fashion and complete with the following information for each employee:
 - a) Name, current address, and their social security number or last 4 when permitted
 - b) Classification (must be specific for laborers and operators, including level)
 - c) Hours worked on the project
 - d) Hourly rate
 - e) Fringe benefits, if applicable
 - f) Total hours worked for the week (all jobs)
 - g) Gross wages, all deductions, net pay
 - 3. Compare rates and fringes reported to rates in prevailing wage schedule.
- J. Upon completion of the project and prior to the final payment, require an affidavit of compliance from each contractor and subcontractor. **No public authority shall make final payment to any contractor or subcontractor unless the final affidavits have been filed by the respective contractor and subcontractor. (O.R.C. section 4115.07)**
- K. Report any non-compliance to Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage & Hour Administration. The PW complaint form and instructions can be obtained on the website www.com.ohio.gov.

RECORD OF THE CERTIFIED PAYROLL REPORTS RECEIVED

Project:		Number:
Contractor:		Phone #: Email:
General Contractor:	Prime Contractor:	Subcontractor:
Date work commenced:	Completed:	Final Affidavit:

Payroll	Payroll Date	Date Received		Payroll	Payroll Date	Date Received
1				33		
2				34		
3				35		
4				36		
5				37		
6				38		
7				39		
8				40		
9				41		
10				42		
11				43		
12				44		
13				45		
14				46		
15				47		
16				48		
17				49		
18				50		
19				51		
20				52		
21				53		
22				54		
23				55		
24				56		
25				57		
26				58		
27				59		
28				60		
29				61		
30				62		
31				63		
32				64		

EMPLOYEE VS. INDEPENDENT CONTRACTOR

EMPLOYEE	↔	<input type="checkbox"/> YES	Does the employer have the right to control and direct worker?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the worker receive instructions about how and where the work is to be done instead of the employer merely specifying the desired result?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Is payment based on time spent rather than a set price for the work to be performed?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the worker devote virtually all his working time to the employer rather than offering services to the general public?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the worker performing services make their services available to the general public and/or other businesses?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Is there a continuing relationship between employer and worker?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Can the worker be discharged at will?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Did the employer train the worker for the job?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the employer have employees performing the same work as the independent contractor?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR

PREVAILING WAGE INVESTIGATION\EMPLOYEE INTERVIEW

Failure to complete this interview form may reduce our ability to recover back wages which may be owed to you.

Project:		Case #:	
Address:		City:	County:
Employee Name:			Last 4 digits of the SS#:
Address:		City:	State: Zip:
Telephone #: (Home)	(Work)	Email:	Best time to be reached:
Another source by which we can contact you. (Someone not living at your address):			
Name:		Relationship:	Telephone #:
Contractor's Name:		Telephone #:	
Address:		City:	State: Zip:
Date hired:	Date started on this project:	Approximate hours - Straight time:	Overtime:
Method of recording hours: ~ Time Card ~ Called into office		Recorded by: ~ Employee ~ Foreman	
Did you keep a personal record of your hours worked on this project? ~ Yes ~ No		Do you have check stubs? ~ Yes ~ No	
Did anyone else keep a personal record? ~ Yes ~ No		If yes, who:	
List your job classification(s):		~ Journeyman ~ Helper ~ Apprentice - Level	
List your specific job duties:		List tools/equipment used:	
Hourly rate of pay for this project:		Your regular rate of pay:	
Fringe benefits paid by contractor: ~ None ~ Health Insurance ~ Life Insurance ~ Pension ~ Bonus ~ Vacation - Amount _____ ~ Holidays - Amount _____ ~ Apprenticeship training ~ Profit Sharing ~ Other (list):			
Did you work overtime? ~ Yes ~ No		Were hours over 40 per week paid at time and one half? ~ Yes ~ No	
When is your pay day?		Method of payment: ~ Check ~ Cash ~ Direct Deposit	
List names of co-workers on this project:			
Comments:		Please provide a detailed list of the dates, times and hours worked within each classification that may apply to the work performed on a separate sheet.	
SIGNATURE AND NOTARY			
<p>Affiant is further informed that Section 2921.13 of the Ohio Revised Code provides a penalty of a misdemeanor of the first degree and that prosecution will be pursued of those persons who "knowingly swear or affirm the truth of a false statement when ...the statement is sworn or affirmed before a notary public..."</p> <p>Sworn to before me and subscribed by the said:</p> <p>_____</p> <p>in my presence this _____ day of _____, 20_____</p> <p>_____ Notary Public</p>		<p>I hereby certify that this is a true statement to the best of my knowledge and belief.</p> <p>Signature _____ Date _____</p> <p>Return to: Ohio Department of Commerce Division of Industrial Compliance & Labor Bureau of Wage and Hour Administration 6606 Tussing Road P.O. Box 4009 Reynoldsburg, Ohio 43068-9009 (614) 644-2239 www.com.ohio.gov</p>	
Signature of PW Coordinator:		Date:	

EMPLOYEE VS. INDEPENDENT CONTRACTOR-continued

EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the worker perform services personally rather than delegating them to others?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the employer set a specific time when the individual services are to be performed?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the employer furnish the tools and materials used by the worker performing services?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Is the employer assuming all the financial risk, rather than the worker making a significant financial investment in the job and having the opportunity to realize a profit or loss from the work?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> NO	Does the individual performing the services publicly advertise these services in for example, the newspaper or yellow pages ?	<input checked="" type="checkbox"/> YES	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> NO	Does the individual performing the services have a business license?	<input checked="" type="checkbox"/> YES	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> NO	Does the individual performing the services operate d.b.a. or under a tradename?	<input checked="" type="checkbox"/> YES	↔	INDEPENDENT CONTRACTOR



John R. Kasich
Governor

Jacqueline T. Williams
Director

PREVAILING WAGE GUIDE

FOR

CONTRACTORS

(Revised January 2016)

OHIO DEPARTMENT OF COMMERCE

Division of Industrial Compliance and Labor

Bureau of Wage and Hour Administration

6606 Tussing Road, PO Box 4009

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PREVAILING WAGE CONTRACTOR RESPONSIBILITIES

This is a summary of prevailing wage contractors' responsibilities. For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

General Information

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$250,000 for new construction or \$75,000 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$88,495 for new construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction or \$26,514 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting of a public improvement that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction.

- a) Thresholds are to be adjusted biennially by the Administrator of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration
- b) Biennial adjustments to threshold levels are made according to the Construction Cost Index for Commercial Construction published by McGraw Hill's Engineering News Record.

Penalties for violation

Violators are to be assessed the wages owed, plus a penalty of 100% of the wages owed.

Intentional Violations

If an intentional violation is determined to have occurred, the contractor is prohibited from contracting directly or indirectly with any public authority for the construction of a public improvement. Intentional violation means "a willful, knowing, or deliberate disregard for any provision" of the prevailing wage law and includes but is not limited to the following actions:

- Intentional failure to submit payroll reports as required or knowingly submitting false or erroneous reports.
- Intentional misclassification of employees for the purpose of reducing wages.
- Intentional misclassification of employees as independent contractors or as apprentices.
- Intentional failure to pay the prevailing wage.
- Intentional failure to comply with the allowable ratio of apprentices to skilled workers as required by the regulations established by Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration.
- Intentionally employing an officer, of a contractor or subcontractor, that is known to be prohibited from contracting, directly or indirectly, with a public authority.

Responsibilities

- A. Pay the prevailing rate of wages as shown in the wage rate schedules issued by the Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration, for the classification of work being performed.
 1. Wage rate schedules include all modifications, corrections, escalations, or reductions to wage rates issued for the project.
 2. Overtime must be paid at time and one-half the employee's base hourly rate. Fringe benefits are paid at straight time rate for all hours including overtime.
 3. Prevailing wages must be paid in full without any deduction for food, lodging, transportation, use of tools, etc.; unless, the employee has voluntarily consented to these deductions in writing. The public authority and the Director of Ohio Department of

Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration - must approve these deductions as fair and reasonable. Consent and approval must be obtained before starting the project.

- B. Use of Apprentices and Helpers cannot exceed the ratios permitted in the wage rate schedules.
 - 1. Apprentices must be registered with the U.S. Department of Labor Bureau of Apprenticeship and Training.
 - 2. Contractors must provide the Prevailing Wage Coordinator a copy of the Apprenticeship Agreement for each apprentice on the project.

- C. Keep full and accurate payroll records available for inspection by any authorized representative of the Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour Administration or the contracting public authority, including the Prevailing Wage Coordinator. Records should include but are not limited to:
 - 1. Time cards, time sheets, daily work records, etc.
 - 2. Payroll ledger\journals and canceled checks\check register.
 - 3. Fringe benefit records must include program, address, account number, & canceled checks.
 - 4. Records made in connection with the public improvement must not be removed from the State for one year following the completion of the project.
 - 5. Out-of-State Corporations must submit to the Ohio Secretary of State the full name and address of their Statutory Agent in Ohio.

- D. Prevailing Wage Rate Schedule **must** be posted on the job site where it is accessible to all employees.

- E. Prior to submitting the initial payroll report, supply the Prevailing Wage Coordinator with your project dates to schedule reporting of your payrolls.

- F. Supply the Prevailing Wage Coordinator a list of all subcontractors including the name, address, and telephone number for each.
 - 1. **Contractors are responsible for their subcontractors' compliance with requirements of Chapter 4115 of the Ohio Revised Code.**

- G. Before employees start work on the project, supply them with written notification of their job classification, prevailing wage rate, fringe benefit amounts, and the name of the Prevailing Wage Coordinator for the project. A copy of the completed signed notification should be submitted to Prevailing Wage Coordinator.

- H. Supply all subcontractors with the Prevailing Wage Rates and changes.

- I. Submit certified payrolls within two (2) weeks after the initial pay period. Payrolls must include the following information:
 - 1. Employees' names, addresses, and social security numbers.
 - (a) Corporate officers/owners/partners and any salaried personnel who do physical work on the project are considered employees. All rate and reporting requirements are applicable to these individuals.
 - 2. Employees' work classification.
 - (a) Be specific about the laborers and/or operators (Group)
 - (b) For all apprentices, show level/year and percent of journeyman's rate
 - 3. Hours worked on the project for each employee.
 - (a) The number of hours worked in each day and the total number of hours worked each week.
 - 4. Hourly rate for each employee.
 - (a) The minimum rate paid must be the wage rate for the appropriate classification. The Department's Wage Rate Schedule sets this rate.

- (b) All overtime worked is to be paid at time and one-half for all hours worked more than forty (40) per week.
 - 5. Where fringes are paid into a bona fide plan instead of cash, list each benefit and amount per hour paid to program for each employee.
 - (a) When the amount contributed to the fringe benefit plan and the total number of hours worked by the employee on all projects for the year are documented, the hourly amount is calculated by dividing the total contribution of the employer by the total number of hours worked by the employee.
 - (b) When the amount contributed to the fringe benefit is documented but not the total hours worked, the hourly amount is calculated by **dividing the total yearly contribution by 2080.**
 - 6. Gross amount earned on all projects during the pay period.
 - 7. Total deductions from employee's wages.
 - 8. Net amount paid.
- J. The reports shall be certified by the contractor, subcontractor, or duly appointed agent stating that the payroll is correct and complete; and that the wage rates shown are not less than those required by the O.R.C. 4115.
- K. Provide a Final Affidavit to the Prevailing Wage Coordinator upon the completion of the project.

PREVAILING WAGE NOTIFICATION to EMPLOYEE

5.05...the contractor or subcontractor shall furnish each employee NOT covered by a collective bargaining agreement written notification of the job classification to which the employee is assigned, the prevailing wage determined to be applicable to that classification, separated into the hourly rate of pay and the fringe payments, and the identity of the prevailing wage coordinator appointed by the public authority. The contractor or subcontractor shall furnish the same notification to each affected employee every time the job classification of the employee is changed.

Project Name:	Job Number:
Contractor:	
Project Location:	

Prevailing Wage Coordinator	Employee
Public Authority:	Name:
Name of PWC:	Street:
Address:	City:
City:	State/Zip:
State/Zip:	Phone:
Phone:	Email:
Phone:	Last 4 Digits of SS #:

You will be performing work on this project that falls under these classifications. You will be paid the appropriate rate for the type of work you are performing.

Classification:	Prevailing Wage Rate Total Package:	Minus your fringe benefits *:	Your hourly base rate and overtime:
			/
			/
			/
			/
			/
			/
			/

Hourly fringe benefits paid on your behalf by this company (Yearly amount the company pays divided by 2080):

Fringe	Amount	Fringe	Amount
Health Insurance		Vacation	
Life Insurance		Holiday	
Pension		Sick Pay	
Other (Specify)		Training	
Other (Specify)		Total Hourly Fringes *	

Contractor's Signature:	Date:
Employee's Signature:	Date:

INSTRUCTIONS FOR PREPARING CERTIFIED PAYROLL REPORTS

General:

Contractors and subcontractors are required by law to submit certified payroll reports for work on projects covered by Ohio's Prevailing Wage Law. This form meets the reporting requirements established by Ohio Revised Code Chapter 4115. The use of this form is not mandatory; employers may submit their own forms provided that all of the required information is included. This form may be reproduced, or additional copies obtained from:

Ohio Department of Commerce
Division of Industrial Compliance
Bureau of Wage and Hour Administration
6606 Tussing Road, P.O. Box 4009
Reynoldsburg, Ohio 43068-9009
614-644-2239
www.com.ohio.gov

Certified Payroll Heading:

Employer name and address: Company's full name and address... Indicate if the company is a subcontractor.

Subcontractor: Check and list the name of the General Contractor or Prime.

Project: Name and location of the project, including county.

Contracting Public Authority: Name and address of the contracting public authority... (Owner of the project):

Week Ending: Month, day, and year for last day of reporting period.

Payroll #: Indicates first, second, third, etc. payroll filed by the company for the project.

Page indicator: number of pages included in the report.

Project Number: Determined by the public authority... If there is no number leave blank.

Payroll Information by column:

- Employee Name, Address and Social Security number:** This information must be provided for all employees that perform physical labor on the project. The Social Security number is required; the last four digits may be permitted by the public authority. Corporate officers, partners, and salaried employees are considered employees and must be paid the prevailing rate. Individual sole proprietors do not have to pay themselves prevailing rate but must report their hours on the project.
- Work Class:** List classification of work actually performed by employee. If unsure of work classification, consult the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration. Employees working more than one classification should have separate line entries for each classification. Indicate what year/level for Apprentices. Be specific when using laborer and operator classifications; for example, Backhoe Operator or Asphalt Laborer or by "Group".
- Hours Worked, Day & Date:** In the first row of column 3, enter days of the company's pay period for example; M T W TH F S S. The second row is for the date that corresponds with each day for the pay period. In the employee information section, enter the number of hours worked on the prevailing wage project and which day the hours were worked. Separate rows are labeled for (ST) straight time hours and (OT) overtime hours. All hours worked after 40, must be paid at the appropriate overtime rate.
- Project Total Hours:** Total the hours entered for pay period.
- Base Rate:** Enter actual rate per hour paid to the employee. The overtime hourly rate is time and one-half the base rate listed in the prevailing wage schedule plus fringe benefits at straight time rate. The prevailing wage schedule lists the base rate plus fringe benefit amounts. These amounts added together equal the total prevailing wage rate. Employers must pay this total amount in one of three ways.
 - Total rate may be paid in entirety in the base rate to the employee; in which case, the cash designation will be checked for fringe benefits.
 - Total rate may be paid as listed in prevailing wage rate schedule with total fringe amounts paid approved plans.
 - Total rate may be paid with a combination of base rate and fringe payments to approved plans in amounts other than those listed in schedule.
- Project Gross:** Enter total gross wages earned on the project for straight time and overtime. Project hours "X" base rate should equal project gross.
- Fringes:** If fringe benefits are paid in the hourly base rate, indicate this by marking the Cash space. If fringe benefits are paid to approved plans as listed in the prevailing wage rate schedule, mark the space Approved Plans. If fringe benefits are paid partially in the base rate and partially to approved plans, mark the space Cash & Approved Plans. List the hourly amount paid to approved plans for each fringe. If payments are not made on a per hour basis, calculate the hourly fringe credit by dividing the yearly employer contribution by the lesser of: hours actually worked in the year (these must be documented) or 2080. Fringe benefits include: Employer's share of health insurance, life insurance, retirement plan, bonus/profit sharing, sick pay, holiday pay, personal leave, vacation, and education/training programs. If unsure of a possible fringe benefit, contact the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration.
- Total Hours All Jobs:** Total all hours worked during the pay period including non-prevailing wage jobs.
- Total Gross All Jobs:** Gross amount earned in the pay period for all hours worked.
- Self explanatory.
- Self explanatory.

**FINAL
AFFIDAVIT OF COMPLIANCE
PREVAILING WAGES**

I, _____ do hereby certify
(Name of person signing affidavit) (Title)

that the wages paid to all employees of : _____
(Company name)

for all hours worked on project: _____
(Project name)

(Project location)

During the period from _____ to _____ are in compliance with
(Project Dates)

Prevailing Wage requirements of Chapter 4115 of the Ohio Revised Code. I further certify that no rebates or deductions have been or will be made, directly or indirectly, from any wages paid in connection with this project, other than those provided by law.

(Signature of Officer or Agent)

(Print Name of Officer or Agent)

Sworn to and subscribed in my presence this _____ day of _____, 20_____.

(Notary Public)

The above affidavit must be executed and sworn to by the officer or agent of the contractor or subcontractor who supervises the payment of employees. This affidavit must be submitted to the owner (public authority) before the surety is released or final payment due under the terms of the contract is made.

of a crew per Article VIII paragraph 65, will not be subject the apprenticeship ratios in this collective bargaining agreement.

DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

**Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if they are required to have CDL.

Class 1 - Air Compressors on Steel Erection; Barrier Moving Machine; Boiler Operators, on Compressors or Generators, when mounted on a rig; Cableways, Combination Concrete mixers & Towers; Concrete Pumps; Concrete Plants (over 4 yd capacity); Cranes (all types, including Boom Trucks, Cherry Pickers); Derricks; Draglines, Dredgers (dipper, clam or suction); Elevating Graders or Euclid Loaders; Floating Equipment (all types); Gradalls, Helicopter Crew (Operator- hoist or winch); Hoes (all types); Hoisting Engines, on shaft or tunnel work; Hydraulic Gantry (lifting system); Industrial - Type Tractors; Jet Engine Dryers (D8 or D9), Diesel Tractors; Locomotives (standard gage); Maintenance Operators (class A); Mixers, paving (single or double drum); Mucking Machines; Multiple Scrapers; Piledriving Machines (all types); Power Shovels, Prentice Loader; Quad 9 (double pusher); Rail Tamper (with automatic lifting and aligning device); Refrigerating Machines (freezer operation); Side Booms; Slip Form Pavers; Tower Dericks; Tree Shredders; Truck Mounted Concrete Pumps; Tug Boats; Tunnel Machines and /or Mining Machines; Wheel Excavators. Rough Terrain Fork-lift with Winch/Hoist; Compact Cranes, track rubber over 4,000 pound capacity, self-erecting cranes; stationary, track or truck (all configurations) Bucket trench machines (over 24 inches wide).

Class 2 - Asphalt Pavers; Automatic Subgrade Machines, self-propelled (CMI-type); Bobcat-type and /or skid steer loader with hoe attachment greater than 7000 lbs.; Boring Machine Operators (more than 48 inches); Bulldozers; Endloaders; Hydro Milling Machine; Kolman-type Loaders (production type-dirt); Lead Greasemen; Maintenance Operators, Class B (Portage and Summit Counties only); Pettibone-Rail Equipment; Power Graders; Power Scrapers; Push Cats; Lighting and Traffic Signal Installation Equipment includes all groups or classifications; Trench Machines (24inch wide and under); Vermeer Type Concrete saw. Material Transfer Equipment (Shuttle buggy) Asphalt; All rotomills,grinders and planers of all types. Horizontal Directional Drill (Over 50,000 ft.lbs.thrust and over)

Class 3 - A-Frames; Air Compressors, on tunnel work (low Pressure); Asphalt Plant Engineers; Bobcat-type and/or skid steer loader with or without attachments; Power Boilers (15 lbs pressure and over); Highway Drills (all types); Rollers, asphalt; Pump Operators (installing or operating well Points); Pumps (4 inch and over discharge); Railroad Tie Inserter/Remover; Rotator (lime-soil Stabilizer), Switch & Tie Tampers (without lifting and aligning device); Locomotives (narrow gage); Mixers, concrete (more than one bag capacity); Mixers, one bag capacity (side loader); Utilities Operators, (small equipment); Welding Machines; Material hoist/elevators. Articulating/straight bed end dumps if assigned (minus \$4.00 per hour).

Class 4 -Ballast Re-locator; Backfillers, Batch Plants; Bar and Joint Installing Machines; Boring Machine Operators (48 inch or less); Bull Floats; Burlap and Curing Machines; Concrete Plants (capacity 4 yd and under); Conveyors (highway); Concrete Saws (multiple); Crushers; Deckhands; Farm type tractors, with attachments (highway), except masonry; Finishing Machines; Firemen, Floating Equipment (all types); Fork Lifts (highway); Form Trenchers; Hydro Hammers; Hydro Seeders; Pavement Breakers; Plant Mixers; Post Drivers; Post Hole Diggers (power auger); Power Brush Burners; Power Form Handling Equipment; Road Widening Trenchers; Rollers (brick, grade, macadam); Self-Propelled Power Spreaders; Self-Propelled Sub-Graders; Tractors, pulling sheepsfoot rollers or graders; Steam Firemen; Vibratory Compactors, with integral power.

Class 5 - Compressors (portable, Sewer, Heavy and Highway); Generators; Inboard-Outboard Motor Boat Launches; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters; Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen; Drum Fireman (in Asphalt Plant); Oil Heaters (Asphalt Plant); Tire Repairmen; VAC/ALLS; Fueling and greasing (plus \$3.00), compact cranes: track or rubber under 4,000 pounds.

Class 6 - Master Mechanic

(1) Registered Apprentice or trainee Engineer through the referral when they are available. An apprentice, while employed as part of a crew per Article VIII, paragraph 77, will not be subject to the apprenticeship ratios in this collective bargaining agreement

CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WYANDOT

Special Jurisdictional Note :

Details :

**Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if required to have CDL

Class 1 - Barrier Moving Machine; Boiler Operators or Compressor Operators, when compressor or boiler is mounted on crane (Piggyback Operation); Boom Trucks (all types); Cableways Cherry Pickers; Combination - Concrete Mixers & Towers; All Concrete Pumps with Booms; Cranes (all types) Derricks (all types); Draglines Dredges (dipper, clam or suction) 3-man crew; Elevating Graders or Euclid Loaders; Floating Equipment; Gradalls; Helicopter Operators; hoisting building materials; Helicopter Winch Operators, Hoisting building materials; Hoes (All types); Hoists (with two or more drums in use); Hydraulic Gantry (lift system); Laser Finishing Machines; Lift Slab or Panel Jack Operators; Locomotives (all types); Maintenance Engineers (Mechanic and/or Welder); Mixers, paving (multiple drum); Mobile Concrete Pumps, with booms, Panelboards, (all types on site); Pile Drivers; Power Shovels; Prentice Loader; Rail Tamper (with automatic lifting and aligning device); Rotary Drills (all) used on caissons for foundations and sub-structure work; Side Booms; Slip Form Pavers; Straddle Carriers (Building Construction on site); Tug Boats. Horizontal Directional Drill, Rough Terrain Fork-lift with Winch/Hoist, Laser Screed, and Like equipment; Compact Cranes, track or rubber over 4,000 pound capacity, self-erecting cranes: stationary, track or truck (all configurations) bucket trench machines (over 24 " wide).

Class 2 - Asphalt Pavers; Bobcat-type and/or skid steer loader with hoe attachment greater than 7000 lbs. Bulldozers; CMI type Equipment; Endloaders; Hydro Milling Machine; Kolman-type Loaders (Dirt Loading); Lead Greasemen; Mucking Machines; Pettibone-Rail Equipment; Power Graders; Power Scoops; Power Scrapers; Push Cats; Vermeer Type Concrete Saw; All rotomills, grinders & planers of all types. Articulating/end dumps (minus \$4.00/hour from Class 2 rate)

Class 3 - A Frames; Air Compressors, Pressurizing Shafts or Tunnels; All Asphalt Rollers; Bobcat-type and/or skid steer loader with or without attachments; Boilers (15 lbs pressure and over); All

concrete Pumps (without booms with 5 inch system); Fork Lifts (except masonry); Highway Drillers - all types (with integral power); Hoists (with one drum); House Elevators (except those automatic call button controlled); Man lifts; Mud Jacks; Pressure Grouting; Pump Operators (installing or operating Well Points or other types of Dewatering Systems); Pumps (4 inches and over discharge); Railroad Tie Inserter/Remover; Rotator (Lime-Soil Stabilizer); Submersible Pumps (4 inches and over discharge); Switch & Tie Tampers (without lifting and aligning device); Trench Machines (24 inches and under); Utility Operators; Material hoist/elevators.

Class 4 - Ballast Re-locator; Backfillers and Tampers; Batch Plant Operators; Bar and Joint Installing Machines; Bull Floats; Burlap and Curing Machines; Clefplanes; Compressors, on building construction; Concrete Spreader; Conveyors, used for handling building materials; Concrete Mixers, one bag capacity (side loader); Concrete Mixers, capacity more than one bag; Crushers; Deck Hands; Drum Fireman (in Asphalt Plant); Farm type tractors pulling attachments; Finishing Machines; Form Trenchers; Generators; Gunite Machines; Hydro-Seeders; Pavement Breakers (hydraulic or cable); Post Drivers; Post Hole Diggers; Pressure Pumps (over 1/2 inch discharge); Road Widening Trenchers; Rollers (except asphalt); All Concrete pumps (without Boom with 4 inch or smaller systems); Self-Propelled Power Spreaders; Concrete Spreaders; Self-Propelled Sub-graders; Shotcrete Machines; Tire Repairmen; Tractors, pulling sheepfoot rollers or graders; VAC/ALLS; Vibratory Compactors, with integral power; Welder Operators.

Class 5 - Boilers (less than 15 lbs. pressure); Inboard/outboard Motor Boat Launches; Light Plant Operators; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen, Submersible Pumps (under 4 inch discharge). Directional Drill Locator and Allen Screed Concrete Paver. Fueling and greasing (plus \$3.00), compact cranes; track or rubber under 4,000 pounds.

Class 6 - Master Mechanic

Class 7 - Boom & Jib 150 - 180 feet

Class 8 - Boom & Jib 180 - 249 feet

Class 9 - Boom & Jib 250 - or over

DEFIANCE, DELAWARE, FAIRFIELD,
 FAYETTE, FRANKLIN, FULTON, GALLIA,
 GREENE, GUERNSEY, HAMILTON,
 HANCOCK, HARDIN, HARRISON, HENRY,
 HIGHLAND, HOCKING, HOLMES, JACKSON,
 JEFFERSON, KNOX, LAWRENCE, LICKING,
 LOGAN, MADISON, MARION, MEIGS,
 MERCER, MIAMI, MONROE,
 MONTGOMERY, MORGAN, MORROW,
 MUSKINGUM, NOBLE, PAULDING, PERRY,
 PICKAWAY, PIKE, PREBLE, PUTNAM,
 RICHLAND, ROSS, SCIOTO, SENECA,
 SHELBY, TUSCARAWAS, UNION, VAN
 WERT, VINTON, WARREN, WASHINGTON,
 WAYNE, WILLIAMS, WYANDOT

Special Jurisdictional Note : Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Details :

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker, (Swimming) Pool Construction Laborer, Utility Man, *Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

*Bridge Man will perform work as per the October 31, 1949, memorandum on concrete forms, by and between the United Brotherhood of Carpenters and Joiners of America and the Laborers' International Union of North America, which states in; "the moving, cleaning, oiling and carrying to the next point of erection, and the stripping of forms which are not to be re-used, and forms on all flat arch work shall be done by members of the Laborers' International Union of North America."

Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Diver, Form Setter, Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), ***Lead Abatement, Hazardous Waste (level C)

***Includes the erecting of structures for the removal, including the encapsulation and containment of Lead abatement process.

Group 3

Blast and Powder Person, Muckers will be defined as shovel men working directly with the miners, Wrencher (mechanical joints & utility pipeline), Yarnner, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Grade Checker, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person will receive the rate equal to the rate paid the Laborer classification for which the Laborer is signaling.

Group 4

Miner, Welder, Gunitite Nozzle Person

A.) The Watchperson shall be responsible to patrol and maintain a safe traffic zone including but not limited to barrels, cones, signs, arrow boards, message boards etc.

The responsibility of a watchperson is to see that the equipment, job and office trailer etc. are secure.

1 Journeyman to 1 Apprentice
3 Journeyman to 1 Apprentice

Special Jurisdictional Note :

Details :

Note:

Group 1: Building & Common Laborer; All general laborers work including all forms of landscaping, Rough Rider - all pump's 4 inch or smaller, Small Pump Portable Generators-Bobcat to Cleanup, Firewatch and Monitor, (Safety Person)

Group 2: Asphalt Raker, Tamper, Smoother, Hand Air Pump, Hand air Tamper, Chisel, Power Tamper, Operator, Switch, Assemblies, Handling & Laying Precast Concrete Floors & Deck Tool Repairman.

Group 3: Concrete Specialist; Skid Steers (with attachments to perform Laborer's duties) Jack Hammer * Concrete Busterman, Barco Tamper Man, Power Georgia Buggy Man, Power Sweeper Man, Vibrator, Concrete Saw Man, Rail Spikers, Acetylene Burner, Pipelayers, Bos'n Cradleman, Bottom Man, Chipping Hammer Grade Checker, Radio Operator, Form Cleanout & blowout Man, Red Concrete Coloring Man (Electrical Safety)

Group 4: Mason Tender, Mortar Mixers & Scaffold Builders

Group 5: Fork Lift for Mason, all work involving Refractory Materials Including Demolition of Refractory Materials.

Asbestos Removal and Hazardous Waste Removal (handling, control, removal abatement, encapsulation or disposal of asbestos & hazardous waste),

Group 6: Gunnite Man, Sand Blaster, Concrete & Grout Pump & Hose Man, Blast Trac, Miners & Muckers, Free Air, Powderman or Blaster, Mortar or Gypsum Machineman, Welder, Scuba Diver.

Group 7: Watchman & Tool Checker/Toolroom Man

LOGAN, LORAIN, LUCAS, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

HOLMES, HURON, JACKSON, JEFFERSON,
KNOX, LAKE, LAWRENCE, LICKING,
LOGAN, LORAIN, LUCAS, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

1 Journeymen to 1 Apprentice
 2 Journeymen to 2 Apprentice
 10 Journeymen to 4 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ADAMS*, BROWN, BUTLER*, CLERMONT, CLINTON*, HAMILTON, HIGHLAND*, WARREN*

Special Jurisdictional Note : Adams County Twps included: Bratton, Scott, Winchester, Wayne. Butler County Twps included: Oxford, St. Clair, Fairfield, Morgan, Liberty, Union, Ross, Reily, Hanover. West Chester. In Clinton County, Manchester and South West Borrow. Highland County Twps included: Dotson, Salem, Clay, White Oak, Hamer, New Market, Concord, Jackson, Washington. Warren County Twps included: Harlan, Deerfield, Hamilton.

Details :

Structural Iron Work but not limited to:field fabrication, all loading to and including the erecting,rigging,assembly,dismantling, placing, temporary and permanent securing by any means of all structural iron,steel,ornamental lead,bronze,brass,copper,aluminum,glass all ferrous and non ferrous metal and composite material, precast prestressed and post-stressed concrete structures. Bridges and bridge rails,bridge viaducts,bucks bulkheads,bumper and bumper post,canopies and unistrut canopies,corrugated ferrous and non ferrous sheets when attached to steel frames,columns,beams,bar-joists,trusses,grinders,roof decking,electrical supports,elevator cars,elevator fronts and enclosures,erection of steel towers,flag poles, gymnasium equipment,stadium and arena seating,jail cell work,jail cell beds,benches,bunks,chairs,tables,mirrors,jail cell access doors,rigging and installation of machinery and equipment(erection,aligning,anchoring and dismantling, erection and dismantling of tower cranes,derrick monorail systems, Chicago booms,overhead cranes,gantries,material and personnel hoists,tanks,hoppers and conveyors. All pre-engineered metal buildings and their entirety including siding,roofing, gutters, downspouts and erection of all.

Ornamental Iron Work but not limited to:all work in connection with field fabrication,handling including loading/off loading,sorting,cutting,fastening,anchoring,bending,hoisting,placing,burning,welding,and tying,dismantling of all materials used in miscellaneous iron or steel, for stairs,hand railings,rolling doors, rolling gates,rolling shutters,fence,windows,curtain wall,erection and welding of all metal, sash,architectural and ornamental treatments, but not necessarily limited to all sizes and types of ornamental,steel iron,lead,bronze,brass,copper,aluminum,all ferrous and non ferrous metals and composite materials

Fence Erector Iron Worker but not limited to: All work in connection with the field fabrication and erection of chain link fence,which includes but not limited to the loading and of the fence fabric and posts also the installation of the above.

MERCER*, MIAMI, MONTGOMERY,
PREBLE, SHELBY, VAN WERT*, WARREN*

Special Jurisdictional Note : Allen County Twps included are: Auglaize, Perry, Shawnee, Amanda, Spencer, Marion, Sugar Creek, American, Bath, Jackson. Butler County Twps included are: Milford, Wayne, Madison, Lemon. Champaign Cnty Twps included are: Union, Urbana, Jackson, Concord, Salem, Mad River, Johnson, Harrison, Adams. Fayette County Twps included are: Green, Jasper, Concord, Jefferson. Hardin County Twps included are: Round Head, Marion, Liberty. Highland County Twps included are: Fairfield, Penn, Union, Marshall, Liberty, Paint, Brush Creek. Logan County Twps included are: Richland, Stokes, Bloomfield, Washington, Harrison, McArthur, Lake, Liberty, Pleasant, Miami. Madison County Twps included are: Stokes. Mercer County Twps included are: Dublin, Washington, Jefferson, Recovery, Gibson, Union, Liberty, Butler, Granville, Center, Hopewell, Franklin, Marion. VanWert County Twps included are: Jennings. Warren County Twps included are: Franklin, Clear Creek, Turtle Creek, Wayne, Massie, Washington, Salem, Union.

Details :

Structural Iron Work but not limited to:field fabrication, all loading to and including the erecting,rigging,assembly,dismantling, placing, temporary and permanent securing by any means of all structural iron,steel,ornamental lead,bronze,brass,copper,aluminum,glass all ferrous and non ferrous metal and composite material, precast prestressed and post-stressed concrete structures. Bridges and bridge rails,bridge viaducts,bucks bulkheads,bumper and bumper post,canopies and unistrut canopies,corrugated ferrous and non ferrous sheets when attached to steel frames,columns,beams,bar-joists,trusses,grinders,roof decking,electrical supports,elevator cars,elevator fronts and enclosures,erection of steel towers,flag poles, gymnasium equipment,stadium and arena seating,jail cell work,jail cell beds,benches,bunks,chairs,tables,mirrors,jail cell access doors,rigging and installation of machinery and equipment(erecting,aligning,anchoring and dismantling, erection and dismantling of tower cranes,derrick monorail systems, Chicago booms,overhead cranes,gantries,material and personnel hoists,tanks,hoppers and conveyors. All pre-engineered metal buildings and their entirety including siding,roofing, gutters, downspouts and erection of all.

Ornamental Iron Work but not limited to:all work in connection with field fabrication,handling including loading/off loading,sorting,cutting,fastening,anchoring,bending,hoisting,placing,burning,welding,and tying,dismantling of all materials used in miscellaneous iron or steel, for stairs,hand railings,rolling doors, rolling gates,rolling shutters,fence,windows,curtain wall,erection and welding of all metal, sash,architectural and ornamental treatments, but not necessarily limited to all sizes and types of ornamental,steel iron,lead,bronze,brass,copper,aluminum,all ferrous and non ferrous metals and composite materials

Fence Erector Iron Worker but not limited to: All work in connection with the field fabrication and erection of chain link fence,which includes but not limited to the loading and of the fence fabric and posts also the installation of the above.

1 Journeyman to 1 Apprentice
3 Journeyman to 1 Apprentice
5 Journeyman to 1 Apprentice

Special Jurisdictional Note :**Details :**

Carpenter duties shall include but not limited to: Pile driving, milling, fashioning, joining, assembling, erecting, fastening, or dismantling of all material of wood, plastic, metal, fiber, cork, and composition, and all other substitute materials: pile driving, cutting, fitting, and placing of lagging, and the handling, cleaning, erecting, installing, and dismantling of machinery, equipment, and erecting pre-engineered metal buildings.

Pile Drivers work but not limited to: unloading, assembling, erection, repairs, operation, signaling, dismantling, and reloading all equipment that is used for pile driving including pile butts. pile butts is defined as sheeting or scrap piling. Underwater work that may be required in connection with the installation of piling. The diver and his tender work as a team and shall arrive at their own financial arrangements with the contractor. Any configuration of wood, steel, concrete, or composite that is jettied, driven, or vibrated onto the ground by conventional pile driving equipment for the purpose of supporting a future load that may be permanent or temporary.

Driving bracing, plumbing, cutting off and capping of all piling whether wood, metal, pipe piling or composite. loading, unloading, erecting, framing, dismantling, moving, and handling of pile driving equipment. piling used in the construction and repair of all wharves, docks, piers, trestles, caissons, cofferdams, and the erection of all sea walls and breakwaters. All underwater and marine work on bulkheads, wharves, docks, shipyards, caissons, piers, bridges, pipeline work, viaducts, marine cable and trestles, as well as salvage and reclamation work where divers are employed.

Rate shall include carpenters, acoustic, and ceiling installers, drywall installers, pile drivers, and floorlayers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Floorlayer SW District G

Change # : LCR01-2017fbLocSWDayton

Craft : Carpenter Effective Date : 09/14/2017 Last Posted : 09/14/2017

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Floorlayer	\$24.47		\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$39.28	\$51.51
Apprentice	Percent											
1st 3 months	50.00	\$12.24	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12.24	\$18.35
2nd 3 months	50.00	\$12.24	\$6.65	\$0.00	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$20.09	\$26.21
2nd 6 months	55.00	\$13.46	\$6.65	\$0.00	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$21.32	\$28.05
3rd 6 months	60.00	\$14.68	\$6.65	\$0.00	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$22.54	\$29.88
4th 6 months	65.00	\$15.91	\$6.65	\$0.00	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$23.77	\$31.72
5th 6 months	70.00	\$17.13	\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$31.94	\$40.50
6th 6 months	75.00	\$18.35	\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$33.16	\$42.34
7th 6 months	80.00	\$19.58	\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$34.39	\$44.17
8th 6 months	85.00	\$20.80	\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$35.61	\$46.01

Special Calculation Note : Other for \$0.12 is for UBC National Fund.

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BROWN, BUTLER, CHAMPAIGN, CLARK, CLERMONT, CLINTON, DARKE, GREENE, HAMILTON, LOGAN, MIAMI,

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter & Pile Driver SW District HevHwy

Change # : LCN01-2018fbLoc126

Craft : Carpenter Effective Date : 06/13/2018 Last Posted : 06/13/2018

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter	\$29.87		\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$46.59	\$61.53
Pile Driver	\$29.34		\$6.63	\$6.95	\$0.40	\$0.00	\$1.97	\$0.10	\$0.00	\$0.00	\$45.39	\$60.06
Apprentice	Percent											
1st 6 Months	60.00	\$17.92	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$34.64	\$43.60
2nd 6 Months is 1st year	65.00	\$19.42	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$36.14	\$45.84
3rd 6 Months	70.00	\$20.91	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$37.63	\$48.08
4th 6 Months is 2 years	75.00	\$22.40	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$39.12	\$50.32
5th 6 Months	80.00	\$23.90	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$40.62	\$52.56
6th 6 Months is 3 years	85.00	\$25.39	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$42.11	\$54.80
7th 6 Months	90.00	\$26.88	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$43.60	\$57.04
8th 6 Months is 4 years	95.00	\$28.38	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$45.10	\$59.28

Special Calculation Note : Other is UBC National Fund.

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

1 Journeymen to 1 Apprentice

An employer shall have the right to employ one (1) Apprentice for one (1) Journeyman Carpenter in its employment for the first Apprentice employed, and 1 (1) Apprentice for two (2) Journeyman Carpenter for additional Apprentices employed.

Thereafter, every third additional carpenter hired shall be an apprentice, if available, and if practical for the type of work being performed.

BROWN, BUTLER, CHAMPAIGN, CLARK,
CLERMONT, CLINTON, DARKE, GREENE,
HAMILTON, LOGAN, MIAMI,
MONTGOMERY, PREBLE, SHELBY,
WARREN

Special Jurisdictional Note :**Details :**

Highway Construction, Airport Construction, Heavy Construction but not limited to: (tunnels,subways,drainage projects,flood control,reservoirs). Railroad Construction,Sewer Waterworks & Utility Construction but not limited to: (storm sewers, waterlines, gaslines). Industrial & Building Site, Power Plant, Amusement Park, Athletic Stadium Site, Sewer and Water Plants. When the Contractor furnishes the necessary underwater gear for the Diver, the Diver shall be paid one and one half (1&1/2) times the journeyman rate for the time spent in the water.

Details :

All work in connection with Asbestos Removal, Abatement, Encapsulation, Lead Abatement, Hazardous Materials and Fire Stopping which is performed by employees in the Mechanic or Apprentice Classification shall be covered under the terms of this Agreement.

Clear Creek, Franklin, Mossie, Turtle Creek & Wayney). Ashtabula County: (post offices & townships of Ashtabula, Austinburg, Geneva, Harperfield, Jefferson, Plymouth & Saybrook) (townships of Andover, Cherry Valley, Colbrook, Canneaut, Denmark, Dorset, East Orwell, Hartsgrove, Kingville, Lenox, Monroe, Morgan, New Lyme, North Kingsville, Orwell, Pierpoint, Richmond Rock Creek, Rome, Sheffield, Trumbull, Wayne, Williamsfield & Windsor) Erie County: (post offices & townships of Berlin, Berlin Heights, Birmingham, Florence, Huron, Milan, Shinrock & Vermilion)

Details :

Asbestos & lead paint abatement including, but not limited to the removal or encapsulation of asbestos & lead paint, all work in conjunction with the preparation of the removal of same & all work in conjunction with the clean up after said removal. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) is recognized as being the exclusive work of the Asbestos Abatement Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

An Abatement Journeyman is anyone who has more than 300 hours in the Asbestos Abatement field.

3 Journeymen to 1 Apprentice
per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spray bar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Apprentice	Percent												
First 6 months	80.00	\$21.53	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.03	\$46.79
7-12 months	85.00	\$22.87	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.37	\$48.81
13-18 months	90.00	\$24.22	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.72	\$50.83
19-24 months	95.00	\$25.56	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.06	\$52.85
25-30 months	100.00	\$26.91	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.41	\$54.87

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice
per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spray bar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Special Jurisdictional Note :

Details :

HIGHLAND, MIAMI, MONTGOMERY,
PREBLE, SHELBY*, WARREN

Special Jurisdictional Note : Fayette County: Eastern portion of route #41 being the dividing line between locals 372 and 387. Local 387 has jurisdiction of projects built on property which borders route #41 East. Shelby County: Southern portion of routes #47 & 29.

Details :

Special Jurisdictional Note :

Details :

Apprentice and Shop Hand Pension are \$1.00 less than Journeyman.

Helpers shall be permitted to work on ONLY , Exterior Sewers, Concrete, Vitrified Clay or PVC Pipe and Digging and Backfilling for Piping Work. The ratio shall not exceed 2 helpers to 1 Journeymen when performing the scope of work listed above

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : LCN02-2018fbLoc669

Craft : Sprinkler Fitter Effective Date : 04/04/2018 Last Posted : 04/04/2018

Classification	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Sprinkler Fitter	\$37.78	\$9.67	\$6.40	\$0.52	\$0.00	\$5.12	\$0.00	\$0.00	\$0.00	\$0.00	\$59.49	\$78.38
Indentured Between April 1, 2010-March 31, 2013												
45%	\$17.00	\$7.75	\$0.00	\$0.52	\$0.00	\$0.69	\$0.00	\$0.00	\$0.00	\$0.00	\$25.96	\$34.46
50%	\$18.89	\$7.75	\$0.00	\$0.52	\$0.00	\$0.74	\$0.00	\$0.00	\$0.00	\$0.00	\$27.90	\$37.35
55%	\$20.78	\$9.67	\$6.40	\$0.52	\$0.00	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$37.90	\$48.29
60%	\$22.67	\$9.67	\$6.40	\$0.52	\$0.00	\$0.58	\$0.00	\$0.00	\$0.00	\$0.00	\$39.84	\$51.18
65%	\$24.56	\$9.67	\$6.40	\$0.52	\$0.00	\$1.13	\$0.00	\$0.00	\$0.00	\$0.00	\$42.28	\$54.56
70%	\$26.45	\$9.67	\$6.40	\$0.52	\$0.00	\$1.18	\$0.00	\$0.00	\$0.00	\$0.00	\$44.22	\$57.45
75%	\$28.34	\$9.67	\$6.40	\$0.52	\$0.00	\$1.23	\$0.00	\$0.00	\$0.00	\$0.00	\$46.16	\$60.33
80%	\$30.22	\$9.67	\$6.40	\$0.52	\$0.00	\$1.28	\$0.00	\$0.00	\$0.00	\$0.00	\$48.09	\$63.20
85%	\$32.11	\$9.67	\$6.40	\$0.52	\$0.00	\$1.32	\$0.00	\$0.00	\$0.00	\$0.00	\$50.02	\$66.07
90%	\$34.00	\$9.67	\$6.40	\$0.52	\$0.00	\$1.37	\$0.00	\$0.00	\$0.00	\$0.00	\$51.96	\$68.96
Apprentice Indentured after April 1, 2013	Percent											
CLASS 1	45.00	\$17.00	\$7.75	\$0.00	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25.27	\$33.77
CLASS 2	50.00	\$18.89	\$7.75	\$0.00	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.16	\$36.61
CLASS 3	55.00	\$20.78	\$9.67	\$6.40	\$0.52	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$38.02	\$48.41
CLASS 4	60.00	\$22.67	\$9.67	\$6.40	\$0.52	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$39.91	\$51.24
CLASS 5	65.00	\$24.56	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$42.05	\$54.33
CLASS 6	70.00	\$26.45	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$43.94	\$57.16
CLASS 7	75.00	\$28.33	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$45.83	\$59.99
CLASS 8	80.00	\$30.22	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$47.71	\$62.83
CLASS 9	85.00	\$32.11	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$49.60	\$65.66

CLASS 10	90.00	\$34.00	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$51.49	\$68.49
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Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Sprinkler Fitter work shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Cardox Systems, Dry Chemical Systems, Foam Systems and all other fire protection systems.

Details :

****In order to utilize a Pre-Apprentice, you must have 1 Registered Apprentice in your employ.****

Ratio :

- 1 Journeyman to 1 Apprentice
- 5 Journeymen to 1 Apprentice
- 10 Journeymen to 2 Apprentices
- 15 Journeymen to 3 Apprentices
- 20 Journeymen to 4 Apprentices
- 25 Journeymen to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, BROWN, BUTLER, CLERMONT, GALLIA,
HAMILTON, LAWRENCE, PREBLE*, SCIOTO,
WARREN, WARREN*

Special Jurisdictional Note : Warren in the townships of Dixon, Gasper, Isrsel, Somers & Gratis in Prebble County

Details :

JACKSON, LAWRENCE, LICKING,
MADISON, MEIGS, MIAMI, MONTGOMERY,
MORGAN, MUSKINGUM, NOBLE, PERRY,
PICKAWAY, PIKE, PREBLE, ROSS, SCIOTO,
VINTON, WARREN

Special Jurisdictional Note :

Details :

the page. **In order to utilize a Pre-Apprentice, you must have 1 Registered Apprentice in your employ.**

Ratio :

- 1 Journeyman to 1 Apprentice
- 5 Journeymen to 1 Apprentice
- 10 Journeymen to 2 Apprentices
- 15 Journeymen to 3 Apprentices
- 20 Journeymen to 4 Apprentices
- 25 Journeymen to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, BROWN, BUTLER, CLERMONT,
GALLIA, HAMILTON, LAWRENCE,
PREBLE*, SCIOTO, WARREN, WARREN*

Special Jurisdictional Note : Warren in the townships of Dixon, Gasper, Isrsel, Somers & Gratis in Prebble County

Details :

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

5 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BUTLER, COLUMBIANA, FAYETTE,
JEFFERSON, LAWRENCE, MERCER,
WARREN, WASHINGTON

Special Jurisdictional Note :

Details :

Work includes but not limited to: boiler making, acetylene burning, riveting, chipping, caulking, rigging, fitting-up, grinding, reaming, impact machine operating, unloading, and handling of boilermaker's material and equipment. Boilermakers, Blacksmiths, Forgers, Iron Shipbuilders

methods and the rate of pay shall be a \$1.00 per hour above the industrial rate. Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

repair garages, processing plants, storage tanks, warehouses, skeletons structures, bridges unless highest point of clearance is 60 feet or more whether new or old construction offices and office buildings in industrial sites are at industrial rates. Heavy & Highway Bridges-Guard Rails- Light Poles. A hazardous steeplejack rate shall apply on radio towers, stacks, light towers, water towers, steeples, skeleton steel, and exterior industrial conveyors over 25 feet, where such items require steeplejack methods and the rate of pay shall be a \$1.00 per hour above the industrial rate. Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

Special Jurisdictional Note :**Details :**

Industrial Work paid as commercial work above for each class which includes, Industrial Plants, repair garages, processing plants, storage tanks, warehouses, skeletons structures, bridges unless highest point of clearance is 60 feet or more whether new or old construction offices and office buildings in industrial sites are at industrial rates. Heavy & Highway Bridges-Guard Rails- Light Poles. A hazardous steeplejack rate shall apply on radio towers, stacks, light towers, water towers, steeples, skeleton steel, and exterior industrial conveyors over 25 feet, where such items require steeplejack methods and the rate of pay shall be a \$1.00 per hour above the industrial rate. Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

HARRISON, HENRY, HIGHLAND, HOCKING,
HOLMES, HURON, JACKSON, JEFFERSON,
KNOX, LAKE, LAWRENCE, LICKING,
LOGAN, LORAIN, LUCAS, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Top Helper: Shall perform the responsibilities of a Helper and be responsible for the setup, break down, safety and quality of the company's product.

Helper : Shall be responsible for performing tasks in refinishing, compliance with safety procedures, setting up and breaking down job sites, scaffolding and swing stages and preparing surfaces for refinishing including but not limited to, masking and stripping and cleaning, oxidizing, polishing and scratch removal on various surfaces

Class A Workers: Less than 1 Year of Service.

Class B Workers: More than 1 and less than 8 Years of Service.

Class C Workers: More than 8 Years of Service.

Metal Polisher Scope of Work: Polishing, buffing, stripping, coloring, lacquering, spraying, cleaning and maintenance of ornamental and architectural metals, iron, bronze, nickel, aluminum and stainless steel and in mental specialty work, various stone finishes, stone specialty work and any other work pertaining to the finishing of metal, stones, woods, and any window washing/cleaning done in conjunction with this work, using chemicals, solvents, coatings and hand applied lacquer thinner, removing scratches from mirror finished metals, burnishing of bronze, statuary finishes on exterior and interior surfaces and the use of all tools required to perform such work, including but not limited to polishes, spray equipment and scaffolding.

Swing State Rate: All work on scaffold 4 sections or higher, including any boom lifts and swing stage scaffolds including the rigging and derigging of hanging/suspended swing stage systems and rappelling/bolson chair work, ADD \$1.50 per hour.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 639 Zone 2 Sign

Change # : LCN01-2016fbLoc639

Craft : Painter Effective Date : 08/03/2016 Last Posted : 08/03/2016

Classification	BHR	Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Painter Sign Journeyman Tech/Team Leader Class A	\$21.25	\$1.33	\$0.14	\$0.00	\$0.00	\$0.00	\$0.57	\$0.00	\$0.00	\$23.29	\$33.92
Painter Sign Journeyman Tech/Team Leader Class B	\$21.25	\$1.33	\$0.14	\$0.00	\$0.41	\$0.00	\$0.57	\$0.00	\$0.00	\$23.70	\$34.32
Painter Sign Journeyman Tech/Team Leader Class C	\$21.25	\$1.33	\$0.14	\$0.00	\$0.82	\$0.00	\$0.57	\$0.00	\$0.00	\$24.11	\$34.74
Painter Sign Journeyman Tech/Team Leader Class D	\$21.25	\$1.33	\$0.14	\$0.00	\$1.23	\$0.00	\$0.57	\$0.00	\$0.00	\$24.52	\$35.14
Sign Journeyman Class A	\$20.98	\$1.33	\$0.14	\$0.00	\$0.00	\$0.00	\$0.56	\$0.00	\$0.00	\$23.01	\$33.50
Sign Journeyman Class B	\$20.98	\$1.33	\$0.14	\$0.00	\$0.40	\$0.00	\$0.56	\$0.00	\$0.00	\$23.41	\$33.90
Sign Journeyman Class C	\$20.98	\$1.33	\$0.14	\$0.00	\$0.81	\$0.00	\$0.56	\$0.00	\$0.00	\$23.82	\$34.31
Sign Journeyman Class D	\$20.98	\$1.33	\$0.14	\$0.00	\$1.21	\$0.00	\$0.56	\$0.00	\$0.00	\$24.22	\$34.71
Tech Sign Fabrication/ Erector Class A	\$15.90	\$1.33	\$0.14	\$0.00	\$0.00	\$0.00	\$0.43	\$0.00	\$0.00	\$17.80	\$25.75

HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS, SCIOTO, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Cable Splicer: Inspect and test lines or cables, analyze results, and evaluate transmission characteristics. Cover conductors with insulation or seal splices with moisture-proof covering. Install, splice, test, and repair cables using tools or mechanical equipment. This will include the splicing of fiber.

Journeyman Technician I: Must know all aspects of telephone and cable work. This is to include aerial, underground, and manhole work. Must know how to climb and run bucket. Must have all the tools required to perform these tasks. Must be able to be responsible for the safety of the crew at all times. Must also have CDL license and have at least 5 years experience.

Installer/Repairman: Perform tasks of repairing, installing, and testing phone and CATV services.

Technician II: Have at least three years of telephone and CATV experience. Must have the knowledge of underground, aerial, and manhole work. Must be able to climb and operate bucket. Must have CDL. Must have all tools needed to perform these tasks.

Equipment Operator I: Able to operate a digger derrick or bucket truck. Have at least 5 years of experience and must have a valid CDL license.

Equipment Operator II: Able to operate a digger derrick or bucket truck. Have at least 3 years of experience and must have a valid CDL license.

Groundman W/CDL: Must have a valid CDL license and be able to perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Must have at least 5 year's experience.

Groundman: Perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Experience 0-5 years.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Outside Utility Power.

Change # : LCN01-2018fbLoc7

Craft : Lineman Effective Date : 03/28/2018 Last Posted : 03/28/2018

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Electrical Lineman	\$40.12	\$5.75	\$1.20	\$0.40	\$0.00	\$8.83	\$0.35	\$0.00	\$0.00	\$56.65	\$76.71
Substation Technician	\$40.12	\$5.75	\$1.20	\$0.40	\$0.00	\$8.83	\$0.35	\$0.00	\$0.00	\$56.65	\$76.71
Cable Splicer	\$41.99	\$5.75	\$1.26	\$0.42	\$0.00	\$9.24	\$0.35	\$0.00	\$0.00	\$59.01	\$80.00
Operator A	\$36.01	\$5.75	\$1.08	\$0.36	\$0.00	\$7.92	\$0.35	\$0.00	\$0.00	\$51.47	\$69.47
Operator B	\$31.90	\$5.75	\$0.96	\$0.32	\$0.00	\$7.02	\$0.35	\$0.00	\$0.00	\$46.30	\$62.25
Operator C	\$25.73	\$5.75	\$0.77	\$0.26	\$0.00	\$5.66	\$0.35	\$0.00	\$0.00	\$38.52	\$51.39
Groundman 0-12 months Exp	\$20.06	\$5.75	\$0.60	\$0.20	\$0.00	\$4.41	\$0.35	\$0.00	\$0.00	\$31.37	\$41.40
Groundman 0-12 months Exp w/CDL	\$22.07	\$5.75	\$0.66	\$0.22	\$0.00	\$4.86	\$0.35	\$0.00	\$0.00	\$33.91	\$44.95
Groundman 1 yr or more	\$22.07	\$5.75	\$0.66	\$0.22	\$0.00	\$4.86	\$0.35	\$0.00	\$0.00	\$33.91	\$44.95
Groundman 1 yr or more w/CDL	\$26.08	\$5.75	\$0.78	\$0.26	\$0.00	\$5.74	\$0.35	\$0.00	\$0.00	\$38.96	\$52.00
Equipment Mechanic A	\$31.90	\$5.75	\$0.96	\$0.32	\$0.00	\$7.02	\$0.35	\$0.00	\$0.00	\$46.30	\$62.25
Equipment Mechanic B	\$28.83	\$5.75	\$0.86	\$0.29	\$0.00	\$6.34	\$0.35	\$0.00	\$0.00	\$42.42	\$56.84
Equipment Mechanic C	\$25.73	\$5.75	\$0.77	\$0.26	\$0.00	\$5.66	\$0.35	\$0.00	\$0.00	\$38.52	\$51.39
	\$28.39	\$5.75	\$0.85	\$0.28	\$0.00	\$6.25	\$0.35	\$0.00	\$0.00	\$41.87	\$56.07

Line Truck w/uuger												
Apprentice	Percent											
1st 1000 hrs	60.00	\$24.07	\$5.75	\$0.72	\$0.24	\$0.00	\$5.30	\$0.35	\$0.00	\$0.00	\$36.43	\$48.47
2nd 1000 hrs	65.00	\$26.08	\$5.75	\$0.78	\$0.26	\$0.00	\$5.74	\$0.35	\$0.00	\$0.00	\$38.96	\$52.00
3rd 1000 hrs	70.00	\$28.08	\$5.75	\$0.84	\$0.28	\$0.00	\$6.18	\$0.35	\$0.00	\$0.00	\$41.48	\$55.53
4th 1000 hrs	75.00	\$30.09	\$5.75	\$0.90	\$0.30	\$0.00	\$6.62	\$0.35	\$0.00	\$0.00	\$44.01	\$59.05
5th 1000 hrs	80.00	\$32.10	\$5.75	\$0.96	\$0.32	\$0.00	\$7.06	\$0.35	\$0.00	\$0.00	\$46.54	\$62.58
6th 1000 hrs	85.00	\$34.10	\$5.75	\$1.02	\$0.34	\$0.00	\$7.50	\$0.35	\$0.00	\$0.00	\$49.06	\$66.11
7th 1000 hrs	90.00	\$36.11	\$5.75	\$1.08	\$0.36	\$0.00	\$7.94	\$0.35	\$0.00	\$0.00	\$51.59	\$69.64

Special Calculation Note : Other is Health Retirement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS,

SCIOTO, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note : 0.30 is for Health Retirement Account.

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 High Tension Pipe Type Cable

Change # : LCN01-2018fbLoc7

Craft : Lineman Effective Date : 03/28/2018 Last Posted : 03/28/2018

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Electrical Lineman	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58
Certified Lineman Welder	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58
Certified Cable Splicer	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58
Operator A	\$37.98	\$5.75	\$1.14	\$0.38	\$0.00	\$8.36	\$0.35	\$0.00	\$0.00	\$53.96	\$72.95
Operator B	\$33.67	\$5.75	\$1.01	\$0.34	\$0.00	\$7.41	\$0.35	\$0.00	\$0.00	\$48.53	\$65.36
Operator C	\$27.18	\$5.75	\$0.82	\$0.27	\$0.00	\$5.98	\$0.35	\$0.00	\$0.00	\$40.35	\$53.94
Groundman 0-12 months Exp	\$21.16	\$5.75	\$0.63	\$0.21	\$0.00	\$4.66	\$0.35	\$0.00	\$0.00	\$32.76	\$43.34
Groundman 0-12 months Exp w/CDL	\$23.28	\$5.75	\$0.70	\$0.23	\$0.00	\$5.12	\$0.35	\$0.00	\$0.00	\$35.43	\$47.07
Groundman 1 yr or more	\$23.28	\$5.75	\$0.70	\$0.23	\$0.00	\$5.12	\$0.35	\$0.00	\$0.00	\$35.43	\$47.07
Groundman 1 yr or more w/CDL	\$27.51	\$5.75	\$0.83	\$0.28	\$0.00	\$6.05	\$0.35	\$0.00	\$0.00	\$40.77	\$54.53
Equipment Mechanic A	\$33.67	\$5.75	\$1.01	\$0.34	\$0.00	\$7.41	\$0.35	\$0.00	\$0.00	\$48.53	\$65.36
Equipment Mechanic B	\$30.42	\$5.75	\$0.91	\$0.30	\$0.00	\$6.69	\$0.35	\$0.00	\$0.00	\$44.42	\$59.63
	\$27.18	\$5.75	\$0.82	\$0.27	\$0.00	\$5.98	\$0.35	\$0.00	\$0.00	\$40.35	\$53.94

Equipment Mechanic C												
X-Ray Technician	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58	
Apprentice	Percent											
1st 1000 hrs	60.00	\$25.39	\$5.75	\$0.76	\$0.25	\$0.00	\$5.59	\$0.35	\$0.00	\$0.00	\$38.09	\$50.79
2nd 1000 hrs	65.00	\$27.51	\$5.75	\$0.83	\$0.28	\$0.00	\$6.05	\$0.35	\$0.00	\$0.00	\$40.77	\$54.52
3rd 1000 hrs	70.00	\$29.62	\$5.75	\$0.89	\$0.30	\$0.00	\$6.52	\$0.35	\$0.00	\$0.00	\$43.43	\$58.25
4th 1000 hrs	75.00	\$31.74	\$5.75	\$0.95	\$0.32	\$0.00	\$6.98	\$0.35	\$0.00	\$0.00	\$46.09	\$61.96
5th 1000 hrs	80.00	\$33.86	\$5.75	\$1.02	\$0.34	\$0.00	\$7.45	\$0.35	\$0.00	\$0.00	\$48.77	\$65.69
6th 1000 hrs	85.00	\$35.97	\$5.75	\$1.08	\$0.36	\$0.00	\$7.91	\$0.35	\$0.00	\$0.00	\$51.42	\$69.41
7th 1000 hrs	90.00	\$38.09	\$5.75	\$1.14	\$0.38	\$0.00	\$8.38	\$0.35	\$0.00	\$0.00	\$54.09	\$73.13

Special Calculation Note : Other is Health Retirement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

*All Operators of cranes 45 ton or larger shall be paid the journeyman rate of pay. \$0.30 is for Health Retirement Account.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON,

HIGHLAND, HOCKING, HOLMES, JACKSON,
JEFFERSON, KNOX, LAKE, LAWRENCE,
LICKING, LOGAN, LORAIN, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, PERRY, PICKAWAY,
PIKE, PORTAGE, PREBLE, RICHLAND, ROSS,
SCIOTO, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Outside Cincinnati

Change # : LCN01-2017fbLoc71Cincinnati

Craft : Lineman Effective Date : 03/29/2017 Last Posted : 03/29/2017

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund	Total PWR	Overtime Rate	
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Electrical Lineman	\$36.64	\$5.50	\$1.10	\$0.37	\$0.00	\$6.60	\$0.06	\$0.00	\$0.00	\$50.27	\$68.59
Traffic Signal & Lighting Journeyman	\$35.26	\$5.50	\$1.06	\$0.35	\$0.00	\$6.35	\$0.06	\$0.00	\$0.00	\$48.58	\$66.21
Equipment Operator	\$32.24	\$5.50	\$0.97	\$0.32	\$0.00	\$5.80	\$0.06	\$0.00	\$0.00	\$44.89	\$61.01
Groundman 0-12 months (W/O CDL)	\$19.70	\$5.50	\$0.59	\$0.20	\$0.00	\$3.55	\$0.06	\$0.00	\$0.00	\$29.60	\$39.45
Groundman 0-21 Months (W/CDL)	\$21.49	\$5.50	\$0.64	\$0.21	\$0.00	\$3.87	\$0.06	\$0.00	\$0.00	\$31.77	\$42.52
Groundman 1 Year or More (W/CDL)	\$23.28	\$5.50	\$0.70	\$0.23	\$0.00	\$4.19	\$0.06	\$0.00	\$0.00	\$33.96	\$45.60
Traffic Signal Apprentices											
1st 1,000 hours	\$21.16	\$5.50	\$0.63	\$0.21	\$0.00	\$3.81	\$0.06	\$0.00	\$0.00	\$31.37	\$41.95
2nd 1,000 hours	\$22.92	\$5.50	\$0.69	\$0.23	\$0.00	\$4.13	\$0.06	\$0.00	\$0.00	\$33.53	\$44.99
3rd 1,000 hours	\$24.68	\$5.50	\$0.74	\$0.25	\$0.00	\$4.44	\$0.06	\$0.00	\$0.00	\$35.67	\$48.01
4th 1,000 hours	\$26.45	\$5.50	\$0.79	\$0.26	\$0.00	\$4.76	\$0.06	\$0.00	\$0.00	\$37.82	\$51.04
5th 1,000 hours	\$28.21	\$5.50	\$0.85	\$0.28	\$0.00	\$5.08	\$0.06	\$0.00	\$0.00	\$39.98	\$54.09
6th 1,000 hours	\$31.73	\$5.50	\$0.95	\$0.32	\$0.00	\$5.71	\$0.06	\$0.00	\$0.00	\$44.27	\$60.14

Apprentice Lineman	Percent											
1st 1,000 Hours	60.00	\$21.98	\$5.50	\$0.66	\$0.22	\$0.00	\$3.96	\$0.06	\$0.00	\$0.00	\$32.38	\$43.38
2nd 1,000 Hours	65.00	\$23.82	\$5.50	\$0.71	\$0.24	\$0.00	\$4.29	\$0.06	\$0.00	\$0.00	\$34.62	\$46.52
3rd 1,000 Hours	70.00	\$25.65	\$5.50	\$0.77	\$0.26	\$0.00	\$4.62	\$0.06	\$0.00	\$0.00	\$36.86	\$49.68
4th 1,000 Hours	75.00	\$27.48	\$5.50	\$0.82	\$0.27	\$0.00	\$4.95	\$0.06	\$0.00	\$0.00	\$39.08	\$52.82
5th 1,000 Hours	80.00	\$29.31	\$5.50	\$0.88	\$0.29	\$0.00	\$5.28	\$0.06	\$0.00	\$0.00	\$41.32	\$55.98
6th 1,000 Hours	85.00	\$31.14	\$5.50	\$0.93	\$0.31	\$0.00	\$5.61	\$0.06	\$0.00	\$0.00	\$43.55	\$59.13
7th 1,000 Hours	90.00	\$32.98	\$5.50	\$0.99	\$0.33	\$0.00	\$5.94	\$0.06	\$0.00	\$0.00	\$45.80	\$62.28

Special Calculation Note : Other is Safety & Education Fund.

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BROWN, BUTLER, CLERMONT, HAMILTON, WARREN

Special Jurisdictional Note :

Details :

A groundman when directed shall assist a Journeyman in the performance of his/her work on the ground, including the use of hand tools. A Groundman under no circumstances shall climb poles, towers, ladders, or work from an elevated platform or bucket truck.

No more than three (3) Groundmen shall work alone. Jobs with more than three Groundmen shall be supervised by a Groundcrew Foreman, Journeyman Lineman, Journeyman Traffic Signal Technician or an Equipment Operator.

Scope of Work: installation and maintenance of highway and street lighting, highway and street sign lighting, electronic message boards and traffic control systems, camera systems, traffic signal work, substation and line construction including overhead and underground projects for private and industrial work as in accordance with the IBEW Constitution. This Agreement includes the operation of all tools and equipment necessary for the installation of the above projects.

Special Jurisdictional Note : The following townships in Warren County are included:
Clearcreek, Franklin and Wayne.

Details :

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Technician to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE, WARREN*

Special Jurisdictional Note : The following townships in Warren County are included: (Clearcreek, Franklin and Wayne)

Details :

Work covered but not limited to: installation which utilize transmission and/or transference of voice, sound, vision or digital for commercial, education, security and entertainment purposes for the following:

TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multimedia, multiplex, nurse call system, radio page, school intercom, sound and low voltage master clock systems.

Fire Alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit.

All HVAC control work is not covered by this wage rate but by the Inside Electrical wage rate.

4th period 3501-5000 hrs												
5th period 5001-6500 hrs	60.00	\$17.16	\$6.20	\$5.07	\$0.29	\$0.00	\$1.47	\$0.00	\$0.00	\$0.00	\$30.19	\$38.77
6th period 6501-8000 hrs	75.00	\$21.45	\$6.20	\$6.34	\$0.36	\$0.00	\$1.84	\$0.00	\$0.00	\$0.00	\$36.19	\$46.92

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 to 3 Journeymen to 3 Apprentices
 4 to 6 Journeymen to 6 Apprentices
 per job site

Jurisdiction (* denotes special jurisdictional note) :

CLINTON, DARKE, GREENE, MIAMI,
 MONTGOMERY, PREBLE, WARREN*

Construction Electrician and Construction Wireman Ratio

There shall be a minimum ratio of one inside Journeyman to every (4) employees of different classification per jobsite. An inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used.

Special Jurisdictional Note : The following townships in Warren County are included: Clearcreek, Franklin and Wayne.

The scope of work for the light commercial agreement shall apply to the following facilities not to exceed 200,000 square feet; office buildings, shopping centers, auto sales agencies and garages, churches, funeral homes, nursing homes, hotels, retail and wholesale facilities, small stand-alone manufacturing facilities when free standing and not part of a larger facility (not to exceed 50,000 square fee), solar projects (500 panels or less) unless otherwise covered under the agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures, warehouses, gas stations, food service centers, restaurants, entertainment facilities, hospitals, clinics, motels, residential buildings.

Details :

first person assigned to any job site shall be a journeyman

Special Jurisdictional Note : In Warren County the following townships are included: (Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union, and Washington)

Details :

Electricians while splicing cable shall receive \$.50 an hour above the regular electrical rate.

All work that requires the use of gas masks or respirators, shall be paid 50% above the appropriate rate of pay. Work up to & including 40 feet shall be paid \$.50 over the journeyman rate. All work from a Boatswain Chair, Swinging Scaffold, or Barrel shall be at double the Journeyman rate. Workmen required to work 50 feet or more below the surface of the earth will be paid 50% above the Journeyman rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 648 Lt Commercial South West

Change # : LCN01-2018fbLoc648in

Craft : Electrical Effective Date : 09/03/2018 Last Posted : 08/23/2018

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrician	\$30.00		\$6.45	\$8.90	\$0.45	\$0.00	\$2.00	\$0.90	\$0.00	\$0.00	\$48.70	\$63.70
CE-3 12,001-14,000 Hrs	\$21.27		\$5.75	\$0.64	\$0.66	\$0.00	\$0.64	\$0.48	\$0.00	\$0.00	\$29.44	\$40.07
CE-2 10,001-12,000 Hrs	\$16.71		\$5.75	\$0.50	\$0.66	\$0.00	\$0.50	\$0.48	\$0.00	\$0.00	\$24.60	\$32.96
CE-1 8,001-10,000 Hrs	\$15.19		\$5.75	\$0.46	\$0.66	\$0.00	\$0.46	\$0.48	\$0.00	\$0.00	\$23.00	\$30.60
CW-4 6,001-8,000 Hrs	\$13.67		\$5.75	\$0.41	\$0.66	\$0.00	\$0.41	\$0.48	\$0.00	\$0.00	\$21.38	\$28.21
CW-3 4,001-6,000 Hrs	\$12.15		\$5.75	\$0.37	\$0.66	\$0.00	\$0.37	\$0.48	\$0.00	\$0.00	\$19.78	\$25.86
CW-2 2,001-4,000 Hrs	\$11.39		\$5.75	\$0.34	\$0.66	\$0.00	\$0.34	\$0.48	\$0.00	\$0.00	\$18.96	\$24.66
CW-1 0-2,000 Hrs	\$10.63		\$5.75	\$0.32	\$0.66	\$0.00	\$0.32	\$0.48	\$0.00	\$0.00	\$18.16	\$23.48
Apprentice Indentured AFTER 9/1/2006	Percent											
1st period 0-1000 hrs	45.00	\$13.50	\$3.42	\$0.00	\$0.20	\$0.00	\$2.00	\$0.41	\$0.00	\$0.00	\$19.53	\$26.28
2nd period 1001-2000 hrs	45.00	\$13.50	\$3.42	\$0.00	\$0.20	\$0.00	\$2.00	\$0.41	\$0.00	\$0.00	\$19.53	\$26.28
3rd period 2001-3500 hrs	50.00	\$15.00	\$6.45	\$4.45	\$0.23	\$0.00	\$2.00	\$0.45	\$0.00	\$0.00	\$28.58	\$36.08

4th period 3501- 5000 hrs	55.00	\$16.50	\$6.45	\$4.90	\$0.25	\$0.00	\$2.00	\$0.50	\$0.00	\$0.00	\$30.60	\$38.85
5th period 5001- 6500 hrs	62.00	\$18.60	\$6.45	\$5.52	\$0.28	\$0.00	\$2.00	\$0.56	\$0.00	\$0.00	\$33.41	\$42.71
6th period 6501- 8000 hrs	71.00	\$21.30	\$6.45	\$6.32	\$0.32	\$0.00	\$2.00	\$0.64	\$0.00	\$0.00	\$37.03	\$47.68

Special Calculation Note : Other is for NEBF (National Electrical Benifit Fund)

Ratio :

1-3 Journeymen to 2 Apprentice
 4-6 Journeymen to 4 Apprentice
 7-9 Journeymen to 6 Apprentice
 first person assigned to any job site shall be a journeyman

Jurisdiction (* denotes special jurisdictional note) :

BUTLER, WARREN*

Construction Electrician and Construction Wireman Ratio

There shall be a minimum ratio of one inside Journeyman to every (4) employees of different classification per jobsite. An inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used

Special Jurisdictional Note : In Warren County the following townships are included: (Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union, and Washington)

The scope of work for the light commercial agreement shall apply to the following facilities not to exceed 200,000 square feet; office buildings, shopping centers, auto sales agencies and garages, churches, funeral homes, nursing homes, hotels, retail and wholesale facilities, small stand-alone manufacturing facilities when free standing and not part of a larger facility (not to exceed 50,000 square fee), solar projects (500 panels or less) unless otherwise covered under the agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures, warehouses, gas stations, food service centers, restaurants, entertainment facilities, hospitals, clinics, motels, residential buildings.

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Electricians while splicing cable shall receive \$.50 an hour above the regular electrical rate.

All work that requires the use of gas masks or respirators, shall be paid 50% above the appropriate rate of pay. Work up to & including 40 feet shall be paid \$.50 over the journeyman rate. All work from a Boatswain Chair, Swinging Scaffold, or Barrel shall be at double the Journeyman rate. Workmen required to work 50 feet or more below the surface of the earth will be paid 50% above the Journeyman rate.

**SECTION 00700 – STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION
CONTRACT**

PART 1 GENERAL

1.01 GENERAL CONDITIONS

The Warren County Water and Sewer Department has adopted the *Standard General Conditions of the Construction Contract* prepared by the Engineers Joint Contract Documents Committee and issued and published jointly by the American Consulting Engineers Council, the National Society of Professional Engineers, and the American Society of Civil Engineers. This document, contained herein, shall be made part of the Contract and shall be used during the performance of the work.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

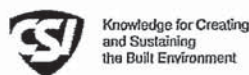
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The Associated General Contractors of America



Construction Specifications Institute

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American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *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.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course 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.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *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 and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does

not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws 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.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and

duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *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 judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by

Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a 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.

1.02 Terminology

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. Intent of Certain Terms or Adjectives

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. Day

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

- a. does not conform to the Contract Documents, or
- b. does not meet the requirements of any applicable inspection, reference standard, test, or

approval referred to in the Contract Documents, or

c. has been damaged prior to Engineer's - recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which

Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day 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 will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, 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 referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other

submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. 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 Owner, 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 Owner, or Engineer, or any of their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. 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:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or

2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived 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 govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify 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. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor

may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and
2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
- b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice:

(i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence

of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclu-

sion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and

any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and,

in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make

settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques,

sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. "Or-Equal" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. Special Guarantee: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. Engineer's Cost Reimbursement: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute

item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. Contractor's Expense: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. 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 Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or

royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on

entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the

Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or

indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor 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 Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples*: Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the

requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to

revisions other than the corrections called for by Engineer on previous submittals.

6.18 Continuing the Work

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;
2. recommendation by Engineer or payment by Owner of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures.

Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and
2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
2. the specific matters to be covered by such authority and responsibility will be itemized; and
3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and

disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to

check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the

Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All

cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

- a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

- b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone

directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

C. Contractor's Fee: When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide 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 unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
2. there is no corresponding adjustment with respect any other item of Work; and
3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier

Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections,

tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and
3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to

an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment,

including final payment, will impose responsibility on Engineer:

- a. to supervise, direct, or control the Work, or
- b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
- c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
- d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
- e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

- a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
- b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling Owner to a set-off against the amount recommended; or
- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue

a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

- a. all documentation called for in the Contract Documents, including but not limited to the

evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and, will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
3. Contractor's disregard of the authority of Engineer; or
4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),
2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and
3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment

within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or
2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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OHIO PUBLIC WORKS COMMISSION (OPWC) NOTES

SECTION 01 11 00

SUMMARY OF WORK

PART 1 – GENERAL

1.1 LOCATION OF WORK

- A. The work for this Contract is located in Warren County, Ohio and consists of Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5,500 feet), two segments of 18-inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes along High and Main Streets in Waynesville, OH.
- B. Specific location of the Project is as indicated in the “Location Map” on Project Cover Sheet.
- C. Access to the site can be gained by contacting the Warren County Water & Sewer Department, Project Manager, Chris Wojnicz at (513) 695-1646.

1.2 GENERAL

- A. The installing Contractor shall obtain necessary building and related permits and pay necessary application fees at no additional cost to Owner. Obtain any and all permits in a timely fashion to facilitate the construction schedule.
- B. The Contractor shall furnish all labor, materials, equipment, tools, services and incidentals to complete all work required by these Specifications and as shown on the Drawings.
- C. The Contractor shall perform the work complete, in place, and ready for continuous service, and shall include repairs, testing, permits, cleanup, replacements and restoration required as a result of construction of the work.
- D. All materials, equipment skills, tools and labor which is reasonably and properly inferable and necessary for the proper completion of the work in a substantial manner and in compliance with the requirements stated or implied by these Specifications or Drawings shall be furnished and installed by the Contractor without additional compensation, whether specifically indicated in the Contract Documents or not.
- E. The Contractor shall comply with all municipal, county, state, federal, and other codes, which are applicable to the proposed construction work.

1.3 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required for construction of Phase I of the Waynesville Collection System Improvements in its entirety as shown on the Drawings and specified herein.
- B. General Construction work includes all work shown on the contract drawings and specifications, including, but is not limited to, the following:
 - 1. Site work including earthwork, dewatering, piping, paving, and restoration.

1.4 WORK SEQUENCE

- A. Contractor to perform work with coordination of the Village of Waynesville representatives regarding road access. State Route 73, Main Street, High Street, and South Street to remain open at all times.

1.5 WORK HOURS

- A. Work shall be limited to the hours of 8 AM – 5 PM.

1.6 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit the use of the premises for his/her Work and for storage to allow for:
 - 1. Work by other contractors.
 - 2. OWNER occupancy.
- B. Coordinate use of premises with Owner.
- C. CONTRACTOR shall assume full responsibility for security of all his/her and his/her subcontractors' materials and equipment stored on the site.
- D. If directed by the ENGINEER, move any stored items, which interfere with operations of Owner or other contractors.
- E. Obtain and pay for use of additional storage or work areas if needed to perform the Work.

1.7 PLANS AND SPECIFICATIONS

- A. The General Condition Section (No. 00 70 00) contains General Requirements which govern the work. The Technical Specifications consist of three parts: General, Products, and Execution. Products and Execution modify and supplement these by detailed requirements of the work and shall always govern whenever there appears to be a conflict.

1.8 WORK BY OWNER

A. OWNER will perform the following activities in connection with the Work:

1. Operation of all existing valves, gates, pumps, equipment, and appurtenances that will affect OWNER'S operation, unless specified otherwise.

1.9 EASEMENTS AND RIGHT-OF-WAY

A. Easements and rights-of-way will be provided by OWNER. Confine construction operations within OWNER'S property, public rights-of-way, and easements obtained by OWNER, and the limits shown. Use care in placing construction tools, equipment, excavated materials, and products to be incorporated into the Work to avoid damage to property and interference with traffic. Do not enter private property outside the construction limits without permission from the OWNER of the property.

B. On Private Property:

1. General limits of easements are shown on Drawings.

C. Within Highway and Railroad Right-of-Way: Permits will be obtained by OWNER, other work permits to be obtained by CONTRACTOR. All work performed and all operations of CONTRACTOR and Subcontractors within the limits of railroad and highway rights-of-ways shall conform to requirements of railroad or highway authority owner and applicable work permits, or authority having jurisdiction over right-of-way.

1.10 NOTICES TO OWNERS AND AUTHORITIES OF PROPERTIES ADJACENT TO OR SIGNIFICANTLY IMPACTED BY THE WORK

A. Notify owners of adjacent property and utilities when prosecution of the Work may affect their property, facilities, or use of property.

B. When it is necessary to temporarily obstruct access to property, or when utility service connection will be interrupted, provide notices sufficiently in advance to enable affected persons to provide their needs. Conform notices to applicable local ordinance and, whether delivered orally or in writing, include appropriate information concerning the interruption and instructions on how to limit inconvenience caused thereby.

C. Utilities and other concerned agencies shall be notified at least 48 hours prior to cutting or closing streets or other traffic areas or excavating near underground utilities or pole lines.

END OF SECTION

SECTION 01 26 57

CHANGE ORDER PROCEDURES

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Promptly implement change order procedures.
 - 1. Provide full written data required to evaluate changes.
 - 2. Maintain detailed records of work done on a timer-and-material/force account basis.
 - 3. Provide full documentation to ENGINEER on request.
- B. Designate in writing the member of CONTRACTOR's organization:
 - 1. Who is authorized to accept changes in the Work.
 - 2. Who is responsible for informing others in the CONTRACTOR's employ of the authorization of changes in the Work.
- C. OWNER will designate in writing the person who is authorized to execute Change Orders.

1.2 RELATED REQUIREMENTS

- A. Standard General Conditions of the Construction Contract are included in Section 00 70 00.
 - 1. Methods of determining cost of credit to OWNER resulting from changes in Work made on a time and material basis.
 - 2. CONTRACTOR's claims for additional costs.
- B. Applications for Payment are included in Section 01 29 76.
- C. Schedule of Values are included in Section 01 29 73.

1.3 DEFINITIONS

- A. Change Order: See Contract for Construction.
- B. Construction Change Authorization: A written order to the CONTRACTOR, signed by OWNER and ENGINEER, which amends the Contract Documents as described and authorized CONTRACTOR to proceed with a change which affects the Contract Sum or the Contract Time, for inclusion in a subsequent Change Order.

- C. Field Order: A written order to the CONTRACTOR, signed by the ENGINEER and the CONTRACTOR, which is issued to interpret/clarify the Contract Documents, order minor changes in the work and/or memorialize trade-off agreements. The work described by a Field Order is to be accomplished without change to the Contract Sum, Contract Time, and/or claims for other costs.

1.4 PRELIMINARY PROCEDURES

- A. OWNER or ENGINEER may initiate changes by submitting a Request for Proposal (RFP) to CONTRACTOR. Request will include:
 - 1. Detailed description of the Change, Products and location of the change in the project.
 - 2. Supplementary or revised Drawings and Specifications.
 - 3. The projected time span for making the change and a specific statement as to whether overtime work is, or is not, authorized.
 - 4. A specific period of time during which the requested price will be considered valid.
 - 5. Such request is for information only and is not an instruction to execute the changes, nor to stop work in progress.
- B. CONTRACTOR may initiate changes by submitting a written notice to ENGINEER, containing:
 - 1. Description of the proposed changes.
 - 2. Statement of the reason for making the changes.
 - 3. Statement of the effect on the Contract Sum and the Contract Time.
 - 4. Statement of the effect on the work of separate CONTRACTORS.
 - 5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.5 WORK DIRECTIVE CHANGE AUTHORIZATION

- A. In lieu of a Request for Proposal (RFP), ENGINEER may issue a work directive authorization for CONTRACTOR to proceed with a change for subsequent inclusion in a Change Order.
- B. Authorization will describe changes in the work, both additions and deletions, with attachments of revised Contract Documents to define details of the change and will designate the method of determining any change in the Contract Sum and any change in Contract Time.
- C. OWNER and ENGINEER will sign and date the Work Directive Change Authorization as authorization for the CONTRACTOR to proceed with the changes.
- D. CONTRACTOR may sign and date the Construction Change Authorization to indicate agreement with the terms therein.

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1.6 DOCUMENTATION OF PROPOSALS AND CLAIMS

- A. Support each quotation for a lump-sum proposal and for each unit price which has not previously been established, with sufficient substantiating data to allow ENGINEER to evaluate the quotation.
- B. On request, provide additional data to support time and cost computations
 - 1. Labor required.
 - 2. Equipment required.
 - 3. Products required.
 - a. Recommended source of purchase and unit cost.
 - b. Quantities required.
 - 4. Taxes, insurance and bonds.
 - 5. Credit for work deleted from Contract, similarly documented.
 - 6. Overhead and profit.
 - 7. Justification for any change in Contract Time.
- C. Support each claim for additional costs and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal, plus additional information.
 - 1. Name of the OWNER's authorized agent who ordered the work and date of the order.
 - 2. Dates and times work was performed and by whom.
 - 3. Time record, summary of hours worked and hourly rates paid.
 - 4. Receipts and invoices for:
 - a. Equipment used, listing dates and times of use.
 - b. Products used, listing of quantities.
 - c. Subcontracts.

1.7 PREPARATION OF CHANGE ORDERS AND FIELD ORDERS

- A. ENGINEER will prepare each Change Order and Field Order.
- B. Change Order will describe changes in the work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
- C. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

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- D. Field Order will describe interpretations or clarifications of Contract Documents, order minor changes in the work, and/or memorialize trade-off agreements.
- E. Field Order work will be accomplished without change in the Contract Sum, Contract Time, and/or claims for other costs.

1.8 LUMP-SUM/FIXED PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
 - 1. ENGINEER's Proposal Request and CONTRACTOR's responsive Proposal as mutually agreed between OWNER and CONTRACTOR.
 - 2. CONTRACTOR's Proposal for a change, as recommended by ENGINEER.
- B. OWNER and ENGINEER will sign and date the Change Order as authorization for the CONTRACTOR to proceed with the changes.
- C. CONTRACTOR will sign and date the Change Order to indicate agreement with the terms therein.

1.9 UNIT PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
 - 1. ENGINEER's definition of the scope of the required changes.
 - 2. CONTRACTOR's Proposal for a change, as recommended by ENGINEER.
 - 3. Survey of completed work.
- B. The amounts of the unit prices to be:
 - 1. Those stated in the Agreement.
 - 2. Those mutually agreed upon between OWNER and CONTRACTOR
- C. When quantities of each of the items affected by the Change Order can be determined prior to start of the work:
 - 1. OWNER and ENGINEER will sign and date the Change Order as authorization for CONTRACTOR to proceed with the changes.
 - 2. CONTRACTOR will sign and date the Change Order to indicate agreement with the terms therein.

- D. When quantities of the items cannot be determined prior to start of the work:
 - 1. ENGINEER or OWNER will issue a construction change authorization directing CONTRACTOR to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.
 - 2. At completion of the change, ENGINEER will determine the cost of such work based on the unit prices and quantities used.
 - a. CONTRACTOR shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
 - 3. ENGINEER will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
 - 4. OWNER and CONTRACTOR will sign and date the Change Order to indicate their agreement with the terms therein.

1.10 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/WORK DIRECTIVE CHANGE AUTHORIZATION

- A. ENGINEER and OWNER will issue a Work Directive Change Authorization directing CONTRACTOR to proceed with the changes.
- B. At completion of the change, submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this Section.
- C. ENGINEER will determine the allowable cost of such work, as provided in General Conditions and Supplementary Conditions.
- D. ENGINEER will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
- E. OWNER and CONTRACTOR will sign and date the Change Order to indicate their agreement therewith.

1.11 CORRELATION WITH CONTRACTOR'S SUBMITTALS

- A. Periodically revise Schedule of Values and Request for Payment forms to record each change as a separate item of work, and to record the adjusted Contract Sum.
- B. Periodically revise the Construction Schedule to reflect each change in Contract Time.
 - 1. Revise subschedules to show changes for other items of work affected by the changes.
- C. Upon completion of work under a Change Order, enter pertinent changes in Record

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Documents.

PART 2 – PRODUCTUS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

Contract Number: _____

Change Order Number: _____

Original Contract Price \$ _____

Net Increase/Decrease in Contract Price (this change order) \$ _____

Total Adjusted Contract Price (including this change order) \$ _____

This change order increases/decreases the time to complete the work by _____ Calendar days.

The extended completion date is _____.

This change order checked by _____ (Chief) Resident Engineer Date

This change order is requested by _____.

This change order is recommended by: _____
Consultant Engineer P.E. # Date

The undersigned agree to the terms of the change order.

Contractor Date

Owner Date

Approval as to appropriation:

Certification Officer Date

Name of City/District etc. _____

Contract Number _____

Contract Title _____ Change Order Number _____

OWNER's Name: _____

OWNER's Address: _____

CONTRACTOR's Name: _____

CONTRACTOR's Address: _____

Description of Change

Reason for Change

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FIELD ORDER

PROJECT:

FIELD ORDER NO:

DATE:

CONTRACT:

OWNER:

OWNER PROJECT NO.

TO:

CONTRACT DATE:

This Field Order is issued to interpret/clarify the Contract Documents, order minor changes in the work and/or memorialize trade off agreements. Both parties hereby agree that the work described by this Field Order is to be accomplished without change in Contract Sum, Contract Time, and/or claims for other costs.

DESCRIPTION: (Here insert a written description of the interpretation, change or agreement.)

SECTION 01 29 76

PROGRESS PAYMENT PROCEDURES

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Submit Applications for Payment to the ENGINEER in accordance with the schedule established by Conditions of the Contract and Agreement between OWNER and CONTRACTOR.
- B. The accepted Schedule of Values shall be used as the basis for the CONTRACTOR's Application for Payment.

1.2 RELATED WORK

- A. Agreement between OWNER and CONTRACTOR is included in Section 00 40 00.
- B. Standard General Conditions of the Construction Contract are included in Section 00 70 00.
- C. Contract Closeout is included in Section 01 77 00.

1.3 SUBMITTALS

- A. Submit to the OWNER with itemized data typed on 8-1/2-in by 11-in or 8-1/2-in by 14-in white paper continuation sheets.
- B. Provide itemized data on continuation sheet.
 - 1. Format, schedules, line items and values: Those of the Schedule of Values accepted by the ENGINEER.

1.4 PEREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT

- A. Application Form
 - 1. Fill in required information, including that for Change Orders executed prior to date of submittal of application.
 - 2. Fill in summary of dollar values to agree with respective totals indicated on continuation sheets.
 - 3. Execute certification with signature of a responsible officer of Contract firm.

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B. Continuation Sheets

1. Fill in total list of all scheduled component items of Work, with item number and scheduled dollar value for each item.
2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored.
 - a. Round off values to nearest dollar, or as specified for Schedule of Values.
3. List each Change Order executed prior to date of submission, at the end of the continuation sheets.
 - a. List by Change Order Number and description, as for an original component item of work.
4. To receive approval for payment on component material stored on site, submit copies of the original paid invoices with the application for payment.

1.5 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the OWNER or the ENGINEER requires substantiating data, submit suitable information, with a cover letter identifying.
1. Project.
 2. Application number and date.
 3. Detailed list of enclosures.
 4. For stored products:
 - a. Item number and identification as shown on application.
 - b. Description of specific material.
- B. Submit one copy of data and cover letter for each copy of application.
- C. As a prerequisite for payment, submit a "Surety Acknowledgement of Payment Request" letter showing amount of progress payment which the CONTRACTOR is requesting.
- D. Maintain an updated set of drawings to be used as record drawings in accordance with Section 01 77 00. As a prerequisite for monthly progress payments, exhibit the updated record drawings for review by the OWNER and ENGINEER.

1.6 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Fill in Application form as specified for progress payments.
- B. Use continuation sheet for presenting the final statement of accounting as specified in Section 01700 - Contract Closeout.

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- C. Submit all Project Record Documents in accordance with Section 01 77 00.

1.7 SUBMITTAL PROCEDURE

- A. Submit Applications for Payment to the ENGINEER at the times stipulated in the Agreement.
- B. Number: Five copies of each Application.
- C. When the ENGINEER finds Application properly completed and correct, he/she will transmit certificate for payment to OWNER, with copy to CONTRACTOR.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 19

PRECONSTRUCTION MEETINGS

PART 1 – GENERAL

1.1 DESCRIPTION

- A. A pre-construction meeting will be held for the Project. CONTRACTOR shall attend the conference prepared to discuss all items on the agenda. The representatives present for each party shall be authorized to act on their behalf.
- B. Purpose of the meeting is to designate responsible personnel, establish working relationships, and establish administrative provisions for the Project. Matters requiring coordination will be discussed and procedures for handling such matters will be established.
- C. Date, Time and Location: Meeting will be held after execution of the Contract and before Work starts at the Site. ENGINEER/OWNER will determine the date, time, and location of the meeting and advise the interested and involved parties.
- D. ENGINEER/OWNER will distribute an agenda, preside at the meeting, and prepare and distribute meeting minutes to all meeting participants and others as requested.
- E. CONTRACTOR shall provide data required and contribute appropriate items for discussion. Unless previously submitted to ENGINEER, CONTRACTOR shall bring to the meeting a draft of each of the following:
 - 1. Progress Schedule.
 - 2. List of required Shop Drawings and submittals
 - 3. Schedule of Values.
 - 4. CONTRACTOR'S Site-specific health and safety plan.
 - 5. List of emergency contact information.

1.2 REQUIRED ATTENDANCE

- A. Meeting shall be attended by CONTRACTOR'S project manager, Site superintendent, and major Subcontractors and major equipment Suppliers, as CONTRACTOR deems appropriate.
- B. Other attendees will be representatives of:
 - 1. OWNER.
 - 2. ENGINEER
 - 3. Governmental agencies having control or responsibility, if available.
 - 4. Utility companies.
 - 5. Others as requested by OWNER, CONTRACTOR, or ENGINEER.

1.3 AGENDA

A. Agenda: A complete agenda will be furnished to CONTRACTOR prior to the conference. However, CONTRACTOR shall be prepared to discuss the following:

1. Designation of responsible personnel.
2. Communications and correspondence.
3. Coordination with other contractors.
4. Emergency contact information.
5. Review of scope of Work.
6. Review of Contract Times, Milestones, and completion dates.
7. Subcontractors.
8. Progress Schedule.
9. Schedule of Values.
10. Project coordination and coordination with OWNER'S operations.
11. Progress meetings.
12. Submittals and Shop Drawings: processing and schedule of submittals.
13. Substitutions.
14. OWNER'S tax-exempt status.
15. Payments, retainage, payrolls, and Substantial Completion.
16. Processing of Field Orders and Change Order.
17. Use of premises, security, housekeeping, safety, CONTRACTOR'S Responsibility for safety and first aid procedures, Site access.
18. Field offices, trailers, and temporary facilities.
19. Storage of materials.
20. Construction photographs.
21. Record drawings.
22. Clarifications.
23. Requirements for copies of Contract Documents and availability.
24. CONTRACTOR correction period.
25. Layouts and surveys.
26. Hours of Work and overtime.
27. Restoration.
28. Permits.
29. Insurance in force.
30. Financing.
31. Disposal of demolition materials.
32. Next meeting.
33. General discussion and questions.
34. Site visit if required.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

- A. This Section specifies the general methods and requirements of submissions applicable to Shop Drawings, Product Data, Samples, Mock Ups, Construction Photographs, and Construction or Submittal Schedules. Additional general submission requirements are contained in Paragraphs 6.24 and 6.25 of the General Conditions. Detailed submittal requirements are specified in the technical Sections.
- B. All submittals shall be clearly identified by reference to Section Number, Paragraph, Drawing Number or Detail as applicable. Submittals shall be clear and legible and of sufficient size for presentation of data.

1.2 SHOP DRAWINGS, PRODUCT DATA, SAMPLES

- A. Shop Drawings
 - 1. CONTRACTOR shall submit one complete submittal by section. A complete submittal shall include all items listed under the Shop Drawing heading for each section.
 - 2. The General Contractor shall be responsible for the coordination of all submittals for all contracts. This shall include a submittal schedule of Shop Drawings as required, as well as receiving and forwarding submittals from other contractors and the ENGINEER. The General Construction Contractor shall not be responsible for stamping submittals “Approved” from other contractors (unless a Combined Bid has been accepted by the Owner).
 - 3. Shop drawings as specified in individual Sections include custom-prepared data such as fabrication and erection/installation (working) drawings, scheduled information, setting diagrams, actual shop work manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports, including performance curves and certifications, as applicable to the work.
 - 4. All shop drawings submitted by Prime Contractors and respective subcontractors shall be sent directly to the General Contractor for checking. The Prime Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
 - 5. Check all shop drawings regarding measurements, size of members, materials and details to make sure that they conform to the intent of the

Drawings and related Sections. Return shop drawings found to be inaccurate or otherwise in error to the subcontractors for correction before submission thereof.

6. All details on shop drawings shall show clearly the relation of the various parts to the main members and lines of the structure and where correct fabrication of the work depends upon field measurements, such measurements shall be made and noted on the drawings before being submitted.
7. Submittals for equipment specified under Division 33 shall include a listing of all installations where identical or similar equipment has been installed and been in operation for a period of at least one year.
8. All Shop Drawings shall be in English.

B. Product Data

1. Product data as specified in individual Sections include, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare-parts listing and printed product warranties, as applicable to the work.

C. Samples

1. Samples specified in individual Sections include, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols and units of work to be used by the ENGINEER or OWNER for independent inspection and testing, as applicable to the work.

1.3 CONTRACTOR'S RESPONSIBILITIES

A. Review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:

1. Field measurements
2. Field construction criteria
3. Catalog numbers and similar data
4. Conformance with related Sections

- B. Each shop drawing, sample and product data submitted by the CONTRACTOR shall have affixed to it the following Certification Statement including the Contractor's Company name and signed by the CONTRACTOR: "Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements." Shop drawings and product data sheets 11-in x 17-in and smaller shall be bound together in an orderly fashion and bear the above Certification Statement on the cover sheet. The cover sheet shall fully describe the packaged data and include a listing of all items within the package. Provide to the Resident Project Representative a copy of each transmittal sheet for shop drawings, product data and samples at the time of submittal to the ENGINEER. Shop Drawings that are not stamped will not be reviewed.
- C. The CONTRACTOR shall utilize a 10-character submittal identification numbering system in the following manner:
1. The first character shall be a D, S, P, M, or R, which represents Shop/Working Drawing and other Product Data (D), Sample (S), Preliminary Submittal (P), Operating/ Maintenance Manual (M), or Request for Information (R).
 2. The next five digits shall be the applicable Section Number.
 3. The next three digits shall be the numbers 001 to 999 to sequentially number each initial separate item or drawing submitted under each specific Section Number.
 4. The last character shall be a letter, A to Z, indicating the submission, or resubmission of the same Drawing, i.e., "A=1st submission, B=2nd submission, C=3rd submission, etc. A typical submittal number would be as follows:
- | | | | |
|---------------|---|--|--|
| D 03300 008 B | | | |
| D | = | Shop Drawing | |
| 03300 | = | Section for Concrete | |
| 008 | = | The eighth initial submittal under this section | |
| B | = | The second submission (first resubmission) of that | |
- D. Notify the ENGINEER in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.
- E. The review and approval of shop drawings, samples or product data by the ENGINEER shall not relieve the CONTRACTOR from the responsibility for the fulfillment of the terms of the Contract. All risks of error and omission are assumed by the CONTRACTOR and the ENGINEER will have no responsibility

therefore.

- F. No portion of the work requiring a shop drawing, sample, or product data shall be started nor shall any materials be fabricated or installed prior to the approval or qualified approval of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data shall be at the CONTRACTOR's risk. The OWNER will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
- G. Project work, materials, fabrication, and installation shall conform with approved shop drawings, applicable samples, and product data.
- H. Contractor to use green ink for all submittals.

1.4 SUBMISSION REQUIREMENTS

- A. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the Work or in the work of any other CONTRACTOR.
- B. Each submittal, appropriately coded, will be returned within 30 working days following receipt of submittal by the ENGINEER.
- C. Number of submittals required:
 - 1. Shop Drawings: The number of copies for distribution is the minimum required for coordination of specific items of the Work. Additional shop drawings are required for coordination between prime contractors for certain items of the Work. A minimum of six copies for distribution as follows:
 - a. ENGINEER – one
 - b. Resident Project Representative – one
 - c. OWNER – one
 - d. Prime Contractor – three
 - e. Other Prime Contractors - as required.
 - 2. Product Data: Six copies for same distribution as shop drawings.
 - 3. Samples: Submit the number stated in the respective Sections.
- D. Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The Project title and number.
 - 3. Contractor identification.
 - 4. The names of:
 - a. Contractor

- b. Supplier
- c. Manufacturer
- 5. Identification of the product, with the section number, page and paragraph(s).
- 6. Field dimensions, clearly identified as such.
- 7. Relation to adjacent or critical features of the work or materials.
- 8. Applicable standards, such as ASTM or Federal Standards numbers.
- 9. Identification of deviations from Contract Documents.
- 10. Identification of revisions on resubmittals.
- 11. An 8-in by 4-in blank space suitably sized to fit both the Contractor and ENGINEER stamps.

1.5 REVIEW OF SHOP DRAWINGS, PRODUCT DATA, WORKING DRAWINGS AND SAMPLES

- A. The review of shop drawings, data and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
 - 1. as permitting any departure from the Contract requirements;
 - 2. as relieving the CONTRACTOR of responsibility for any errors, including details, dimensions, and materials;
 - 3. as approving departures from details furnished by the ENGINEER, except as otherwise provided herein.
- B. The CONTRACTOR remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner. CONTRACTOR shall provide additional copies of shop drawings for distribution to related prime contractors.
- C. If the shop drawings, data or samples as submitted describe variations and show a departure from the Contract requirements which ENGINEER finds to be in the interest of the OWNER and to be so minor as not to involve a change in Contract Price or Contract Time, the ENGINEER may return the reviewed drawings without noting an exception.
- D. Submittals will be returned to the Contractor under one of the following codes.
 - 1. Code 1 - "APPROVED" is assigned when there are no notations or comments on the submittal. When returned under this code the CONTRACTOR may release the equipment and/or material for manufacture.
 - 2. Code 2 - "APPROVED WITH CHANGES NOTED". This code is assigned when a confirmation of the notations and comments IS NOT required by the CONTRACTOR. The CONTRACTOR may release the equipment or material for manufacture; however, all notations and

- comments must be incorporated into the final product.
3. Code 3 - "REVISE AND RESUBMIT". This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the ENGINEER within 15 calendar days of the date of the ENGINEER's transmittal requiring the resubmittal.
 4. Code 4 - "REJECTED" is assigned when the submittal does not meet the intent of the Contract Documents. The CONTRACTOR must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.
- E. Resubmittals will be handled in the same manner as first submittals. On resubmittals the CONTRACTOR shall direct specific attention, in writing on the letter of transmittal and on resubmitted shop drawings by use of revision triangles or other similar methods, to revisions other than the corrections requested by the ENGINEER, on previous submissions. Any such revisions which are not clearly identified shall be made at the risk of the CONTRACTOR. The CONTRACTOR shall make corrections to any work done because of this type revision that is not in accordance to the Contract Documents as may be required by the ENGINEER.
- F. Partial submittals may not be reviewed. The ENGINEER will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the CONTRACTOR and will be considered "Not Approved" until resubmitted. The ENGINEER may at his option provide a list or mark the submittal directing the CONTRACTOR to the areas that are incomplete.
- G. Repetitive Review
1. Shop drawings and other submittals will be reviewed no more than twice at the Owner's expense. All subsequent reviews will be performed at times convenient to the ENGINEER and at the CONTRACTOR's expense, based on the ENGINEER's then prevailing rates. The CONTRACTOR shall reimburse the Owner for all such fees invoiced to the Owner by the ENGINEER. Submittals are required until approved.
 2. Any need for more than one resubmission, or any other delay in obtaining ENGINEER's review of submittals, will not entitle CONTRACTOR to extension of the Contract Time.
- H. If the CONTRACTOR considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the CONTRACTOR shall give written notice thereof to the ENGINEER at least 7 working days prior to release for manufacture.
- I. When the shop drawings have been completed to the satisfaction of the

ENGINEER, the CONTRACTOR shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the ENGINEER.

1.6 DISTRIBUTION

- A. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the ENGINEER. Number of copies shall be as directed by the ENGINEER but shall not exceed seven unless otherwise approved for specific items of work.

1.7 MOCK UPS

- A. Mock Up units as specified in individual Sections include, but are not necessarily limited to, complete units of the standard of acceptance for that type of work to be used on the project. Remove at the completion of the work or when directed.

1.8 CONSTRUCTION SCHEDULE

- A. In lieu of the progress schedules specified in Article 2.06, 2.09 and 14.01 of the General Conditions, the General CONTRACTOR shall, within 10 days after the Effective Date of the Agreement, provide and submit to the Engineer for approval, the Schedule he plans to maintain in order to successfully construct the work within the time allotted. This Schedule shall include a Critical Path Network and a Computer generated print-out. The Schedule shall account for all Contracts in addition to the work of the General CONTRACTOR. In addition to all reasonably important construction activities, the Schedule shall provide for the proper sequence of construction considering the various crafts, purchasing time, submittal approval, material delivery, equipment fabrication, and similar time consuming factors.
- B. The Schedule shall include as a minimum, the earliest starting and finish dates, latest starting and finish dates, and the total float for each task or item. The General CONTRACTOR shall update (monitor) and rerun the Schedule at least monthly and shall submit to the Engineer both the Network and Computer print-out at the same time the pay estimate is prepared. The Schedule shall contain all of the items of the Periodic Estimate and Pay Schedule.
- C. Following receipt and preliminary approval by the ENGINEER of the General CONTRACTOR's CPM Schedule, copies will be sent to the other CONTRACTORS for their comments. A preconstruction conference will then be held between the OWNER, ENGINEER and all involved CONTRACTORS to review and, if necessary, revise the Schedule to afford all CONTRACTORS ample time to perform their work in the proper sequence of construction operations. In case of disputes between CONTRACTORS over allotted time for

various items of work, the ENGINEER shall decide and his decision shall be final and binding on all. The ENGINEER shall give final approval to the CPM Schedule before any construction is begun.

- D. The monthly Schedule update (monitoring) shall include the following items:
 - 1. Network
 - a. Identify activities that are completed or in process by contrasting heavy lines. Each activity worked on should be proportional to the percentage of progress achieved to date.
 - b. Identify restraints imposed by material deliveries, precedent activity durations or schedule adjustments on the monthly update of the Network.
 - 2. Computer Print-out
 - a. Show the percentage progress status of each activity. The percentage progress status will be used to support each CONTRACTOR's periodic pay estimate.
 - b. Show actual start and completion dates.
 - c. Flag all activities started and in progress.

- E. Supplemental to the Critical Path Schedule, each CONTRACTOR shall provide a detailed work schedule, projected at least a month in advance. The implementation of the work schedule and the coordination required will constitute the basic agenda of the coordination and planning meetings.

1.9 PROFESSIONAL ENGINEER (P.E.) CERTIFICATION FORM

- A. If specifically required in other related Sections, submit a P.E. Certification for each item required, in the form attached to this Section, completely filled in and stamped.

1.10 GENERAL PROCEDURES FOR SUBMITTALS

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

END OF SECTION

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P.E. CERTIFICATION FORM

The undersigned hereby certifies that he/she is a professional engineer registered in the State of Ohio and that he/she has been employed by

_____ to design
(Name of Contractor)

(Insert P.E. Responsibilities)

in accordance with Section _____ for the
Waynesville Sewer Collection System Improvements – Phase I.

The undersigned further certifies that he/she has performed the design of the:
_____, that said

design is in conformance with all applicable local, state and federal codes, rules, and regulations, and that his/her signature and P.E. stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to Greene County or OWNER's representative with seven days following written request therefor by the OWNER.

P.E. Name

Contractor's Name

Signature

Signature

Address Title

Address

SECTION 01 55 00

VEHICULAR ACCESS AND PARKING

PART 1 – GENERAL

1.1 GENERAL

- A. All Streets and bike trails shall be kept open for the passage of traffic during the construction period.
 - 1. CONTRACTOR shall obtain all permits required by State or local authorities.
 - 2. CONTRACTOR shall maintain access for emergency vehicles at all times.
- B. CONTRACTOR shall be responsible to contact all local authorities and utilities at least two (2) weeks prior to commencement of work. Local authorities include but are not limited to police, fire, gas, electric, telephone, TV cable, water, sewer, traffic and street department. CONTRACTOR shall be responsible to keep all above apprised of Work schedule, actual progress, etc.
- C. CONTRACTOR shall give reasonable notice to owners or tenants of private property and commercial or industrial facilities who may be affected by CONTRACTOR'S operations.
- D. CONTRACTOR shall take all means necessary to prevent accidents. CONTRACTOR shall provide signs, signals, barricades, flares, lights, and all other equipment, service, and personnel required to regulate and protect all traffic, and warn of hazards. All such work shall conform to requirements of the Warren County Engineer's Office, Ohio Department of Natural Resources or authority having jurisdiction and be provided in accordance with ODOT Manual of Uniform Traffic Control Devices, Construction and Maintenance Operations. Remove temporary equipment and facilities when no longer required, restore grounds to original, or to specified conditions. Traffic Control plan to be reviewed and approved by Warren County Water & Sewer Department.
- E. CONTRACTOR shall maintain work hours of 8:00AM-5:00PM.
- F. CONTRACTOR shall provide dust control in accordance with Section 01 57 00.

1.2 TRAFFIC SIGNALS AND SIGNS

- A. Provide and operate traffic control and directional signals required to direct and maintain orderly flow of traffic in all areas under CONTRACTOR'S control or affected by CONTRACTOR'S operations.

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- B. Provide traffic control and directional signs, mounted on barricades or standard posts:
 - 1. At each change of direction of a trail and at each crossroad.
 - 2. At detours and hazardous areas.
 - 3. At parking areas.
 - 4. As required by approved permit or authority having jurisdiction.

1.3 FLAGMEN

- A. Provide qualified and suitably equipped flagmen, including STOP/SLOW paddles, when construction operations encroach on traffic lanes or prevent adequate sight distance, as required for regulation of traffic and in accordance with the requirements of the authority having jurisdiction.

1.4 FLARES AND LIGHTS

- A. Provide flares and lights during periods of low visibility:
 - 1. To clearly delineate traffic lanes, to guide traffic and to warn of hazardous areas.
 - 2. For use by flagmen in directing traffic.
- B. Provide illumination of critical traffic and parking areas.

1.5 PARKING CONTROL

- A. Control all construction related vehicular parking within the limits of Work to preclude interference with public traffic or parking, access by emergency vehicles, OWNER'S operations, or construction operations. Provide temporary parking facilities for the public as may be required because of construction or operations.
- B. Monitor parking of all construction and private vehicles:
 - 1. Maintain free vehicular access to and through parking areas.
 - 2. Prohibit parking on or adjacent to access roads or in non-designated areas.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 57 00

TEMPORARY CONTROLS

PART 1 – GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

- A. CONTRACTOR shall provide and maintain methods, equipment, and temporary construction, as required to provide controls over environmental conditions at the construction site and adjacent areas. Remove physical evidence of temporary facilities at completion of the Work.
- B. CONTRACTOR shall obtain all City, County and State permits required for the construction of all Work, including Hazardous Material Management, Earth Moving/Dust Control and Stormwater Pollution Prevention Permits.

1.2 NOISE CONTROL

- A. CONTRACTOR'S vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA standards and in no case will noise levels be permitted which interfere with the Work of the OWNER or others.

1.3 DUST CONTROL

- A. CONTRACTOR shall be responsible for controlling objectionable dust caused by CONTRACTOR'S operation of vehicles and equipment, clearing or for any reason whatever. CONTRACTOR shall apply water or use other methods subject to the ENGINEER'S approval, which will keep dust in the air to a minimum.

1.4 PEST AND RODENT CONTROL

- A. Provide rodent and pest control as required to prevent infestation of construction or storage areas.
 - 1. Employ methods and use materials that will not adversely affect conditions at the Site or on adjoining properties.

1.5 WATER CONTROL

- A. Provide methods to control surface water and water from excavations and structures to prevent damage to the Work, the Site, or adjoining properties.
 - 1. Control fill, grading and ditching to direct water away from excavations, pits, tunnels and other construction areas and to direct drainage to proper runoff courses so as to prevent any erosion, damage or nuisance.
- B. Provide, operate and maintain equipment and facilities of adequate size to control surface water.

- C. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the Site or to adjoining areas and in conformance with all environmental requirements.

1.6 POLLUTION CONTROL

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillages, and to remove contaminated soils or liquids.
 - 1. Excavate and dispose of any contaminated earth offsite, and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
 - 1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
- D. Provide systems for control of atmospheric pollutants.
 - 1. Prevent toxic concentrations of chemicals.
 - 2. Prevent harmful dispersal of pollutants into the atmosphere.
- E. All CONTRACTOR'S equipment used during construction shall conform to all current federal, state and local laws and regulations.

1.7 EROSION CONTROL

- A. Plan and execute construction and earth work by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
 - 1. Hold the areas of bare soil exposed at one time to a minimum.
 - 2. Provide temporary control measures such as berms, dikes and drains.
- B. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
- C. Periodically inspect earthwork to detect any evidence of the start of erosion; apply corrective measures as required to control erosion.
- D. Coordinate erosion control requirements with the requirements of Article 1.05, above.

END OF SECTION

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Closeout procedures.
 - 2. Final cleaning.
 - 3. Adjusting.
 - 4. Project record documents.
 - 5. Spare parts and maintenance materials.

1.2 RELATED WORK

- A. Warranties and Bonds are included in Section 01 78 00.

1.3 RECORD DOCUMENTS

- A. Maintain on site, one set of the following documents; actual revisions to the work shall be recorded in these documents:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
- B. Store Record Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and Modifications.
- E. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

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2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the work.
3. Field changes of dimension and detail.
4. Details not on original Contract Drawings.

F. Submit documents to Engineer with Application for Final Payment.

1.4 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, work has been inspected and that work is complete in accordance with Contract Documents and ready for Engineer's inspection.
- B. Provide submittals to Engineer that are required by governing or other authorities.
- C. Submit Application for Final Payment identifying total adjusted Contract Sum, previous payments and sum remaining due.

1.5 FINAL CLEANING

- A. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
 1. Remove labels that are not permanent labels.
 2. The installing Prime Contractor shall clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
 3. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Leave concrete floors broom clean.
 4. The installing Prime Contractor shall wipe surface of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean light fixtures.
 5. Clean the site of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

1.6 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

END OF SECTION

SECTION 01 78 00

WARRANTIES AND BONDS

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.

1.2 RELATED WORK

- A. Refer to Conditions of Contract for the general requirements relating to warranties and bonds.
- B. General closeout requirements are included in Section 01 77 00 Closeout Procedures.
- C. Specific requirements for warranties for the work and products and installations that are specified to be warranted are included in the individual Sections of Division 2 through 33.

1.3 SUBMITTALS

- A. Submit written warranties to the OWNER prior to the date fixed by the ENGINEER for Substantial Completion. If the Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the work, or a designated portion of the work, submit written warranties upon request of the OWNER.
- B. When a designated portion of the work is completed and occupied or used by the OWNER, by separate agreement with the CONTRACTOR during the construction period, submit properly executed warranties to the OWNER within 15 days of completion of that designated portion of the Work.
- C. When a special warranty is required to be executed by the CONTRACTOR, or the CONTRACTOR and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the ENGINEER for approval prior to final execution.
- D. Refer to individual Sections of Divisions 2 through 33 for specific content requirements, and particular requirements for submittal of special warranties.

- E. At Final Completion compile two copies of each required warranty and bond properly executed by the CONTRACTOR, or by the CONTRACTOR, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- F. Bond warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents and sized to receive 8-1/2-in by 11-in paper.
- G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the Section in which specified and the name of the product or work item.
- H. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address and telephone number of the installer, supplier and manufacturer.
- I. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the project title or name and the name, address and telephone number of the CONTRACTOR.
- J. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

1.4 WARRANTY REQUIREMENT

- A. Related Damages and Losses: When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work
- B. Reinstatement of Warranty: When work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that work covered by a warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of Contract Documents. The CONTRACTOR is responsible for the cost of replacing or rebuilding defective work regardless of whether the OWNER has benefited from use of the work through a portion of its anticipated useful service life.

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- D. OWNER's Recourse: Written warranties made to the OWNER are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the OWNER can enforce such other duties, obligations, rights, or remedies.
- E. Rejection of Warranties: The OWNER reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the contract Documents.
- F. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the CONTRACTOR of the warranty on the work that incorporates the products, nor does it relieve suppliers, manufacturers and subcontractors required to countersign special warranties with the CONTRACTOR.
- G. Separate Prime Contracts: Each Prime CONTRACTOR is responsible for warranties related to its own Contract.

1.5 DEFINITIONS

- A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the OWNER.
- B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the OWNER.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-01 GENERAL REQUIREMENTS

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PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition) apply to this section.

1.2 DESCRIPTION OF WORK

- A. Description.** Warren County is proceeding with a Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5,500 feet), two segments of 18-inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes along High and Main Streets in Waynesville, OH. The work for the Cured-in-Place Pipe rehabilitation is described in Supplemental Specification SS-07 included with this project. The work for the Manhole Rehabilitation is described in Supplemental Specification SS-13, SS-14, and SS-15 included with this project.
- B.** A portion of the sewer to be lined had been videoed. The videos are provided with the bid documents.

1.3 QUALITY ASSURANCE

- A. **Codes and Standards.** Perform all work in compliance with current applicable requirements of governing agencies having jurisdiction.

- B. **Testing Requirements.** The Contractor shall provide samples for testing to the Engineer upon request. Testing laboratory services for the various items of the Contract and the requirements of the Supplemental Specifications included as part of this project shall be performed in accordance with the various requirements included in the project.

1.4 SUBMITTALS

- A. **General.** Furnish samples, manufacturer's product data, test reports, and material certifications as required for materials and mix design when required. In addition, submittals shall be made in accordance with individual supplemental specifications.

1.5 PROJECT CONDITIONS

- A. **Safety**

1. **General.** Safety requirements shall be in accordance with the Provisions of the Occupational Safety and Health Act (OSHA) of 1970, U.S. Department of Labor, and the Ohio Department of Transportation construction and Material Specifications (ODOT CMS). Open excavations, open manholes, or similar hazards shall not be left unattended, Excavations shall be secured at night and all equipment and supplies moved to a secured area.

2. **Confined Spaces.** The Contractor shall follow OSHA requirements for "confined space entry" Title 29 of the Code of Federal Regulations, Part 1910.146 while performing work inside any manhole, sewer, or other permit required confined space. At least 10 working days prior to the start of work, the Contractor shall submit a Site Safety Plan which describes the Contractor's permit required confined space program for review by the County. This program shall include a written entry permitting system, designated rescue service, entry and retrieval procedures and equipment, atmospheric testing procedures, employee training certifications for working in permit spaces, and provisions for meeting any other regulatory requirement relating to the entry of confined spaces. Contractor is hereby notified that it will also provide confined space entry and retrieval personnel and equipment for certified confined space entry personnel of the County and County's representatives during project construction. The County and County's representatives will provide its personnel with personal protective devices including a full

body harness. Contractor will provide these services for two County representatives throughout all times that the Contractor is working within confined spaces. Compliance shall be included in the unit price bid for the various items of the Contract.

- B. Subsurface Investigations.** Subsurface investigations were not completed for this project. Prior to any subsurface investigations or on-site examination of the project, all Bidders shall obtain approval for Warren County.
- C. Water.** Water shall be potable. The Contractor must coordinate with the Village of Waynesville for access to a fire hydrant for a water supply prior to drawing water on the site. Hydrant shall be designated by the Village of Waynesville. All equipment, fittings, and valves shall be provided by the Contractor. All equipment shall be in accordance with local and state standards. Backflow prevention shall be in accordance with Village of Waynesville standards.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. General.** Delivery, storage, and handling of materials shall be in accordance with manufacturer's recommendations and all applicable codes, standards, and specifications.

1.7 SPECIAL WARRANTY

Not Used

PART 2-PRODUCTS

Not applicable

PART 3-EXECUTION

3.1 MAINTENANCE OF TRAFFIC

The Contractor shall comply with the maintenance of traffic requirements as outlined in the general notes of the construction plans and all special considerations required by Warren County or the Ohio Department of Natural Resources.

All traffic control devices, including lights, signs, and barricades, shall be constructed, erected and maintained in accordance with the "Ohio Manual of Inform Traffic Control Devices" Part 06, Temporary Traffic Control.

The cost of all lights, signs, barricades, Police Patrolmen and Flagmen necessary to maintain the aforementioned conditions shall be included in the lump price bid Item 614, Maintaining Traffic, Complete.

3.2 FLOW MAINTANCE AND BYPASS PUMPING

The Contractor shall bypass sewage, as required, around the sections of the sewer that are to be reconstructed or rehabilitated. Refer to Supplemental Specification SS-05, Bypass Pumping, for additional requirements for performing this task. All costs associated with maintaining sanitary service during construction shall be included in the bid price for Item SS-05 “Bypass Pumping, Complete”. No additional payments will be made.

3.3 ACTIVE SEWER LATERALS.

It is the intent of this contract to reconnect or reestablish all lateral sewers. The location of all lateral sewers are indicated on the CCTV recordings and shown on the Plans. If the Contractor discovers any undocumented laterals they will be brought immediately to the attention of Warren County before rehabilitation prior to the installation of CIPP Linear.

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-02 SEWER CLEANING

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PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION OF WORK

- A. **Description.** The Contractor shall provide all labor, materials, and Equipment necessary to clean the sewer and manholes a specified herein or as designated by the Engineer.

1.3 QUALITY ASSURANCE

- A. **Codes.** Perform all work in accordance with the most recent federal, state, and local codes.
- B. **Standards.** All work shall meet or exceed the requirements of the National Association of Sewer Service Companies (NASSCO) Recommended Specifications for Sewer Collection System Rehabilitation (latest edition, except as otherwise specified herein).

- C. **Contractor's Qualifications.** The sewer cleaning Contractor shall be a firm having a minimum of 5 years continuous successful experience in sewer cleaning similar to that required for this Project.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

3.1 COORDINATION

- A. All sewers to be cleaned, televised, and/or rehabilitated shall first be cleaned by the Contractor.

3.2 GENERAL

- A. The sewer shall be cleaned of manhole covers, balls, bricks, concrete, sand, dirt, roots, grease, oils and any other solid or semisolid material using hydraulic, high velocity hydraulic, mechanical sewer cleaning equipment, or physical means without damage to the existing sewer. Selection of the equipment used shall be based on the condition of the sewer at the time the work commences.
- B. During sewer cleaning operation, precautions shall be taken to protect the sewer from damage that might be inflicted by the improper use of cleaning equipment. Whenever hydraulically propelled cleaning tools or any tools which retard the flow of water in the sewer are used, precautions shall be taken to ensure that the water pressure created does not cause any damage or flooding to property. Contractor shall be responsible for restoration or repair of any facility, public or private, which is damaged by Contractor actions.

3.3 CLEANING PROCESSES

- A. **Man-Entry. Confined Spaces.** The Contractor shall follow OSHA requirements for “confined space entry,” Title 29 of the Code of Federal Regulations, Part 1910.146 while performing work inside any manhole, sewer, or other permit required confined space. At least 10 working days prior to the start of work, the Contractor shall submit a Site Safety Plan which described the contractor’s permit required confined space program for review by the County. This program shall include a written entry permitting system, designated rescue service, entry and retrieval procedures and equipment, atmospheric tested procedures, employee training certifications for working in permit spaces, and provisions for meeting any other regulatory requirements relating to the entry of confined spaces. Contractor is hereby notified that it will also provide confined space entry and retrieval personnel and equipment, for certified confined space entry personnel of the County and County’s representatives during project construction. The County

and County's representatives will provide its personnel with personal protective devices including a full body harness. Contractor will provide these services for two County representatives throughout all times that the Contractor is working within confined spaces. Compliance shall be included in the unit price bid for the various items of the contract.

- B. Hydraulic.** Hydraulic cleaning equipment shall be of a movable dam type and constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the sewer. The moveable dam shall be equal in diameter to the sewer being cleaned, and shall provide a flexible scraper around the outer periphery to ensure removal of foreign material.
- C. High Velocity Hydraulic.** High velocity hydraulic sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a minimum of 600 feet of $\frac{3}{4}$ inch inside diameter high pressure hose with a selection of two or more high velocity nozzles. The nozzles shall have a minimum capacity of 30 gallons per minute (gpm) at a working pressure of 1,000 to 1,500 pounds per square inch (psi). The nozzles shall be capable of producing a scouting action from 15 degrees to 45 degrees in all site sewers. Equipment shall also include a high velocity gun for washing and scouring manhole walls and floor. The gun capacity shall be capable of producing flows from a fine spray to a long distance solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel. All controls shall be located so that the equipment can be operated above ground.
- D. Mechanical.** Bucket machines shall be operated in pairs with sufficient power to perform the work in an efficient manner. Each machine shall be powered by a minimum 16 horsepower (hp) engine. Each machine shall be equipped with a two speed transmission and shall be able to pull at a rate of 175 feet per minute (fpm) in high speed. Machines shall be belt operated or have an overload device. Machines with direct drive will not be allowed. The power rodding machine shall be either a sectional or continuous positive rod drive and produce a minimum 2,000 pound rod pull. To ensure safe operation, the machine shall have a fully-enclosed body and an automatic safety throw-out clutch or relief valve.

3.4 ROOT REMOVAL

All roots shall be removed from the interior of the sewer by the following processes:

- A. Mechanical.** Root removal may include the use of mechanical devices, such as rodding machines, expanding root cutters and porcupines, and hydraulic cleaning equipment.

3.5 MATERIAL REMOVAL AND DISPOSAL

- A. All material resulting from the cleaning operation shall be removed at the downstream manhole of the sewer section being cleaned. Passing material from sewer section to sewer section will not be permitted. All solids or semisolids resulting from the cleaning operations shall be removed from the site and disposed of in accordance with Federal, State, and local regulations. All materials shall become the property of the Contactor and removed from the site at the end of each workday. The Contractor will not be allowed to accumulate material on the site of work.

- B. Waste material cleaned from the sewer can be delivered to the Waynesville Wastewater Treatment Plant by the Contractor for disposal at no charge.

3.6 MEASUREMENT AND PAYMENT

- **Pre CIPP installation cleaning**
The cost of sewer cleaning associated with CIPP installation shall be on a per linear foot basis.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
4	L.F.	Sewer Cleaning

END OF SECTION

WARREN COUNTY. OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-03 CCTV RECORDING AND INSPECTION

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION OF WORK

- A. Scope of Work.** The Contractor shall provide all labor, materials, and equipment necessary to digitally record and inspect the sewer in accordance with the plans and as specified within, and/or as designated by the Engineer. Digital recording and inspection shall be performed before and after sewer rehabilitation and as part of the 12 month warranty inspection. Digital recording performed prior to sewer rehabilitation shall be reviewed and approved by the Engineer before rehabilitation work begins. Digital recording performed after rehabilitation shall be completed within three months, but no sooner than 30 days after completion of the rehabilitation, to document the installed condition of the sewer. Digital recording for the 12 month warranty inspection shall be performed as directed by the County. The Digital recording shall be performed in the same direction for all inspections. Digital recording work must be reviewed and approved by the Engineer for the completed project to be accepted by the County.

1.3 QUALITY ASSURANCE

- A. **Standards.** All work shall meet or exceed the requirements of the National Association of Sewer Service Companies (NASSCO) Recommended Specifications for Sewer Collection System Rehabilitation (latest edition), except as otherwise specified herein.
- B. **Contractor's Qualifications.** The sewer inspection Contractor shall be a firm having a minimum of 3 years continuous successful experience in the inspection of sewers similar to that required for this project.

1.4 SUBMITTALS

- A. **Inspection Forms.** Inspection forms shall be kept by the Contractor showing the location, in relation to adjacent manholes of: each infiltration point, laterals, services, joints, voids, unusual conditions, roots, deposit, scale, corrosion, changes of pipe (material, size, shape, slope), and other discernible features. Each inspection form submitted shall contain header information and an inspection details section. A separate inspection form shall be provided for each complete sewer length between manholes, unless directed otherwise by the Engineer. The inspection forms will be put into a final report. Two copies of the final report shall be submitted to the Engineer.
- B. **Digital Recordings.** The Contractor shall furnish the Owner with two digital recordings of all internal inspections. Additionally, the Contractor shall furnish Warren County with one digital recording of all internal inspections at the end of the project. Acceptable media for the recordings are digital video disc (DVD).

All digital recordings shall be identified by project number, location, date of inspection, upstream and downstream MH number of the sewer contained on the disk, project names, and Contractor's name in a manner acceptable to the Engineer. All media shall be premium grade and previously unrecorded. All digital recordings shall have a continuous on-screen display indicating sewer section identification and distance from the entering manhole, as well as on screen display identifying laterals and any pipe defects which shall be coordinated with the inspection forms. The digital recording shall be organized so that line sections are in order from upstream to downstream unless approved otherwise by the Engineer.

A voice narrative of observations made during the television inspection shall be recorded on the audio portion of the recording. Voice descriptions shall be made at points of pipe failure or weakness, infiltration service connections, and at points where unusual conditions occur. Voice narrative must be audible in the recording. If the recording is rejected due to an inaudible narrative, the inspection recordings will be edited and a narrative shall be dubbed in.

1.5 JOB CONDITIONS

- A. Coordination.** The Contractor performing digital recording and inspection will be required to coordinate his work with other trades.

PART 2 PRODUCTS

2.1 GENERAL

Not Used

2.2 MATERIALS

Not Used

2.3 EQUIPMENT

- A.** The television camera shall be specifically designed and constructed for sewer inspection with a capacity for radial viewing (360°) to allow proper inspection of service lateral connections. The radial view camera must be sled state color and have remote control of the rotational lens. The camera shall be capable of viewing the complete circumference of the pipe. Cameras incorporating mirrors for viewing sides or using exposed rotating heads are not acceptable. The camera lens shall be an auto-iris type with remote controlled manual override. The camera light head shall include a high-intensity side viewing lighting system to allow illumination of internal sections of lateral sewer connections. Lighting for the camera shall illuminate the entire periphery of the sewer for a distance of 15 feet ahead of the camera. The camera shall have a minimum resolution of 600 lines and shall be operable in 100% humidity conditions. Picture quality and definition shall be to the satisfaction of the Engineer. Communications shall be provided for controlling the winches, pumping unit, and monitor control.

PART 3 EXECUTION

3.1 TELEVISION INSPECTION

A. General

1. Digital Recording shall be performed after sewer cleaning for all sewers, then after installation of the CIPP liner, and again 12 months after CIPP liner installation in all lined sections as part of the 12 month guarantee. Refer to Supplemental Specification SS-07, Cured-in-Place Pipe for detail on these submittals. In addition, any sections of pipe being replaced shall be televised within three mounts, but not sooner than 30 days, to document the installed condition of the sewer.

2. The entire length of sewer to be rehabilitated shall be televised for a visual and audio record of the sewer.
3. The entire sewer perimeter shall be visible during sewer Digital Recording and inspection.

B. Digital Recording

1. The digital recording shall include both audio and digital information that accurately reproduces the original picture and sound of the digital inspection. The digital portion of the digital recording shall be free of electrical interference and shall produce a clear and stable image.

C. Televising

1. The inspection will be done one sewer section at a time and the section being inspected will be isolated from the remainder of the sewer system.
2. The camera shall be moved through the sewer with the direction of flow at a uniform slow rate. In no case will the digital camera record while moving at a speed greater than 30 feet per minute. In the event that access to some manholes is restricted, permission may be granted to TV inspect against the flow. In all cases the pre-TV and final TV recordings must be performed in the same direction.
3. Measurement for location of laterals, defects, and other features shall be at the ground level by means of a metering device. Measurement will be accurate to one tenth (0.1) per 100 feet of inspected pipe. The importance of accurate distance measurements is emphasized. Marking on the cable or the like which would require interpolation for depth of manhole, will not be allowed. Accuracy of the distance meter shall be checked by use of a kevlar tape. A measuring target or sealing packer in front of the television camera shall be used as the measurement reference point, and the meter reading shall show the location of the measurement reference point.
4. When sewer conditions prevent forward movement of the camera, the Contractor shall withdraw the camera and televise the line from the opposite direction. In all cases the pre-TV and final TV recordings must be performed in the same direction.
5. The Contractor shall record the measurement of each sanitary lateral to the center of the connection to the main sewer. The Contractor, in the post-lining CCTV inspection video, shall provide a full 360 degree view for video coverage of the lateral connection to the sewer to ensure proper and complete reinstatement of the lateral to the sewer.

- 6. Throughout the duration of the project, should the Engineer discover inaccuracies in the recordings or if the specifications and/or requirements of the project are not met, the Contractor shall re-video those segments at no additional cost to the Project.

3.2 MEASUREMENT AND PAYMENT

- A. Pre-lining** – Payment of CCTV Recording and Inspection of pre-lining conditions and complete cured-in-place liner design calculations shall be paid for under the various Item No. 7, Cured in Place Pipe Items. No separate payment shall be made.
- B. Post-Lining** – Payment of CCTV Recording and Inspection of post-lining work and for the 12 month guarantee shall be paid for under the various Item No. 7, Cured-in-Place Pipe Items. No separate payment shall be made.
- C. Open Cut Point Repair** – Payment for CCTV Recording and Inspection if open cut repair is requires, shall be included in the unit price bid for SS-04 Open Cut Point Repair. No separate payment shall be made.
- D. Required by Plan** – Payment for CCTV Recording and Inspection as required by the plan set will be paid for per the unit price bid for Item No. 5 CCTV video Inspection.

<u>ITEM</u>	<u>UNIT</u>	<u>DISCRIPTION</u>
5	L.F.	CCTV Video Inspection

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-04 OPEN CUT POINT REPAIRS

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3.4 Measurement and Payment	SS04-4

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION OF WORK

- A. **Scope of Work.** The Contractor shall make an Open Cut Point Repair excavation to uncover and remove or repair an obstruction, and/or replace pipe, if it cannot be repaired or removed by trenchless means from within the sewer. It shall be the responsibility of the Contractor to clear the sewer of obstructions, solids, protruding services, or collapsed pipe that will prevent the proper installation of the liner.
- B. **Open Cut Point Repair required by the Contractor’s Means and Methods.** If point repairs are required due to the Contractor’s means and methods, The Contractor shall notify the County of the damage, obtain written authorization from the County and make the repair as soon as possible. The Contractor shall then re-televiser the sewer at his own cost. Bypass pumping may be required during an open cut repair. Please refer to the general notes pertaining to bypass pumping contained on this plan. The cost for all open cut repair work completed

as a result of the Contractor's means and methods will not be measured for payment, are considered incidental to the contract and will be at the Contractor's own expense.

1.3 SUBMITTALS

- A. **Prior to Bid.** If during the bidding process the Contractor identifies locations where point repairs will be required, these locations must be brought to the attention of the Engineer/Owner for consideration of compensation. The Contractor's failure to comply may result in denial of additional compensation.
- B. **Contractor's Means and Methods.** Prior to commencement of any Open Cut Repair, the Contractor shall submit the request for the Open Cut Point Repair in writing to the County. This request shall include the exact location(s) of the proposed Open Cut Point Repair, its length, utilities conflicts, method of connections to the existing line/structure, and proposed cost (if applicable). If the pipe is damaged during cleaning, the request shall be submitted prior to the liner thickness calculation submittal as required by SS-07. If the pipe is damaged after cleaning and prior to or during the lining process, the request shall be submitted within one day of the damage occurrence. The Contractor shall mark the proposed location in the field for the Engineer to review.

The Contractor is not allowed to proceed with any Open Cut Point Repair until the Contractor has obtained written approval from Warren County.

1.4 JOB CONDITIONS

- A. **Safety.** All work shall be in conformance with all applicable safety standards.

1.5 GUARANTEE

- A. When any work is accepted by the County there shall be a guarantee period for one year from the date of acceptance of the work. At any time during the guarantee period, the County may notify the Contractor and his Surety that certain repairs are necessary. Within 10 days after being notified, the Contractor shall make such repairs as are declared necessary to restore the work to a good and serviceable condition. In the event that the Contractor fails to comply with the order to repair as provided, said repairs may be made by the County and it is hereby agreed by the Contractor that reimbursement shall be made to the County for said expense so incurred within ten days following the receipt of a statement rendered to the Contractor by the County for said expense. Specifications for the work performed under this Contract shall govern in the making of repairs under this section.

PART 2 PRODUCTS

2.1 MATERIALS

- A. **General.** All materials shall be in accordance with Warren County Standard Details and the details contained within the plan set. Point Repair shall be SDR-26 with Fernco 1002 Series Couplings.

PART 3 EXECUTION

3.1 PREPARATION

- A. **Utilities Notification.** The Contractor shall investigate and notify utilities at least 48 hours prior to work in the vicinity, It is the Contractor's responsibility to support, protect, and restore all existing utilities whether shown on the plans or not.
- B. **Dewatering.** The Contractor shall furnish and operate suitable equipment to sufficiently dewater the trench, so the placement of bedding and laying and joining of the pipe is made on firm, dry materials..

3.2 INSTALLATION

- A. **General.** All Open Cut Point Repair installation shall be in accordance with Warren County' Standard Details and in conjunction with the details provided within the plan documents.

3.3 RESTORATION

- A. **General.** The Contractor shall be aware of the conditions at each Open Cut Point Repair. Pavement should be repaired with like materials. Standard Detail S-7 and S-8 in the Warren County Water and Sewer Standard Details shall apply. This shall include but not be limited to trees, shrubbery, landscaping, structures, fences, mail boxes, driveways, curbs, sidewalks, pavements, etc. The Contractor shall digitally record all Right-of Entry areas prior to use and provide a copy to the County Engineer.

3.3 MEASUREMENT AND PAYMENT

- A. **General.** The retrieval of any Contractor's equipment that is lost, broken, wedged, or stuck in the sewer pipe shall be at the Contractor's expense.
- B. **Open Cut Point Repair required by the Contractor's Means and Methods.** The Open Cut Point Repair will not be measured for payment and will be considered incidental to the Contract.

- C. **Open Cut Point Repair required by Unforeseen Conditions.** Will be completed as part of this contract if approved in writing by Warren County. No additional payment will be made for televising of the completed repair.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
15	LF	Open Cut Point Repair, 8" Pipe

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-05 BYPASS PUMPING

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION OF WORK

Scope of Work. When applicable, the Contractor shall provide all labor, materials and equipment necessary to install a leak free, temporary bypass of sanitary flows around:

- A. The sections of pipe that are to be rehabilitated.
- B. Any portion of the host pipe that will require repair that will impact sewer flow.
- C. Manholes that require manhole base and/or channel modification.

1.3 SUBMITTALS

- A. At the preconstruction meeting, the Contractor shall provide, for approval by Warren County, a plan describing the methods of bypassing the sanitary flow that will include but not be limited to:
 - 1. A recommended sequence of operations.

2. Drawings and/or legible sketches showing locations of the bypass sewer and construction procedures for crossing streets, excavations, for benching along with support methods. Locations of manholes from which sewage is to be pumped, locations of receiving manholes, and new manholes shall also be shown.
 3. A list of all required permit information, applications, fees, ect., to obtain access to the streets when required by the bypass method selected by the Contractor.
 4. A contingency plan to prevent damage during high flows.
 5. Method of handing traffic where streets are to be crossed and/or excavated.
- B. At the preconstruction meeting, the Contractor shall submit a copy of all property owner/resident notifications to Warren County for approval prior to distribution of the notification.

PART 2 MATERIALS

2.1 Pumps, Generators, and Equipment

- A. The Contractor shall provide pumps of adequate capacity and size to handle the peak flow and any necessary dewatering and shall not overwhelm the downstream sewer (i.e. no water in basement complaints either upstream or downstream of the bypass pumping locations). The Contractor shall be responsible for responding to, repairing, and cleaning up for all water in basement complaints caused by the bypass pumping.
- B. The Contractor shall be required to monitor and ensure that power is provided to all bypass pumping equipment during the entire time of bypass pumping operations.

2.2 Pipe for Temporary Bypass Pumping

- A. The Contractor shall use pipe for the temporary bypass pumping that is leak free and of adequate capacity and size to handle the peak flow and any necessary dewatering. Use of butt fused HDPE or Bauer fittings are the required pipe material.

PART 3 EXECUTION

3.1 BYPASS PUMPING

- A. The Contractor shall provide a bypass pumping plan to Warren County at the preconstruction conference. Any bypass system shall be established prior to sewer videotaping and inspection; and as necessary to maintain sanitary service and storm drainage during rehabilitation. The Contractor shall be responsible to provide adequate capacity in the bypass system. Warren County will not be responsible for any damages due to high flows.
- B. The bypass shall be made by plugging an existing upstream manhole, if necessary, and pumping the sewage into a downstream manhole approved by Warren County. The pump and the temporary bypass sewer shall be of adequate capacity and size to handle the peak flow and any necessary dewatering. The bypass sewer shall be buried where crossing private access drives or public streets that are opened to traffic and shall either have temporary pavement or be securely plated (if approved by Warren County) or the bypass sewer may be laid over ground with proper plates, ramps and/or coverings to allow vehicular travel over the pipe without damage to the pipe or interruption of the pumping within the established traffic control or easement if outside roadway. Check valves shall be placed ahead of all pumping connections.
- C. The Contractor may suggest alternate methods of bypassing the sewage but, in any event, the method used shall be approved by Warren County.
- D. Under no circumstances will the dumping of raw sewage on private property, streets, waterways and roads be allowed, nor will surcharging of the sewers be allowed due to insufficient pumping.

3.2 PROPERTY OWNER AND/OR RESIDENT NOTIFICATION

- A. The Contractor shall provide 48-hour prior written notification to Warren County, all property owners, and residents that may be affected by the diversion of flow in the sewer, explaining work that is to take place and its time frame. The notification shall include the approximate time when sewage cannot be received during sewer work as well as when the sewer will be available again for receiving sewage. All commercial establishments shall be provided with temporary sewer service. The means and methods shall be coordinated with the managers and the affected residents.
- B. A door hanger reminder shall be placed 24 hours prior to restricting the sanitary service.

3.3 MEASUREMENT AND PAYMENT

- A. Payments for this item shall be paid at the price bid for lump sum of bypass pumping and shall include the cost of all labor, materials and equipment necessary for completion of the project.
- B. Bypass pumping for the sewer shall include all costs necessary for the completion of the rehabilitation of the sewer.
- C. Bypass pumping for the sewer shall include all costs necessary for the completion of the rehabilitation of the sewer and all additional costs of any additional options chosen by the contractor such as an additional manhole, the placement of additional sanitary sewer pipe, construction of a sump, dividing wall, force main extension, or pumping into tanks.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
6	Lump Sum	Bypass Pumping, Complete

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-07 CURDED-IN-PLACE PIPE

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PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The Plans, general provisions of the contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (Current Edition) apply to this section.

1.2 DESCRIPTION OF WORK

- A. **Scope of Work.** Furnish and install the cured-in-place resin impregnated flexible tube pipe liner in accordance with the plans and as specified herein. When installed, cured, and complete, the liner shall extend from on manhole to the downstream point of connection in a continuous tight-fitting, watertight, pipe-within-a-pipe manner with a uniformly smooth interior providing hydraulic flow equal to or greater than the existing sewer in original condition

1.3 QUALITY ASSURANCE

A. **Standards.** All work and materials used shall be in compliance with the following standards that are made part of this specification:

1. American Society for Testing and Materials (ASTM) (latest edition):
 - a. ASTM D-543, Practices for Evaluating the Resistance of Plastics to Chemical Reagents.
 - b. ASTM D-638, Test Method for Tensile Properties of Plastics.
 - c. ASTM D-790, Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - d. ASTM D-5813, "Standard Specification for Cured-in-Place thermosetting Resin Pipe"
 - e. ASTM F-1216, Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin Impregnated Tube.
 - f. ASTM F-1743, Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place thermosetting resin Pipe (CIPP) (if given approval on a case-by-case basis).
2. National Association of Sewer Service Companies (NASSCO).

B. **Contractor's Qualifications.** Installation of the sewer pipe lining system shall be performed by an experienced Contractor fully licensed and approved by the lining process manufacturer. The contractor shall have a minimum of five (5) years of experience in such work and shall have satisfactorily completed ten (10) similar regional projects for at least three (3) different utilities of agencies. If the Contractor anticipates utilizing steam curing, three (3) of these ten (10) regional projects must be a steam cured application.

1.4 SUBMITTALS

The following submittal (A) shall be made with the Bid:

A. **Contractor's Qualifications.** Submit copy of manufacturer's licensee certificate. Submit list of ten (10) similar regional jobs within the past three (3) years as well. Provide project information such as length of project, pipe diameter, and date complete. Project cost, owner contact information, and installation/curing method.

In addition, three (3) of the ten (10) regional jobs must indicate the successful use of steam curing if this method is to be utilized by the Contractor.

The following submittals (B-J) shall be made at the pre-construction meeting:

- B. **Product Date.** Furnish manufacturer's general product date.
- C. **Material Certifications.** Written certifications is required from the manufacturer that all liner and resin used in the work are manufactured and tested in accordance with the ASTM Standards specified herein, and are being used or installed in conformance with the manufacture's recommendations.
- D. **Resident Notifications.** The Contractor shall submit a copy of the resident notifications as described in Section 3.2.A.
- E. **Storage and Delivery Procedures.** The Contractor shall provide the resin and liner manufacturer's recommended storage and delivery procedures. This shall include storage and delivery temperatures, maximum time from wet-out to installation, and other pertinent information.
- F. **Material Safety Data Sheets.** The Contractor shall submit Material Safety Data Sheets (MSDS) for each component of the CIPP system.
- G. **Test Results.** Prior to the use of any materials, the Contractor shall furnish, at its expense, the results of testing of the proposed materials by an independent laboratory in conformance with these specifications. All submitted test data shall have been performed on field installed samples within the last twelve (12) months. Any material not meeting the requirements of these specifications shall be completely removed from the project. Material acceptable to the Engineer shall be substituted for rejected items at the Contactor's expense.

The Contractor shall submit the following:

1. Testing by an independent laboratory to verify that the products to be used meet all minimum strength standards as set forth in ASTM F-1216, Table 1.
2. Testing by an independent laboratory to verify that the products used meet the Creep Factor specified within. The submittal shall include the long-term Flexural and Tensile Modulus of Elasticity measured in accordance with SSTM D2290.
3. Testing by an independent laboratory to verify that any product to be used on the project meets the minimum chemical resistance requirements as established in ASTM F-1216, Table 2, where the testing is in accordance with Appendix X2 of ASTM F1216.

- H. **Installation Procedures.** The Contractor shall submit the CIPP liner manufacture's detailed installation procedures for the installation method(s) to be utilized on this project.
- I. **Curing Cycle and Cooling Rate.** The Contractor shall submit the resin manufacture's recommended curing cycle as well as the recommended cooling rate. The Contractor shall submit inversion pressure (desired and maximum), curing pressure (desired and maximum) and times (part of the curing cycle) for air inversion/steam curing.
- J. **Wet-Out Report.** The Contractor shall submit a report of the wet-out process identifying each liner by manhole to manhole structure numbers and shall contain the wet-out length, diameter, liner thickness, wet-out date, wet-out manager, type of resin, and rein and catalyst volumes or weights with supporting calculations for each liner.

The following submittals (K-L) shall be made a minimum of ten (10) working days prior to lining:

- K. **Pre-rehabilitation video recordings and logs.** The Contractor shall submit two (2) copies of the pre-rehabilitation video recordings and logs to the Engineer that document existing conditions after the Contractor has cleaned the sewer line. Also submitted shall be thickness calculations for the lining according to the most recent findings. See Supplemental Specification SS-03 for requirements.
- L. **Bypass Pumping Plan.** The Contractor shall submit a bypass pumping plan for each manhole to manhole section to be lined for approval by the Engineer. See Supplemental Specification Section SS-05 for additional details on this submittal.

The following submittals (M-N) shall be within one week after lining:

- M. **Cure Logs.** The contractor shall submit a copy of the cure logs for each manhole to manhole installation. The cure logs shall contain records of the curing cycle and the cooling cycle. Each cure log shall clearly indicate the project name, project number, and the manhole section that was lined.
- N. **Post-rehabilitation video recordings and logs.** The contractor shall submit two (2) copies of the final television inspection that show the rehabilitated sewer along with reinstated service connections. See Supplemental Specification SS-03 for requirements.

1.5 JOB CONDITIONS

A. Environmental Requirements

1. Contractor may be required to monitor styrene odors as necessary in business and residences to ensure that concentration levels are under recommended limits.
2. Contractor shall use caution when working in project sewers. During rain events, project sewers may reach capacity and/or head up.

B. Safety. All work completed in conformance with all applicable safety standards in particular OSHA Standard 29CFR 1910.146. Permit Required Confined Space Entry. See Supplemental Specification Section SS-01, General Requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery

1. CIPP material shall be delivered to the job site in a covered refrigerated truck to minimize exposure to sunlight and to maintain temperature of the product within manufacturer's recommendations to avoid premature curing.
2. Delivery of material shall be coordinated with other trades to avoid delays.
3. Pipe preparations and field inspections shall be completed prior to delivery of liner to site.

B. Storage of Materials

1. Material shall be stored in the delivery truck in order to minimize exposure to sunlight and to maintain the temperature of the product to within manufacturer's recommendation to avoid premature curing.
2. No material shall be stored in the open or in contact with the ground.
3. **Temperature logs of liner from time of wet-out to installation shall be given to the County representative on site at the time of installation.** These logs shall contain the calculated volume of resin required and the actual volume of resin provided. The County representative shall verify that the volume resin provided is 5 to 10 percent greater than the calculated volume of resin required per ASRM F-1216, 7.2

C. Handling

1. Handle all products with care. Only sound, undamaged products shall be accepted.

1.7 GUARANTEE

- A. When any work is accepted by the County there shall be a guarantee period extending for one year from the date of acceptance of the work. At any time during the guarantee period, the County may notify the Contractor and his Surety that certain repairs are necessary, including, but not limited to, any damage or active infiltration or inflow. Within 10 days after being so notified, the Contractor shall make such repairs as are declared necessary to restore the work to a good serviceable condition. In the event that the contractor fails to comply with the order to repair as provided, said repairs may be made by the County and it is hereby agreed by the Contractor that reimbursement shall be made by the County for 2.5 times said expense so incurred within ten days following the receipt of a statement rendered to the Contractor by the County for said expense. Specifications for the work performed under this Contract shall govern in the making of repairs under this section. The Contractor shall perform and provide CCTV recording of the rehabilitated sewers as part of the 12 month warranty as directed by the County.

PART 2- PRODUCTS

2.1 GENERAL

Not Used

2.2 MATERIALS

Only products and materials approved by Warren County may be used for this project.

- A. **Products.** The product shall meet requirements within these specifications.
- B. **Design Parameters and Mechanical Properties.** The following values are to be used to verify that the liner thickness equals or exceeds that shown in the plans and, where indicated by and ASTM standard, shall serve as the minimum acceptable strength requirements for the final cured liner.

Flexural Strength (ASTM-D-790)	4,500 psi
Short-term Flexural Modulus of Elasticity (ASTM D-790)	250,000 psi
Creep Factor	50%
Factor of Safety	2
Ovality	5%
Soul Modulus	1000

The design thickness shall be per ASTM F1216. Each tube shall be designed to withstand internal and/or external pressures as dictated by site and pipe conditions as well as the installation process used by the Contractor.

The CIPP liner thickness has been calculated to withstand the soil loading as the deepest point (the maximum difference between the surface evaluation and the pipe evaluation) between manholes. Unless noted otherwise on the Contract Drawings or job-specific data is available, assume the water table to be four (4) feet below the **average** surface evaluation. For **partially deteriorated** liner design, the water depth shall be taken from the pipe invert. For **fully deteriorated** liner design, the water depth shall be taken from the top of the pipe.

- C. Fabric Tube.** The flexible fabric tube shall consist of one or more layers of flexible needled felt or an equivalent woven and/or non-woven material capable of carrying resin, withstanding installation pressures and curing temperatures, and compatible with the resin system used. The tube shall be sized to accommodate the forces of installation, host pipe configuration, and any other pertinent factors to assure a tight fitting final product with a smooth finish.
- D. Resin System.** The resin system shall be a polyester, epoxy, or vinyl ester resin and catalyst system compatible with the insertion process. The resin system shall not contain filler or additive, except those required for viscosity control, fire retardant, modulus enhancement, chemical resistance, or life extension. The following additives may not interfere with the visual inspection of the cured-in-place liner pipe or its required properties: thixotropic agents added for viscosity control, the opacity of the plastic coating, and resins that may contain pigments, dyes, or colors. Resin selected shall be reflected in the CIPP liner thickness calculations.

The tube shall be vacuum impregnated with resin (wet-out) under controlled conditions. The volume of resin used shall be sufficient to fill all voids in the tube material at nominal thickness and diameter and an allowance for migration of resin into the cracks and joints in the host pipe. A roller system shall be used to uniformly distribute the resin throughout the tube.

PET or recycled resins will not be permitted.

- E. Inverting/Curing Medium.** The inverting/curing medium shall be heated potable water or steam. In no instance will sewage be used to invert or cure liners or calibration tubes. If a private water source is proposed for use, a written agreement shall be obtained from the owner of the private water source and a copy of said agreement given to the County.

2.3 EQUIPMENT.

- A. All equipment required for the installation and curing of the resin impregnated flexible fabric tube, including cables, sleeves, rollers, compressors, generators, pumps, valves, gauges, water heaters and accessories required for complete installation shall be in the accordance with the manufacturer's recommendations.

PART 3- EXECUTION

3.1 EXAMINATION

- A. **General.** Examine areas and conditions within the sewer system in which materials and products are to be installed.
- B. **Material.** All sewer pipe liner materials shall be carefully inspected for defects prior to installation. The liner shall be homogeneous throughout, uniform in color, free of tears, holes, foreign materials, blisters, or other deleterious faults. Any material found during the progress of the work to have flaws or defects shall be rejected. All defective materials furnished by the Contractor shall be promptly removed by the Contractor from the project site.
- C. **Responsibility.** The Contractor shall be responsible for all material furnished and shall replace at its own expense all such materials found defective in manufacture or damaged in handling after delivery by the manufacturer. This shall include the furnishing of all material and labor required for the replacement of installed material discovered defective prior to the final acceptance of the work.

3.2 PREPARATION

- A. **Notification.** The Contractor shall be responsible for notification which shall include three (3) separate notices. The initial notification shall contain general information about the project and the cut-in-place pipe process using graphics as necessary to illustrate the procedure. Other information to be included shall be project number, project name, description of work to be performed, time frames for the work, and precautions to take during the course of the project (keeping water in the trap, keeping toilet lids down, etc.) A caution statement shall be included with the initial and second notifications and shall read as follows: "CAUTION- A very small part of the population may be susceptible to adverse reactions from the odor that may accompany the sewer rehabilitation work. If a person should start to experience dizziness or nausea, remove the person from the area and get them to a well ventilated area or to the outside. Please call the Contractor at the contact numbers below on the notification for help or assistance" The Contractor shall list the superintendent on the job along with its mobile telephone number as a primary contact. Secondary contact information shall be submitted **at the pre-construction meeting** for approval by the Engineer. Upon approval, the Contractor shall immediately distribute this information to all properties affected by the work.

The second notification shall alert residents and business owners at any utility disruptions and to advise minimal water usage. This notification shall provide the beginning date and time of the disruptions, the length of the disruption, and the ending date and time of the disruption. The second notification shall be distributed by the Contractor two (2) working days prior to commencement of the work.

The third notification shall inform property owners and residents that work on their portion of the sewer is complete and they may resume normal water usage. The Contractor shall distribute this notice immediately upon completion of the work.

- B. **Cleansing.** All sewers to be lined shall be cleaned as required prior to lining with CIPP. The term “cleansing” shall mean the removal of all sand, dirt, roots, grease, and all other solids or semisolid materials from the interior face of the sewer lines. Refer to specific recommendations Supplemental Specification Sections SS-01, General Requirements, and SS-02, Sewer Cleansing.
- C. **Sewer Digital Recording and Inspection.** The Contractor shall televise the sewer to provide a detailed record of existing conditions and lateral connections as described in Supplemental Specification Section SS-03. Two (2) copies of the pre-rehabilitation inspection shall be submitted to the Engineer. The Contractor shall be responsible for having a copy of the pre-rehabilitation inspections in the field as well. Immediately prior to CIPP liner insertion, the camera shall traverse the sewer to inspect for debris which may have entered the sewer line after the existing condition recording. **Warren County must sign off on this reconnaissance inspection for the CIPP lining work to proceed.**
- D. **Laterals.** Lateral sewer pipes protruding into the main sewer shall be trimmed flush with the inside of the main sewer wall prior to lining. Trimming must be done in a neat, workmanlike manner, causing no damage to the lateral pipe beyond the inside face of the main sewer. Point repairs shall be made as needed around laterals to ensure a smooth, watertight opening following lining of the main and reestablishment of the lateral. Payment for trimming of the protruding taps and all other necessary work to meet project requirements shall be included in the unit price bid for the CIPP.
- E. **Bypassing Sewage.** The Contractor shall bypass the sewage around the sections of the sewer that are to be lined as required. The bypass shall be made in accordance with Supplemental Specification Sections SS-01, General Requirements, and SS-05, Bypass Pumping.
- F. **Line Obstruction.** It shall be the responsibility of the Contractor to clear the sewer of obstructions, solids, protruding services, or collapsed pipes that will prevent the proper installation of the liner.

If the pre-rehabilitation video recording and inspection reveals an obstruction that cannot be removed by trenchless means from within the sewer, the Contractor shall notify the County. The Contractor shall complete the repair work at the rates on the contract within a reasonable amount of time not to exceed 15 days. The Contractor shall re-televising the sewer. Re-televising the sewer shall be performed and paid for in accordance with the Supplemental Specification SS-03, CCTV Recording and Inspection.

If the pre-rehabilitation video recording and inspection reveals a sag in the sewer that has a vertical displacement greater than one-half pipe diameter, the Contractor shall notify the County. The Contractor shall complete the repair work at the rates of the contract within a reasonable amount of time not to exceed 15 days. The Contractor shall then re-televising the sewer. Re-televising the sewer shall be performed and paid for in accordance with Supplemental Specification SS-03, CCTV Recording and Inspection.

In addition, any equipment that is lost, broken, wedged, or struck in the line section shall be removed by the Contractor at the Contractor's expense.

- G. **Protective Measures.** To prevent burnt grass, the Contractor shall provide protective measure, (E.g. felt, blocks of wood) to create a barrier between boiler hoses and the grass for each installation.

For steam curing, the Contractor shall take appropriate measures to ensure that non-water residuals/byproducts of steam curing do not enter nearby steams, storm sewers, etc. Contractor shall also provide barriers to prevent steam from burning grass.

3.3 INSTALLATION PROCEDURE

- A. **General.** Installation shall be by inversion (ASTM F-1216). Pulled-in-place installation (ASTM F-1743) may be allowed on case-by-case basis, if approved by the Engineer. The Contractor shall deliver the liner to the site and provide all equipment required to insert the liner into the sewer and cure it in place. The Contractor shall designate the locations where the tube will be vacuum impregnated prior to installation. The Contractor shall allow the Owner to inspect the materials and the "wet-out" procedure upon request. All procedures to prepare the liner for installation will be in strict compliance with the manufacturer's recommendation. Any material not properly prepared shall be rejected and replaced with acceptable materials at the Contractor's expense. Contractor shall not proceed with work until satisfactory conditions are present in the sewer.
- B. **Installation.** A scaffold, elevated platform, or other means of providing required pressure shall be provided at the access point. The resin-impregnated tube shall be pulled and/or inverted into the host pipe by methods approved by the manufacturer and proven through previous successful installations. The Insertion

method used shall not cause abrasion or scuffing of the tube. Hydrostatic or air pressure shall be used to inflate the tube, molding it against the walls of the host pipe. Tube installation pressures shall be limited so as not to stretch the tube longitudinally by more than five (5) percent of the original length.

C. Curing.

1. **Using Circulated Heated Water:** After the installation is complete, the Contractor shall supply a suitable heat source, water recirculation equipment, and a curing medium as approved by the Engineer. The equipment shall be capable of uniformly raising the water temperature to a level required to effectively cure the resin.
2. **Using Steam:** After the installation is complete, the Contractor shall supply suitable heat steam-generation equipment as approved by the Engineer. The equipment shall be capable of delivering steam throughout the section to uniformly raising the temperature within the pipe to a level required to effectively cure the resin.
3. **General.** The equipment shall be muffled to reduce excess noise during the curing process.

The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply. Another such gauge shall be placed between the tube and the host pipe in the downstream manhole at or near the bottom to determine the temperatures during cure. Water temperature in the pipe during the cure period shall be as recommended by the resin manufacturer.

Initial cure shall be deemed complete when the exposed portions of the tube appear to be hard and sound and the temperature sensor indicates the recommended temperature of the manufacturer. The cure period shall be of a duration recommended by the resin manufacturer and may require continuous recirculation of the water to maintain temperature.

D. Cool Down.

1. **After Heated Water Cure.** The Contractor shall cool the hardened pipe to a temperature below 100 degrees Fahrenheit before relieving the hydrostatic head. Cool-down shall be accomplished by introducing cool water into the inversion standpipe to replace water being drained from a small hole made in the downstream end. Rate of cooling shall not exceed resin manufacturers recommendations. Water shall be cooled to 50 degree Celsius (122 Degree F) prior to being released into the sewer.

2. **After Steam Cure.** The Contractor shall cool the hardened pipe to a temperature below 113 degrees Fahrenheit before relieving the internal pressure within the section. Cool-Down may be accomplished by introducing cool water into the section to replace the mixture of air and steam being drained from a small hole made in the downstream end. Rate of cooling shall not exceed resin manufacturer's recommendations. Water shall be cooled to 50 degrees Celsius (122 Degree F) prior to being released into the sewer.

- E. **Finish.** The new pipe shall be cut off in the manhole at a suitable location. Excavation will not be allowed at cleanouts unless approved by the Engineer. The finished product shall be continuous over the length of the pipe reconstructed and be free from dry spots, delamination, lifts, and debris under the liner. If any unsatisfactory condition is present in the lined pipe, the County reserves the right to require a suitable repair.

- F. **Invert through Manholes.** The invert shall be continuous and smooth through all manholes. If a liner is installed through a manhole, the bottom portion of the liner shall remain and the bench of the manhole shall be grouted with a resin mixture compatible with the CIPP and shaped as necessary to support the liner. If the liner terminates on either side of the manhole, the invert shall be built up to remove any flow restrictions and to form a continuous invert through the manhole. The cost of this work shall be included in the unit price bid for CIPP.

- G. **Sealing Pipe in Manholes.** Form a tight seal between the CIPP and the manhole wall at the pipe penetration. Do not leave any annular gaps. Seal any annular space greater than ½-inch with manhole wall repair material. Finish off the seal and seal any annular spaces less than 1-2-inch with chemical grouting per SS-11 placed around the pipe opening from inside the manhole in a band at least 4-inches wide.

- H. **Service Connections.** There are known service laterals in the pipe section being lined as part of this project. The exact location and number of service connections shall be verified during the initial television inspection. It shall be the Contractor's responsibility to accurately field locate all existing active service connections. If any lateral connections are discovered during the pre-lining CCTV the contractor shall notify Warren County when the pre-lining CCTV videos are submitted as described above.

The Contractor shall reconnect all active service connections to the liner pipe as indicated in Supplemental Specifications SS-01. Reinstatement of the active laterals on the cured liner shall begin immediately after curing operations are complete and continue uninterrupted until all active laterals have been reopened.

The Contractor shall be responsible for restoring/correcting all missed or faulty reconnections within 12 hours of being notified by the County. The Contractor

shall be responsible for any damage caused to property owners for not reinstating the services soon enough or for not giving notice to the owners.

All existing active service connections shall be reinstated by a remote controlled cutting device directed internally by a television camera or by internal manual cutting. They shall be made by experienced operators so that no blind attempts or holes are made in the liner pipe. Location shall be verified carefully to match earlier tapes for accurate locations especially where dimples are not well defined or clearly ascertained. The Engineers reserve the right to require service connection by excavation at the Contractor's cost at any location, if the quality or workmanship for the cut is not satisfactory.

The cut shall be smooth and circular in nature as seen by a television inspection camera. Lateral cuts shall be brushed as necessary to ensure smooth openings. It shall be properly aligned, invert to invert, to the existing connection with no obstructions to the flow. Resin slugs shall be removed from the reinstated service connections. Any miscuts shall be repaired at no cost of the Owner, and to the full satisfaction of the Engineer. All coupons cut from the liner for reopening of lateral connections shall be retrieved from the sewer, accounted for by the Contractor, and turned over to Warren County.

- I. **Final Television Inspection** The Contractor shall televise the rehabilitated sewer to provide a detailed record of finished conditions and lateral connections. Lateral connections shall be observed while the camera is stopped and viewing the connection squarely. The Contractor shall provide video of a full 360 degree sweep of each reinstated lateral to show the lateral connection in its entirety. When complete, the Contractor shall submit two (2) copies of the rehabilitated sewer inspection, along with the accompanying logs, which shall be printed clearly or typed as requested in Supplemental Specification Section SS-03.

3.4 RESTORATION

- A. **Where portions of the site**, either inside or outside the contract limits, not designated for change or new work become damaged during the course of construction by the Contractor's operations, the Contractor shall repair or replace at no addition cost to the Owner such damage to original or better condition in conformance with the Contract Documents. This shall include, but not be limited to, reseeding, replacing shrubbery in kind, replacing damaged fence, etc.

3.5 FIELD QUALITY CONTROL

- A. **General.** The rehabilitated pipe shall be continuous (without joints) over the entire length of an insertion run between two manholes. The liner shall be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes, and delamination. The liner surface shall be free of leaks, cracks, and crazing with a smooth finish. Some minor waviness that, in the Engineer's opinion, will not appreciably decrease the flow cross section or affect the flow characteristics shall be permissible.

Any defects in the product shall be repaired at the Contractor's expense in a manner mutually agreed upon the Owner and Contractor. The Contractor shall reinspect these repairs before the one (1) year guarantee period expires. During the one (1) year guarantee period, any defects that are discovered that will affect the integrity or strength of the product shall be repaired at the Contractor's expense in a manner mutually agreed upon by the owner and the Contractor. These repairs shall be granted a three (3) year extended guarantee period by the Contractor from the date of repair. The Contractor shall reinspect these repairs prior to the expiration of the three (3) year extended guarantee period.

- B. **Testing.** The following tests shall be performed for each length of CIPP length installed per ASTM F-1216 and/or F-1743 (when approved):

1. Short-term Flexural (Bending) Properties- The initial tangent flexural modulus of elasticity and flexural yield strength shall be measured in accordance with ASTM D790.

The Contractor is to provide test samples to the Engineer upon request in accordance with ASTM F-1216, Item 8.1. Note that this item requires two CIPP samples, one from each of the following two methods:

2. The sample should be cut from a section of cured CIPP at an intermediate manhole or at the termination point that has been inverted through a like diameter pipe which has been held in place by suitable heat sink, such as sandbags.
3. The sample should be fabricated from material taken from the tube and the resin/catalyst system used and cured in a clamped mold placed in the downtube when circulating heated water is used and in the silencer when steam is used as the curing medium.

The Owner retains the right to test coupons retrieved from the sewer and turned over to the Engineer. If the Contractor performs independent tests for their purposes, additional sample shall be provided by the Contractor for that use.

- C. **Final installed Liner Thickness.** The final installed their thickness shall not be less than the thickness specified in the Contract Documents or approved shop

drawings. The final installed liner thickness shall not be more the 10% greater than the specified or approved thickness. The final installed liner thickness measurement shall be determined from pipe samples, coupons retrieved from the sewer, or as deemed necessary by the Engineer. It shall be the Contractor's responsibility to consider site conditions and their installation process to determine the liner thickness to install.

- D. **Non-Compliance.** In the event the flat plate samples do not meet the required thickness or Flexural Strength of 4,500 psi and Flexural Modulus of Elasticity of 250,000 psi as outlined in Section 2.2 C; actual installed samples must be taken. The installed samples shall be taken as directed by the Engineer and in accordance with all applicable ASTM requirements. From these samples, the installed Thickness shall be determined by taking an average of at least 10 thickness measurements. Installed samples shall then be prepared for re-testing in accordance with Section 2.2 C of these specifications.

In the event that any liner installation does not meet specified strengths and/or thicknesses, the conformity of the work with the plans and specifications shall be in accordance with ODOT CMS Section 105.3.

3.6 MEASUREMENT AND PAYMENT

- A. **Liner.** This item of work shall include all necessary television observation, protruding lateral removal and repair, sewer cleaning, pipe preparations, liner resins, grouting, water, equipment, labor, testing, clean up, manhole reconstruction required by construction means and methods of CIPP installation, and all other expenses whether specifically mentioned or not to install the cured-in-place pipe. Payment will be made at the unit price bid lineal foot as measured from center of manhole to center of manhole along the horizontal centerline of the rehabilitated sewer, complete, tested, and ready for service.
- B. **Lateral Sewers Reestablished for CIPP.** This item of work shall include all necessary equipment, materials, and labor to reestablish lateral sewers in cured in place pipe.
- C. **Payment.** Payment will be made at the unit price bid per actual linear foot of CIPP lining installed for each size of pipe and each thickness of liner.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
7	Lin. Ft	8" Cured in Place Pipe
8	Lin. Ft	18" Cured in Place Pipe

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-10 CEMENTITIOUS GROUTING

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The plans, general provisions of the Contract, and the Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this session.

1.2 DESCRIPTION OF WORK

- A. The Contractor shall provide all labor, materials, and equipment necessary to fill voids outside the walls of the sewer and manholes as specified within and as directed by the County.

1.3 QUALITY ASSURANCE

- A. **Codes.** Perform all work in compliance with the most recent federal, state, and local codes.
- B. **Standards.** All work shall be in compliance with the National Association of Sewer Service Companies (NASSCO).

- C. **Contractor's Qualifications.** The pressure grouting Contractor shall be a firm having a minimum of 3 years continuous successful experience in pressure grouting similar to that required for this Project.

1.4 SUBMITTALS

- A. At the preconstruction meeting, the Contractor shall furnish the grout manufacturer's product data, test reports, installation instructions, and materials certification.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Cement shall be stored in weather tight enclosures to protect against moisture and contamination.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Portland cement shall conform to OFOT CMS 701.01.
- B. Sand shall conform to ODOT CMS 703.03.
- C. Water shall be potable

2.2 EQUIPMENT

- A. The grout pump shall be of the positive displacement type and shall be capable of producing adequate pressure to penetrate the area and the depth required. The Contractor shall furnish gauges to monitor working pressure.

PART 3 EXECUTION

3.1 COORDINATION

- A. Pressure grout injection shall be performed after inspections.

3.2 GENERAL

- A. The Contractor shall pressure grout voids between the outside wall of the sewer/manhole and the surrounding soil along the section of the sewer/manhole to be rehabilitated as specified by the Engineer. Grouting shall be performed in areas where voids are visible from inside the sewer/manhole, where there is evidence of the flow leaking through the bricks beneath and surrounding connections, where there is evidence of calcium buildup on the inside face of the brick sewer/manhole and at any other locations agreed upon by the Contractor and the Engineer (or his

representative). Grouting operations shall be performed under low pressure conditions and the pavement above the grouting operations monitored to verify grout is not heaving the pavement or surfacing through the joints in the pavement.

3.3 BATCHING AND MIXING

- A. The grout mixture shall be proportioned generally in the ratio of 1 bag of Portland cement to 7.5 gallons (1 cubic foot) of water. This mix can be adjusted by varying the water-cement ration as grouting proceeds to ensure adequate penetration behind the sewer/manhole wall, but at no time shall the water-cement ration of the grout mixture exceed 0.80. All changes in grout mix designs must be approved by the Engineer prior to use. Grout yield shall be 1.48 cf/bag unless otherwise noted.

3.4 PLACEMENT

- A. **Preparatory Work.** The existing sewers/manholes may have missing or deteriorating mortar within the makeup of the walls. The Contractor may need to parge or chink these mortar joints prior to grouting to prevent the grout from seeping back into the pipe.
- B. **Grout Holes.** Grout holes shall be drilled through the sewer/manhole wall at select locations to best fill void areas. Hole shall be no larger than necessary to accommodate the injection nozzle of the pumping equipment. Care shall be taken not to damage the surrounding sewer or manhole. When pressure grouting is complete, the drilled hole shall be completely filled with a fast set non-shrink grout.
- C. **Quantity.** In order to control the quantity of material placed, pressure grouting shall be accomplished in multiple stages. Grout placed in each stage must not exceed 10 bags of cement per void detected. A 12 hour minimum time interval shall elapse between successive stages. Voids shall be resounded and probed after each stage. Only those areas still indicating void spaces behind the sewer or manhole wall will be regouted.
- D. **Adjacent Facilities.** The Contractor shall take precautions to prevent grout from entering lateral sewers, duct banks, conduits, or other adjacent structures, and shall monitor working pressures to avoid damage or displacement of the sewer/manhole, adjacent structures, or the ground surface. The Contractor shall be responsible for the costs of replacement, repair, or cleanup of utilities of structures adversely affected by grouting procedures.
- E. **Grouting Pressure.** The machine used for grouting shall be capable of providing a pressure up to 75 pounds per square inch (psi) in excess of any external water pressure. The Contractor shall provide gauges to monitor the working pressures during grouting operations, with a gauge recommended at the injection site on the sewer or manhole wall. The pressure shall not exceed that which would distort the

sewer or manhole wall, damage or fill adjacent utilities, lift or displace the overburden.

- F. **Pavement Upheaval.** The Contractor shall replace any pavement in like and kind that is upheaved by pressure grout injection.

3.5 CLEAN UP

- A. The Contractor is responsible for containing and removing all excess grout from the sewer and project area. In no case will the Contractor be allowed to flush excess grout from his equipment into the sewer or downstream to adjacent facilities.

3.6 MEASUREMENT AND PAYMENT

- A. **General.** This item of work shall include all grout, drilling, cleanup, and appurtenant work necessary to complete Cementations as indicated on the drawings and specified herein.
- B. **Payment.** A contingency quantity of 5 cubic feet of cementations grouting is included in base bid. The Contractor shall be paid for the actual amount of cementations grouting used in the rehabilitation of the manhole which may be more or less than the quantity provided on the plan. Payment for cementations grouting and all other necessary work to meet project requirements shall be included in the unit price bid for the Contingency Item Cementations Grouting, As Directed by the County.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
8	CF	Cementitious Grouting, As Directed by the County

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-10 CHEMICAL GROUTING

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The plans, general provisions of the Contract, and the Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this session.

1.2 DESCRIPTION OF WORK

- A. The Contractor shall provide all labor, materials, and equipment necessary to clean and prepare the affected area of the manholes, place the chemical grout and clean the area within the manhole of residual grout as specified herein or as designated by the Engineer. The Contractor shall provide a written report to the Engineer identifying the locations by the manhole number and where within the manhole the Chemical Grout will be needed. The use of Chemical Grout shall be used only as directed by the County.

1.3 SUBMITTALS

- A. At the preconstruction meeting, the Contractor shall furnish the chemical manufacturer's product data, test reports, installation instructions, and materials certifications for approval by the County.

PART 2 PRODUCTS

2.1 MATERIALS

Not used.

2.2 EQUIPMENT

A. Urethane base gel chemical sealing material or other chemical sealing material approved by the Engineer. The material must be able to react in the presence of water and withstand continuous submergence without degradation. The resultant sealant formation must prevent the passage of water through the structure wall, it must be flexible, withstand freeze/thaw and wet/dry cycled without affecting the seal, it must not be biodegradable, and should be chemically stable and resistant to mild concentrations of acids, alkalis and organics normally found in wastewater and solid.

Urethane prepolymer (liquid)	Min, Solids Content 77%
Prepolymer viscosity	600-1200 centipoises at 70 F
Cure time	80 seconds at 40 F 55 seconds at 60 F 30 seconds at 80 F
Cure time with accelerators	10 seconds at 40-80 F
Recommended mix ration	1 part prepolymer to 8 parts water (11% prepolymer)

PART 3 EXECUTION

3.1 COORDINATION

A. Chemical Grouting shall be performed only as needed and approved by the Engineer.

3.2 PLACEMENT

A. The Contractor shall supply the equipment needed for performing the pressurized chemical grout injection. Basic equipment consists of chemical pumps, chemical containers, hoses, valves, pressure gauges, and other appurtenances required to seal structure walls. The chemical injection pumps shall be equipped with pressure gauges that will monitor pressures during the injection of the chemical sealants and when necessary, pressure-regulated bypass valve shall be incorporated into the pumping system.

B. At each point or points of leakage within the structure a hole shall be carefully drilled from within the structure and shall extend through the entire structure wall. Chemical sealant injection devices shall be placed into the previously drilled

holes so that a seal will be obtained between the holes and the injection device. The chemical injection equipment shall then be connected and the specified chemical sealing materials pumped into the surrounding medium until material refusal is shown by the pressure gauges, a predetermined quantity of sealant has been injected or sealant is observed at an adjoining injection point. The above shall be repeated until all sources or infiltration into the structures has been sealed. Pumping operations shall be carefully monitored to prevent the occurrence of excessive pressure which could damage the structure. Upon completing, the injection devices shall be removed and the holes filled with fast set, non-shrinking mortar.

3.3 QUANTITY

- A. In order to control the quantity of material placed, pressure grouting shall be accomplished in two stages. Grout placed in the first stage must not exceed 10 gallons of liquid prepolymer per void detected. A 12 hour minimum time interval shall elapse between successive stages. Grout placed in the second stage shall not exceed 10 gallons of prepolymer per area. No additional pressure grouting will be performed beyond the second stage unless approved by the Owner's representative.

3.4 ADAJCENT FACILTIES

- A. The Contractor shall take precautions to prevent grout from entering lateral sewers, ductbanks, conduits, other adjacent structures, and shall monitor working pressure to avoid damage or displacement of the sewer, adjacent structures, or the ground surface. The Contractor shall be responsible for the cost of replacement, repair, or cleanup of utilities or structures adversely affected by grouting procedure.

3.5 MEASUREMENT AND PAYMENT

- A. A contingency quantity of 16 gallons of chemical grouting is included in the base bid. The Contractor shall be paid for the actual amount of chemical grouting used in the rehabilitations of the manhole which may be more or less than the quantity provided on the plan. Payment for chemical grouting and all other necessary work to meet projects requirements shall be included in the unit price bid for the Contingency Item Chemical Grouting, As Directed by the County.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
8	Gal	Chemical Grouting, As Directed by the County

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-13 URETHANE/ EPOXY MANHOLE REHABILITATION

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PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION

- A.** This specification includes all work, materials, operation, and equipment necessary to rehabilitate manholes applying a urethane/ epoxy liner product to the walls, inverts, and benches of manholes resulting in a monolithic liner of a minimum 1/8 inch thickness or more, as determined by the manufacturer for the depth and water table in accordance with the plans, as specified within, or as designated by the Engineer. This item shall include all structural restoration;

elimination of inflow and/or infiltration; manhole step removal; base and channel repair; excavation; removal and disposal of all excess materials; restoration; backfill; permanent and temporary and disposal of all excess materials; restoration; backfill; permanent and temporary pavement replacement; clearing and grubbing; resetting, replacing, and/or raising casting to grade; and dewatering required for manhole rehabilitation. This specification also includes the inspection of manhole structures and the submittal of the unspecified items on the manhole rehabilitation tables included in the plan set. Pre-rehabilitation, post-rehabilitation, and 12 month warranty photographs shall be provided for all manholes.

1.3 QUALITY ASURANCE

- A.** Furnish materials of quality required by the American Society for the Testing and Materials (ASTM) standards or other approved standards and specifications.
- B.** Provide guarantee against defective materials and workmanship in accordance with the requirements of these specifications.

C. Contractor's Qualifications.

- 1.** The manhole rehabilitation Contractor shall be a firm having a minimum of 3 years continuous successful experience in the rehabilitation of manholes similar to that required for this project.
- 2.** The manhole lining Contractor shall be certified by the lining material manufacturer to install their manhole liner if the material requires a certified applicator. The County reserves the right to require an on-site manufacturer's representative, knowledgeable in the use and application of the material, for a minimum of two (2) working hours for each supplied material .The material representative shall direct and instruct the Contractor and inspector on the proper application procedure.

1.4 RFERENCES

- A.** Referenced ASTM Standards
- B.** NASSCO Specifications
- C.** Manufacturer's Specifications

1.5 SUBMITTALS

The following submittal (A) shall be made with the Bid:

- A. Contractor Qualifications.** The Contractor shall submit a copy of the manufacturer's licensee certificate. If the Contractor is not licensed by the manufacturer, then a manufacturer's representative will be on-site as explained in Section 1.3.E.2. Contractor shall also submit a list of ten (10) similar regional projects completed within the last three (3) years including information such as a number of manholes on a project, manhole construction type, date completed and project costs.

The following submittals (B-D) shall be made at the pre-construction meeting:

- B. Material Certifications.** The Contractor shall furnish the manufacturer's product data, installation instructions, applicable referenced work standards (American Society for Testing and Materials [ASTM], American Concrete Institute, [ACI], etc.), approved laboratory test reports that verify strength requirements of this specification, and materials certification for each product used prior to material installation.
- C. Material Safety Data Sheets.** The contractor shall submit Material Safety data Sheets (MSDS) for all materials used for urethane/ epoxy manhole rehabilitation.
- D. Application Methods and Equipment.** The Contractor shall submit a written description of the material application methods including the equipment that will be used.

The following submittal (E) shall be made two (2) days prior to manhole rehabilitation.

- E. Pre-rehabilitation photographs.** The Contractor shall submit post-photographs to the County immediately following completion of the manhole rehabilitation. The same areas of the manhole will be photographed at the same angles as submitted in the pre-photographs. Digital photos submitted on the CD are the required media.

The following submittal (F) shall be made immediately after manhole rehabilitation:

- F. Post-rehabilitation photographs.** The Contractor shall submit post-photographs to the County immediately following completion of the manhole rehabilitation. The same areas of the manhole will be photographed at the same angles as submitted in the pre-photographs. Digital photos submitted on CD are the required media.

1.6 PROJECT/SITE CONDITIONS

- A. Environmental Requirements.** Do not work in the presence of excessive amounts of water. Refer to supplemental Specification SS-05, Bypassing Pumping.

- B. Safety.** All works to be completed in conformance with all applicable safety standards in particular OSHA Standard 29CFR1910.146, Permit Required Confined Space Entry.

1.7 DELIVERY, STORAGE, AND HANDLING

- A.** Urethane/ Epoxy materials shall be stored in weather tight, original packaging to protect against moisture and contamination in accordance with the manufacturer's recommendations.

1.8 SEQUENCING

- A.** All required interruptions of flow through manholes, wet wells, pump stations or any other portion of the sanitary sewer system shall be coordinated with and approval received from the County Engineer prior to the interruption

1.9 GUARANTEE

- A.** When any work is accepted by the County there shall be a guarantee period extending for 12 months from the date of acceptance of the work. At any time during the guarantee period, the County may notify the Contractor and his Surety that certain repairs are necessary. Within 10 days after being so notified, the Contractor shall make such repairs as are declared necessary to restore the worked to a good and serviceable condition. In the event the Contractor fails to comply with the order to repaired as provided, said repairs mat be made by the County and it is hereby agreed by the Contractor the reimbursement shall be made to the County for 2.5 times said expense so incurred within ten days following the receipt of a statement rendered to the Contractor by the County for said expense. Specifications for the work performed under this Contract shall govern in the making of repairs under this section. The Contractor shall take and provide photographs of the rehabilitated manholes as part of the 12 month warranty as directed by the County. The 12 month photographs shall be identical in the nature to the pre – and post- rehabilitation photographs described in Section 1.5 E & F of this specification. A minimum of 2 photographs shall be submitted at the end of the 12 month guarantee period taken at the same angles as submitted in the pre- & post-rehabilitation photographs, including photographs of additional pertinent features.

PART 2: PRODUCTS

2.1 MATERIALS

Materials shall meet the following standards, specifications, or minimum strength requirements:

- A. **Water Plug.** Rapid setting hand-mixed cementitious compound specifically formulated for use in stopping infiltration water.

Compressive Strength	2000 PSI @24 hrs.	ASTM C-109
Bond	80 PSI @24hrs.	ASTM C-321

- B. **Patching Mortar.** Rapid setting cementitious compound specifically formulated for use in filling voids and repairing inverts.

Compressive Strength	2000 PSI @24hrs.	ASTM C-109
Bond	140 PSI @7 days	ASTM C-321

- C. **Urethane / Epoxy Manhole Liner.** A proprietary urethane / epoxy-based material specifically designed for manhole applications shall be SprayWall as manufactured by Sprayroq, Inc., or Warren Environmental System M-301 and S-301 as manufactured by Warren Environmental Inc., or Raven 405 as manufactured by Raven Lining Systems or Engineer approved equal. The product shall be corrosion resistant to the ingredients of the sanitary sewer environment and shall be designed to bond to wet (not running_ surfaces. Liner mix shall be made with manufacture's recommendations. No material shall be used with or added to mixture without prior approval of the manufacture.

- D. **Grout.** Cementitious Grouting shall be installed and paid for per supplemental specifications SS-10 "Cementitious Grouting".

- E. **Brick.** Brick used in sanitary structures shall be clay or shale brick and conform to CMS 704.01

- F. **Mortar.** Mortar shall be in accordance with ODOT CMS 602-02.

- G. **Water.** Water shall be portable.

2.2 EQUIPMENT

- A. Equipment shall be as recommended by the manufacturer to ensure proper application and shall be clean and in good working order according to the recommendations for safe operation.

PART 3: EXECUTION

3.1 GENERAL

- A. **Debris Dam.** The Contractor shall place a device in the manhole to catch any debris which may be displaced into the manhole during the performance for the work. **Work shall not proceed until this device is in place.**

- B. Visual Documentation.** The Contractor shall provide photographs before and after rehabilitation. Refer to sections 1.5.E and 1.5.F of this specification for detailed information.
- C. Cleaning.** Prior to any repair work inside the manhole, all interior wall and invert surfaces shall be cleaned using equipment capable of producing a minimum of 3500 pounds per square inch (psi) water to remove all foreign matter, loose mortar, grease, oil residues, and to etch the surfaces. If the initial water blast cannot be utilized due to structural conditions in the manhole or it does not remove all deposits, then a solution of muriatic acid (hydrochloric acid) at a ratio of one part acid to ten parts water shall be applied by spraying from above the manhole. After the acid solution is applied it shall be washed off completely and the manhole allowed to dry. The mixing, application, and removal of the acid solution shall be done in strict accordance with the manufacturer's specification and safety procedures. All waste materials resulting from the cleaning operation shall be removed from the manhole being cleaned and properly disposed of by the Contractor.

3.2 REHABILITATION OF BRICK/PRECAST MANHOLE

- A. Stopping Infiltration.** The manhole walls shall be visually examined and sounded and/or probed for detection of infiltration and identification of void areas outside of the manhole created by the infiltration. If any voids are detected, they shall be filled with cementitious grout and paid per Item SS-10 "Cementitious Grouting". Any infiltration into the manhole should be stopped using an approved water plug material. If infiltration through the manhole walls is heavy, up to four 5/8-inch diameter holes may be drilled around the base of the manhole to act as relief ports, allowing the water to seep into the manhole flow channel. Once the leaking walls have been sealed, the drilled relief holes shall be plugged with the specified water plug material. The cost of drilling these relief holes shall be included in the cost of the manhole rehabilitation items.
- B. Patching.** Manhole walls shall be patched with an approved mortar in area where voids exist. (i.e. bricks missing in manhole walls, step removal damage, frames, pipes, and mortar joints). All loose or defective material shall be removed from the area to be patched, exposing a sound substrate. The patching mortar specified shall be applied to a dampened surface. The repairs shall be made smooth and flush with the face of the manhole wall. This work shall be performed in accordance with SS-10 "Cementitious Grouting". Price for patching mortar shall be included in the price bid for Item SS-13, no additional payment will be made.
- C. Steps.** All steps shall be removed completely from those manholes receiving urethane / epoxy rehabilitation. Care must be taken to minimize damage to the manhole wall during removal of the steps.

- D. Urethane/ Epoxy Manhole Lining.** The urethane / epoxy lining material shall offer a level of sulfide resistance compatible with the environment present in the existing sewer. Varying levels of protection are offered by manufacture's materials. The manhole wall surface shall be in a saturated, surface-dry condition immediately preceding application of the urethane / epoxy material, or in accordance with manufacturer's requirements.

The urethane/ epoxy lining may be applied with low pressure spray equipment or hand troweling methods (Requires approval of Owner). If hand troweling is to be utilized, consult manufacturer for special requirements. The application of the liner shall provide a monolithic liner of a minimum 1/8 inch thickness applied to insure that all voids are filled and crevices are filled and smoothed. The liner shall be applied to the invert, bench, and wall and shall all be equal in thickness as determined by the after table and product manufacturer. The manhole invert and bench shall be smooth and slipped in the direction of flow. The manhole bench shall have a gradual slope to invert. The invert transition of the pipe shall be smooth and shall not impair the flow.

The Contractor shall cure in accordance with the manufacturer's instructions following the application of the final layer. No application shall be made when ambient temperatures are less than 40 degrees Fahrenheit or when freezing is expected within 24 hours. A minimum of 30 minutes cure time or more as required by the product manufacture shall be allowed before returning to active flow. No more than 24-hours shall elapse between successive passes on each manhole. The second pas cannot be made until the first pass has achieved initial set.

3.3 REHABILITATION OF BENCH AND CHANNEL

- A.** The bench and channel shall be prepared for rehabilitation as previously described for other portions of the manhole structure. The entire bench and channel area shall be reconstructed using the specified rapid strength patching mortar as specified in section 2.1.B. The preparation work shall include all demolition of deteriorated concrete and removal of all deleterious material from the surfaces to be reconstructed and the removal of sound concrete such that the repair mortar shall not be less than 1-inch in thickness at any point.
- B.** If active infiltration is present in the bench and channel area of the manhole, dewatering exterior to the manhole with a WellPoint may be required in order to facilitate the reconstruction. The dewatering shall continue for 8 hours (or per the manufacturer's recommendations) following completion of the bench and channel repair work. Dewatering WellPoint, if anticipated, will be included in the price bid for Item SS-13 Urethane/ Epoxy Manhole Rehabilitation.

- C. Wastewater flow shall be maintained by methods which prevent contact with any of the repair work for 8 hours (or per the manufacturer's recommendations) following completion of the repair work.
- D. The work on the bench and channel shall also include the work necessary to obtain a watertight seal at all pipe connections and between the base and manhole walls. The flow line through the manhole shall be shaped to match the invert of the sewer liner to prevent any flow obstructions in the manhole.
- E. All work associated with bench and Channel Rehabilitation shall be for by item SS-13 "Urethane/Epoxy Manhole Rehabilitation".

3.4 CLEAN UP

- A. The Contractor shall be responsible for containing and removal of all rehabilitation material, rebound, and loose material caused by manhole rehabilitation.

3.5 FIELD QUALITY CONTROL

- A. **Visual Inspection.** Manhole sealing will be visually inspected for water tightness upon completion and at any time during warranty period. Any visible leaks or defects that appear shall be repaired to the Owner's satisfaction by the Contractor at no additional cost. The visual inspection upon completion of lining shall be photographed by the Contractor. These photographs shall serve as the post-rehabilitation photographs.
- B. **Testing Requirements.**
 - 1. Manhole liner shall be tested with a wet gauge as directed by the County's representative to verify prescribed thickness. Any area found with less than the prescribed thickness shall immediately receive the additional material needed.
 - 2. The Contractor shall provide two standard samples taken from each day's work with the date, location, and job recorded for each sample. The samples shall be sent to an established, local, and reputable commercial testing laboratory that has been approved by the Owner to determine if lining materials meet the minimum requirements specified herein. The County reserves the right to require Contractor to take cores sample and to patch the cored location at no additional cost.
 - 3. Each manhole shall be sounded by the Contractor at seven (7) days/ Inspector must witness these soundings performed by the Contractor. Defects will be corrected by the Contractor to the satisfaction of the Engineer.

3.6 MEASUREMENT AND PAYMENT

- A. Payment for all manhole rehabilitation items described herein. (Excluding Cementations and Chemical Grouting of Voids behind the manhole wall) shall be included in the unit price bid per for the SS-13 Line item. Payment for all bench and channel rehabilitation items described in Section 3.3 shall be included in the unit price bid per SS-13 “Urethane/ Epoxy manhole Rehabilitation”. Payment for all urethane/ epoxy lining items described in Section 3.2 shall be included in the unit price bid for item SS-13 “urethane/ Epoxy Manhole Rehabilitation”.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
11	Ver. Feet	Urethane/ Epoxy Manhole Rehabilitation

END OF SECTION

WARREN COUNTY, OHIO
WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-14 MORTAR/EPOXY COMPOSITE MANHOLE REHABILITATION

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3.3 Rehabilitate Bench and Channel	SS14-7
3.4 Clean Up	SS14-8
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3.6 Measurement and Payment	SS14-9

PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION

- A.** This specification includes all work, materials, operation, and equipment necessary to rehabilitate manholes applying a mortar/ epoxy composite liner product to the walls, inverts, and benches of manholes resulting in a monolithic liner at the thickness as recommended by the manufacturer for the depth and water table in accordance with the plans, as specified within, or as designated by the Engineer. This item shall include all structural restoration; elimination of inflow and/or infiltration; manhole step removal; base and channel repair/ excavation. Removal and disposal of all excess materials; restoration; backfill

permanent and temporary pavement replacement; clearing and grubbing; resetting, replacing, and/or raising casting to grade; and dewatering required for manhole rehabilitation. This specification also includes the inspection of manholes structures and the submittal of the unspecified items on the manhole rehabilitation tables include in the plan set. Pre-rehabilitation, post-rehabilitation, and 12 month warranty photographs shall be provided for all manholes.

1.3 QUALITY ASSURANCE

- A. Furnish materials of quality required by the American Society for Testing and Materials (ASTM) standards or other approved standards and specifications.
- B. Provide guarantee against defective materials and workmanship in accordance with the requirements of these specifications.
- C. The contractor installing the finished protective liner will be certified trained applicator of the specified process.
- D. **Contractor's Qualifications.**
 - 1. The manhole rehabilitation Contractor shall be a firm having a minimum of 3 years continuous successful experience in the rehabilitation of manholes similar to that required for this Project.
 - 2. The manhole lining Contractor shall be certified by the lining material manufacturer to install their manhole liner if the material requires a certified applicator. The County reserves the right to require an on-site manufacturer's representative, knowledgeable in the use and application of the material, for a minimum of two (2) working hours for each supplied material. The material representative shall direct and instruct the Contractor and inspector on the proper application Procedure.

1.4 REFERENCES

- A. Referenced ASTM Standards
- B. NASSCO Specifications
- C. Manufacturer's Specification

1.5 SUBMITTALS

The following submittals (A) shall be made with the Bid:

- A. **Contractor Qualifications.** The Contractor shall submit a copy of the manufacture's licensee certificate. If the Contractor is not licensed by the manufacture, then a manufacturer's representative will be on-site as explained in Section 1.3.E.2. Contractor shall also submit a list of ten (10) similar regional

projects completed within the last three (3) years including information such as number of manholes on project, manhole construction type, date completed, and a project cost.

The following submittals (B-D) shall be made at the pre-construction meeting:

- B. Material Certifications.** The Contractor shall furnish the manufacture's product data, installation instructions, applicable referenced work standards (American Society for Testing and Materials [ASTM], American Concrete institute [ACI], etc.), approved laboratory test reports that verify strength requirements of this specifications, and materials certification for each product used prior to material installation.
- C. Material Safety Data Sheet.** The Contractor shall submit Material Safety Data Sheets (MSDS) for all materials used for manhole rehabilitation.
- D. Application Methods and Equipment.** The Contractor shall submit a written description of the material application methods including the equipment that will be used.

The following submittal (E) shall be made two (2) days prior to manhole rehabilitation.

- E. Pre-rehabilitation photographs.** The Contractor shall submit a minimum of two (2) pre-photographs to the County before performing manhole rehabilitation work. One photograph shall be taken from the ground surface looking into the manhole and one shall be taken from the bottom of the manhole, as close to the invert as possible, looking upwards. Additional photographs of other pertinent features shall be taken if necessary. Digital photos submitted on CD are the required date.

The following submittal (F) shall be made immediately after manhole rehabilitation:

- F. Post-rehabilitation photographs.** The Contractor shall submit post-photographs to the County immediately following completion of the manhole rehabilitation. The same areas of the manholes will be photographed at the same angles as submitted in the pre-photographs. Digital photos submitted on CD are the required media.

1.6 PROJECT/SITE CONDITIONS

- A. Environmental Requirements.** Do not work in the presence of excessive amounts of water. Refer to Supplemental Specification SS-05, bypass Pumping.
- B. Safety.** All work to be completed in conformance with all applicable safety standards, in particular OSHA Standard 29CFR1910.146, Permit Required Confined Space Entry.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Cementitious materials shall be stored in weather tight, original packaging to protect against moisture and contamination.

1.8 SEQUENCING

- A. All required interruptions of flow through manholes, wet wells, pump stations or any other portion of the sanitary sewer system shall be coordinated with and approval received from the County Engineer prior to the interruption.

1.9 GUARANTEE

- A. When any work is accepted by the County there shall be a guarantee period extended for 12 months from the date of acceptance of the work. At any time during the guarantee period, the County may notify the Contractor and his Surety that certain repairs are necessary. Within 10 days after being so notified, the Contractor shall make such repairs as are declared necessary to comply with the order to repair as provided, said repairs may be made by the County and is hereby agreed by the Contractor that reimbursement shall be made to the County for 2.5 times said expense so incurred within the ten days following the receipt of the statement rendered to the Contractor by the County for said expense. Specifications for the work performed under this Contract shall govern in the making of repairs under this section. The Contractor shall take and provide photographs of the rehabilitated manholes as part of the 12 month warranty as directed by the County. The 12 month photographs shall be identical in nature to the pre- and post- rehabilitation photographs described in Section 1.5.E & F of this specification. A minimum of 2 photographs shall be submitted at the end of the 12 months guarantee period taken at the same angles as submitted in the pre- & post- rehabilitation photographs, including photographs of additional pertinent features.

PART 2: PRODUCTS

2.1 MATERIALS

Materials shall meet the following standards, specifications, or minimum strength requirements:

- A. **Water Plug.** Rapid setting hard mixed cementitious compound specifically formulated for use in stopping infiltration water.

Compressive Strength	2000PSI@24 hrs.	ASTM C-109
Bond	80PSI@24 hrs.	ASTM C-321

- B. **Cementitious Mortar Liner.** High strength corrosion resistant mortar specifically formulated for use in filling voids and repairing inverts which can be sprayed or troweled uniformly onto a vertical surface without sagging or excessive rebound.

Compressive Strength	9000 PSI @ 28 Days	ASTM C-109
Bond	2000 PSI @ 28 Days	ASTM C- 882
Shrinkage	0% @ 28 days at 90% R.H	ASTM C-157
Tensile Strength	800 PSI @28 days.	ASTM C-190
Flexural Strength	350 PSI @ 24 hrs.	ASTM C-293

- C. **Epoxy Corrosion Battier.** Corrosion resistant high build epoxy coating designed to be applied over cementitious mortar in brick, concrete, or metal structures. Product shall be from the Parsonpoxy line of products or approval equal. Must be designed to provide abrasion resistance in manholes. May be applied by brush or spray on methods in accordance with manufacturer’s recommendations.

Compressive Strength	195000 PSI	ASTM D-695
Tensile Strength	8000 PSI	ASTM D-638
Flexural Strength	130000 PSI	ASTM D-790
Flexural Modulus (long term)	375000 PSI	ASTM D- 638
Hardness	88 Shore D	ASTM D-2240

- D. **Grout.** Cementitious Grouting shall be installed and paid for per supplemental specifications SS-10 “Cementitious Groting”.

- E. **Water.** Water shall be portable.

2.2 EQUIPMENT

- A. Equipment shall be as recommended by the manufacturer to ensure proper application and shall be clean and in good working order according to the recommendations for safe operation.

PART 3: EXECUTION

3.1 GERNAL

- A. **Debris Dam.** The Contractor shall place a device in the manhole to catch any debris which may be displaced into the manhole during the performance of the work. **Work shall not proceed until this device is in place.**

- B. Visual Documentation.** The Contractor shall provide photographs before and after rehabilitation. Refer to sections 1.5.E and 1.5.F of this specification for detailed information.
- C. Cleaning.** Prior to any repair work inside the manhole, all interior wall and invert surfaces shall be cleaned using equipment capable of producing a minimum of 3500 pounds per square inch (psi) water to blast to remove all foreign matter, loose mortar, grease, oil residues, and to etch the surfaces. If the initial water blast cannot be utilized due to structural conditions in the manhole or it does not remove all deposits, then a solution of muriatic acid (hydrochloric acid) at a ratio of one part acid to ten parts water shall be applied, it shall be washed off completely and the manhole allowed to dry. The mixing, application, and removal of the acid solution shall be done in strict accordance with the manufacturer's specifications and safety procedures. All waste materials resulting from the cleaning operation shall be removed from the manhole being cleaned and properly disposed of by the Contractor.

3.2 REHABILITATION OF BRICK/ PRECAST MANHOLE

- A. Stopping infiltration.** The manhole walls shall be visually examined and sounded and/or probed for detection of the infiltration and identification of void areas outside of the manhole created by the infiltration. If any voids are detected, they shall be filled with cementitious grout and paid per Item SS-10 "Cementitious Grouting". Any infiltration in the manhole should be stopped using an approved water plug material. If infiltration through the manhole walls is heavy, up to four 5/8-inch diameter holes may be drilled around the base of the manhole to act as relief ports, allowing the water to seep into the manhole flow channel. Once the leaking walls have been sealed, the drilled relief holes shall be plugged with the specified water plug material. The cost of drilling these relief holes shall be included in the cost of the manhole rehabilitation items.
- B. Cementitious Mortar Lining.** The cementitious mortar lining may be applied with low pressure spray equipment or hand troweling methods. (requires approval of Owner). If hand troweling is to be utilized, consult manufacturer for special requirements (eg. scrubbing a bondcoat slurry onto the surface.) The cementitious material thickness application shall be a minimum of 1-inch from the inside face of the manhole wall. The Contractor shall cure in accordance with the manufacturer's instructions following the application of the final cementitious layer. The cementitious lining shall be applied in not more than two passes from bottom to top. No more than 6-hours shall elapse between successive passes on each manhole. The second pass cannot be made until the first pass has achieved initial set.
- C. Epoxy Corrosion Barrier.** The epoxy corrosion barrier shall offer a level of sulfide resistance compatible with the environment present in the existing sewer. Varying level of sulfide resistance compatible with the environment present in the

existing sewer. Varying levels of protection are offered by manufacturer's materials. The manhole wall surface shall be in a saturated, surface-dry condition immediately preceding application of the epoxy material, or in accordance with manufacturer's requirements.

The epoxy corrosion barrier shall be applied following inspection of the cementitious mortar lining application, within 24-hours of the final mortar application. The epoxy corrosion barrier shall be applied per the manufacturers recommendations using either spray equipment or hand troweling methods (requires approval of Owner). The application of the liner shall provide a monolithic liner of a minimum 80 mils thickness per coat applied to ensure that all voids are filled and crevices are filled and smoothed. The liner shall be applied to the invert, bench, and wall and shall all be equal in thickness as determined by the water table and product manufacturer. The manhole invert and bench shall be smooth and sloped in the direction of flow. The manhole bench shall have a gradual slope to the invert. The invert transition to the pipe shall be smooth and shall not impair the flow.

The Contractor shall sure in accordance with the manufacturer's instructions following the application of each layer. No application shall be made when ambient temperatures are less than 40 degrees Fahrenheit or when freezing is expected within 24 hours. A minimum of 30 minutes cure time or more as required by the product manufacturer shall be allowed before returning to active flow. No more than 24-hours shall elapse between successive passes on each manhole. The second pass cannot be made until the first pass has achieved initial set.

3.3 REHABILITATION BENCH AND CHANNEL

- A.** The bench and channel shall be prepared for rehabilitation as previously described for other portions of the manhole structure. The entire bench and channel area shall be reconstructed using the mortar as specified in section 2.1.B. The preparation work shall include all demolition of deteriorated concrete and removal of all deleterious material from the surfaces to be reconstructed and the removal of sound concrete such that the repair mortar shall not be less than 1-inch in thickness at any point as shown in the attached manhole rehabilitation drawings.
- B.** If active infiltration is present in the bench and channel area of the manhole, dewatering exterior to the manhole with a wellpoint may be required in order to facilitate the reconstruction. The dewatering shall continue for 8 hours (or per the manufactures recommendations) following completion of the bench and channel repair work. Dewatering wellpoint, if anticipated, will be included in the price bid for Item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation.

- C. Wastewater flow shall be maintained by methods which prevent contact with any of the repair work for 8 hours (or per the manufactures recommendations) following completion of the repair work.
- D. The work on the bench and channel shall also include the work necessary to obtain a watertight seal at all pipe connections, drop inlet connections and between the base and manhole walls. The flow line through the manhole shall be shaped to match the invert of the sewer liner to prevent any flow obstructions in the manhole.
- E. All work associated with Bench and Channel Rehabilitation shall be performed as directed by the County and paid for by item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation.

3.4 CLEAN UP

- A. The Contractor shall be responsible for containing and removal of all the rehabilitation material, rebound, and loose material caused by manhole rehabilitation.

3.5 FIELD QUALITY CONTROL

- A. **Visual Inspection.** Manhole sealing will be visually inspected for water tightness upon completion and at any time during warranty period. Any visible leaks or defects that appear shall be repaired to the Owner's satisfaction by the Contractor at no additional cost. The visual inspection upon completion of lining shall be photographed. These photographs shall serve as the post-rehabilitation photographs.
- B. **Testing Requirements.**
 - 1. Manhole liner shall be tested with a wet gauge as directed by the County's representative to verify prescribed thickness. Any area found with less than the prescribed thickness shall immediately receive the additional material needed.
 - 2. The Contractor shall provide two standard samples taken from each day's work with the date, location and job recorded for each sample. The samples shall be sent to an established, local, and reputable commercial testing laboratory that has been approved by the Owner to determine if lining materials meet the minimum requirements specified herein. The County reserves the right to require Contractor to take core samples and to patch the cored location at no additional cost.
 - 3. Each manhole shall be sounded by the Contractor at seven (7) days. Inspector must witness these soundings preformed by the Contractor.

Defects will be corrected by the Contractor to the Satisfaction of the Engineer.

3.6 MEASUREMENT AND PAYMENT

- A. Payment for all manhole rehabilitation item described herein (excluding Cementitious and Chemical Grouting of voids behind the manhole wall) shall be included in the unit price bid per for the SS-14 Line Item. Payment for all bench and channel rehabilitation items described in Section 3.3 shall be included in the unit price bid per Vertical Foot for the Item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation. Payment for all cementitious lining items described in Section 3.2 shall be included in the unit price bid for Item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation. Payment for all cementitious lining items described in Section 3.2 shall be included in the unit price bid for Item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
12	Ver. Feet	Mortar/Epoxy Composite Manhole Rehabilitation

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-15 REINFORCED EPOXY MANHOLE REHABILITATION

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PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The plans, general provisions of the Contract, Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION

- A.** This specification includes all work, material, operation, and equipment necessary to rehabilitate manholes applying a composite cured-in-place reinforced epoxy structural liner product to the walls, inverts, and benches of manholes resulting in a monolithic reinforced liner at a thickness as recommended by the manufacturer for the depth and water table in accordance with the plans, as specified within, or as designated by the Engineer, The reinforced epoxy structural liner project shall be Protective Liner

System's PerpetuWall project or approved equal. This item shall include all structural restoration; elimination of inflow and/or infiltration; manhole step removal; base and channel repair; excavation; removal and disposal of all excess materials; restoration; backfill; permanent and temporary pavement replacement ; clearing and grubbing; resetting, replacing, and/or raising casting to grade; and dewatering required for manhole rehabilitation. Pre-rehabilitation, post-rehabilitation, and 132 month warranty photographs shall be provided for all manholes.

1.3 QUALITY ASSURANCE

- A.** Furnish materials of quality required by the American Society for Testing and Materials ((ASTM) standards or other approved standards and specifications.
- B.** Provide guarantee against defective materials and workmanship in accordance with the requirements of these specifications.
- C.** The contractor installing the finished protective liner will be a certified trained applicator of the specified process.
- D.** Contractor's Qualifications
 - 1.** The manhole rehabilitation Contractor shall be a firm having a minimum of 3 years continuous successful experience in the rehabilitation of manholes similar to that required for this Project.
 - 2.** The manhole lining Contractor shall be certified by the lining material manufacture to install their manhole liner if the material requires a certified applicator. The county reserves the right to require an onsite manufacturer's representative, knowledgeable in the use and application of the material, for a minimum of two (2) working hours for each supplied material. The material representative shall direct and instruct the Contractor and inspector on the proper application procedure.

1.4 REFERENCES

- A.** Referenced ASTM Standards
- B.** NASSCO Specifications
- C.** Manufacturer's Specifications

1.5 SUBMITTALS

The following submittal (A) shall be mad with the Bid:

- A. Contractor Qualifications.** The Contractor shall submit a copy of the manufacturer's licensee certificate. If the Contractor is not licensed by the manufacturer then a manufacturer's representative will be on-site as explained in section 1.3.D.2. Contractor shall also submit a list of ten (10) similar regional projects completed within the last three (3) years including information such as number of manholes on project, manhole construction type, date completed, and project cost.

The following submittals (B-D) shall be made at the pre-construction meeting:

- B. Material Certifications.** The Contractor shall furnish the manufacturer's product data, installation instructions, applicable referenced work standards (American Society for Testing and Materials [ASTM], American Concrete Institute [ACI], etc.), approved laboratory test reports that verify strength requirements of this specification, and materials certification for each product used prior to material installation.
- C. Material Safety Data Sheet.** The Contractor shall submit Material Safety Data Sheets (MSDS) for all materials used for manhole rehabilitation.
- D. Application Methods and Equipment.** The Contractor shall submit a written description of the material application methods including the equipment that will be used.

The following submittal (E) shall be made two (2) days prior to manhole: rehabilitation.

- E. Pre-Rehabilitation photographs.** The Contractor shall submit a minimum of two (2) Pre-photographs to the County before performing manhole rehabilitation work. One photograph shall be taken from the ground surface looking into the manhole and one shall be taken from the bottom of the manhole, as close to the invert as possible, looking upwards. Additional photographs of other pertinent features shall be taken if necessary. Digital photos submitted on CD are the required media.

The following submittal (F) shall be made immediately after manhole rehabilitation:

- F. Post-rehabilitation photographs** The Contractor shall submit post-photographs to the County immediately following completion of the manhole rehabilitation. The same areas of the manhole will be photographed at the same angles as submitted the pre-photographs. Digital photos submitted on CD are the required media.

1.6 PROJECT SITE CONDITIONS

- A. **Environmental Requirements.** Do not work in the presence of excessive amounts of water. Refer to Supplemental Specifications SS-05, Bypass Pumping.
- B. **Safety.** All work to be completed in the conformance with all applicable safety standards, in particular OSHA Standard 29CFR1910.146, Permit Required Confined Space Entry.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Cementitious materials shall be stored in weather tight, original packaging to protect against moisture and contamination.

1.8 SEQUENCING

- A. All required interruptions of flow through manholes, wet wells, pump stations or any other portion of the sanitary sewer system shall be coordinated with and approval received from the County Engineer prior to the interruption.

1.9 GUARANTEE

- A. When any work is accepted by the County there shall be a guarantee periods extending for 12 months from the date of acceptance of the work. At any time during the guarantee period the County may notify the Contractor and his surety the certain repairs are necessary. Within 10 days after being so notified, the Contractor shall make such repairs as are declared necessary to restore the work to a good a serviceable condition. In the vents that the Contractor fails to comply with the order to repair as provided, said repairs may be made by the County for 2.5 times said expense to incurred within ten days following the receipt of a statement rendered to the Contractor by the County for said expense. Specifications for the work performed under the Contract shall govern in the making of repairs under this section. The Contractor shall take and provide photographs of the rehabilitated manholes as part of the 12 month warranty as directed by the County. The 12 month photographs shall be identical in nature to the pre- and post- rehabilitation photographs described in Section 1.5.E & F of this specification. A minimum of 2 photographs shall be submitted in the pre- & post- rehabilitation photographs, including photographs of additional pertinent features. Product shall also be protected by a (minimum) 5-year manufacturer's warranty.

PART 2: PRODUCTS

2.1 MATERIALS

Materials shall meet the following standards, specifications, or minimum strength requirements:

- A. Water Plug.** Rapid setting hand-mixed cementitious compound specifically formulated for the use in stopping infiltration water.

Compressive Strength	2000 PSI @ 24 hrs.	ASTM C-109
Bond	80 PSI @24 hrs.	ASTM-C-321

- B. Patching Mortar.** Rapid setting cementitious compound specifically formulated for use in filling voids and repairing inverts.

Compressive Strength	2000 PSI @24 hrs.	ASTM C-109
Bond	140 PSI @7 days	ASTM C-321
Shrinkage	0% @ 90% R.H	ASTM C-596

- C. Reinforced Epoxy Structural Manhole Liner.** Corrosion resistant, semi-structural epoxy lining system consisting of an 11-oz. fiberglass bonded fabric of Type E glass with stich bonded construction, modified epoxy resin of Bisphenol A epoxy resin cross-linked with a modified polyamide curing agent (100% solids, emitting no toxic odors), and mastic. The installed product will meet the following minimum physical properties:

Hardness	72 Shore D	ASTM D-2240
Tensile Strength	29,200 PSI	ASTM D-638
Compressive Strength	16,800 PSI	ASTM D-695
Flexural Strength	343,000 PSI	ASTM D-790
Ultimate Elongation	4.50%	ASTM D-638
Bond (Concrete)	Substrate Failure	ASTM D-4541
Flexural Modulus	1,590,000 PSI	ASTM D -790
Shear Strength	4,060 PSI	ASTM D-2344

- D. Grout.** Cementitious Grouting shall be installed and paid for per supplemental specification SS-10 “Cementitious Grouting”
- E. Water.** Water shall be potable.

2.2 EQUIPMENT

- A. Equipment shall be as recommended by the manufacturer to ensure proper application and shall be clean and in good working order according to the recommendations for safe operation.

PART 3: EXECUTION

3.1 GENERAL

- A. **Debris Dam.** The Contractor shall place a device in the manhole to catch any debris which may be displaced into the manhole during the performance of the work. **Work shall not proceed until this device is in place.**
- B. **Visual Documentation.** The Contractor shall provide photographs before and after rehabilitation. Refer to sections 1.5E and 1.5F of this specification for detailed information.
- C. **Cleaning.** Prior to any repair work inside the manhole, all interior wall and invert surfaces shall be cleaned using equipment capable of producing a minimum of 3,500 pounds per square inch (psi) water to blast to remove all foreign matter, loose mortar, grease, oil residues, and to etch the surfaces. If the initial water blast cannot be utilized due to structural conditions in the manhole or it does not remove all deposits, then a solution of muriatic acid (hydrochloric acid) at a ratio of one part acid to ten parts water shall be applied by spraying from above manhole. After the acid solution is applied, it shall be washed off completely and the manhole allowed to dry. The mixing application and removal of the acid solution shall be done in strict accordance with the manufacturer's specifications and safety procedures. All waste materials resulting from the cleaning operation shall be removed from the manhole being cleaned and properly disposed of the Contractor.

3.2 REHABILITATION OF BRICK/PRECAST MANHOLE

- A. **Stopping Infiltration.** The manhole wall shall be visually examined and sounded and/or probed for detection of infiltration and identification of void areas outside of the manhole created by the infiltration. If any voids are detected, they shall be filled with cementitious grout and paid per Item SS-10 "Cementitious Grouting". Any infiltration into the manhole should be stopped using an approved water plug material. If infiltration through the manhole walls is heavy, up to four 5/8-inch diameter holes may be drilled around the base of the manhole to act as relief ports, allowing the water to seep into the manhole flow channel. Once the leaking walls have been sealed, the drilled relief holes shall be plugged with the specified water plug material. The cost of drilling these relief holes shall be included in the cost of the manhole rehabilitation items.

- B. Reinforced Epoxy Structural Manhole Liner.** The epoxy corrosion barrier shall offer a level of sulfide resistance compatible with the environment present in the existing sewer. Varying levels of protection are offered by manufacture's materials. The manhole wall surface shall be in a saturated, surface-dry condition immediately preceding application of the material, or in accordance with a manufacture's requirement.

The epoxy corrosion barrier shall be applied following inspection of the Cementitious Mortar Lining application, within 24-hours of the grouting. The product shall be installed in accordance with the manufacturer's recommendations. The product shall be applied monolithically to the invert, bench, and wall of the structure) prepared in accordance with these specifications.) The manhole invert and bench shall be smoothed and sloped in the direction of flow. The manhole bench shall have a gradual slope to the invert. The invert transition to the pipe shall be smooth and shall not impair the flow. Mastic is first applied at thickness of 100 mils. Fiberglass Fabric shall then be cut into the required dimensions and pressed, using a putty knife, into the mastic to achieve full wetting of the fabric. With subsequent application of fabric the edges shall be overlapped. Epoxy is applied between the overlapped edges to assure a monolithic construction. The fabric shall be tip-coated with the mastic to ensure complete saturation and encapsulation of the fabric. The finished lining system shall have a minimum thickness of 125 mils, ensuring that all voids and crevices are filled and smoothed. The epoxy shall cure to within 5% of its strength before the structure is returned to service. Epoxy shall cure to full strength in no more than 5 days. All manufacture's recommendations for curing shall be followed, considering the temperature of the manhole environment.

3.3 REHABILITATION OF BENCH AND CHANNEL

- A.** The bench and channel shall be prepared for rehabilitation as previously described for other portions of the manhole structure. The entire bench and channel area shall be reconstructed using the mortar as specified in section 2.1.B. The preparation work shall include all demolition of deteriorated concrete and removal of all deleterious material from the surfaces to be reconstructed and removal of sound concrete such that the repair mortar shall not be less than 1-inch in thickness at any point as shown in the attached manhole rehabilitation drawings.
- B.** If active infiltration is present in the bench and channel area of the manhole, dewatering exterior to the manhole with a wellpoint may be required in order to facilitate the reconstruction. The dewatering shall continue for 8 hours (or per the manufacturer's recommendations) following completion of the bench and channel repair work. Dewatering wellpoint, if anticipated, will be included in the price bid for Item SS-15 Reinforced Epoxy Structural Manhole Rehabilitation.

- C. Wastewater flow shall be maintained by methods which prevent contact with any of the repair work for 8 hours (or per the manufactures recommendations) following completion of the repair work.
- D. The work on the bench and channel shall also include the work necessary to obtain a watertight seal at all pipe connections, drop inlet connections and between the base and manhole walls. The flowline through the manhole shall be shaped to match the invert of the sewer liner t prevent any flow obstructions in the manhole.
- E. All work associated with Bench and Channel Rehabilitation shall be performed as directed by the County and paid for by Item SS-15 Reinforced Epoxy Structural Manhole Rehabilitation.

3.4 CLEAN UP

- A. The Contractor shall be responsible for containing and removal of all the rehabilitation material, rebound, and loose material caused by manhole rehabilitation.

3.5 FIELD QUALITY CONTROL

- A. **Visual Inspection.** Manhole sealing will visually inspected for water tightness upon completion and at any time during warranty period. Any visible leaks or defects that appear shall be repaired to the Owner's satisfaction by the Contractor at no additional cost. The visual inspection upon completion of lining shall be photographed. These photographs shall service as the post-rehabilitation photographs.
- B. **Testing Requirements**
 - 1. Manhole liner shall be tested with a wet gauge as directed by the County's representative to verify prescribed thickness. Any area found with less than the prescribed thickness shall immediately receive the additional material needed. Visual inspection shall be in accordance with ASTM F-1743 Section 8.6
 - 2. The Contractor shall provide two standard samples taken from each day's work with the date, location, and job recorded for each sample. The samples shall be sent to an established, local, and reputable commercial testing laboratory that has been approved by the Owner to determined if lining materials meet the minimum requirements specified in ASTM F1216 or ASTM F-1743, Section 8 (flexural properties, wall thickness). The County reserves the right to require Contractor to take core samples and to patch the cored location at no additional cost.

- 3. Each manhole shall be sounded by the Contractor at seven (7) days. Inspector must witness these soundings performed by the Contractor. Defects will be corrected by the Contractor to the satisfaction of the Engineer.

3.6 MEASUREMENT AND PAYMENT

- A. Payment for all manhole rehabilitation items described herein (excluding Cementitious and Chemical Grouting of voids behind the manhole wall) shall be included in the unit price bid per for the SS-15 Line Item. Payment for all bench and channel rehabilitation items described in Section 3.3 shall be included in the unit price bid per Vertical Foot for the Item Ss-15 Reinforced Epoxy Structural Manhole Rehabilitation. Payment for all reinforced epoxy lining items described in Section 3.2 shall be included in the unit price bid for Item SS-15 Reinforced Epoxy Structural Manhole Rehabilitation.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
13	Ver. Feet	Reinforced Epoxy Structural Manhole Rehabilitation

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-24 FLEXIBLE MANHOLE CHIMNEY SEAL

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PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section

1.2 DESCRIPTION

- A. Description.** This specification included all work, materials, and equipment require to seal the frame and chimney of the manholes to make them watertight in accordance with the plans, as specified within, or as designated by the engineer. The purpose is to eliminate infiltration, restore structural integrity and provide corrosion protection by the application of a flexible sealant coating to the frame

and chimney surface of brick/concrete structures include but are not limited to manholes, wet wells, lift stations and pump stations.

1.3 QUALITY ASSURANCE

- A.** Furnish materials of quality required by the American Society for Testing and Materials (ASTM) standards or other approved standards and specifications.
- B.** Provide guarantee against defective materials and workmanship in accordance with the requirements of these specifications.
- C.** The contractor installing the finished protective seal will be a verified trained applicator of the specified process.
- D.** The manhole sealing Contractor shall be certified by the sealing material manufacturer to install their manhole sealant. The County reserves the right to require an on-site manufacturer's representative, knowledgeable in the use and application of the material. The material representative shall direct and instruct the Contractor and inspector on the proper application procedure.

1.4 REFERENCES

American Society for Testing and Materials (ASTM) Annual Book of Standards:

- A.** ASTM-D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomer-Tension
- B.** ASTM-D903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
- C.** ASTM-D 1004 Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting

1.5 SUBMITTALS

The following submittals (A-F) shall be made with the Bid:

- A. Contractor Qualifications.** The Contractor shall submit a copy of the manufacturer's licensee certificate.
- B. Material Certification.** Technical data sheet on each product used, including ASTM test results indicating the product conforms to and is suitable for its intended use per these specifications.
- C. Material Safety Data Sheets.** The Contractor shall submit Material Safety Data Sheets (MSDS) for all materials used for manhole sealant coating.

- D. Manufacture's Certification.** The Contractor shall submit a Certification by the sealant coating manufacture that the equipment to be used for applying the product has been approved, and that the Contractor's applicator personnel have been trained and certified for the proper use of the equipment.
- E. Application Methods and Equipment.** The Contractor shall submit a written description of the material application methods, including the equipment that will be used.
- F. Design Details.** The Contractor shall submit design details for any additional ancillary systems and equipment to be used in site and surface preparation, application, and testing.

The following submittal (G) shall be made two (2) days prior to flexible manhole sealant coating

- G.** Pre-coating photographs. The Contractor shall submit a minimum of two (2) pre-photographs to the County prior to application of the Flexible Chimney Seal. One photograph shall be taken from the ground surface looking into the manhole and one shall be taken from the bottom of the manhole, as close to the invert as possible, looking upwards. Additional photographs of other pertinent features shall be taken if necessary. Digital photos submitted on CD are the required media.

The following submittal (G) shall be made two (2) days prior to flexible manhole sealant coating

- H.** Post-coating photographs. The Contractor shall submit post-photographs to the County immediately following completion of the application of the Flexible Chimney Seal. The same areas of the manhole will be photographed at the same angles as submitted in the pre-photographs. Digital photos submitted on CD are the required media.

1.6 CONDITIONS

- A.** Safety: All work to be completed in conformance with all applicable safety standards, in particular OSHA Standard 29CFR1910.146, Permit Required Confined Space Entry.

1.7 SEQUENCING

- A.** All required interruptions of flow through manholes, wet wells, pump stations or any other portion of the sanitary sewer system shall be coordinated with and approval received from the County Engineer prior to the interruption.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Materials. Are to be kept dry, protected from weather and store under cover.
- B. Protective coating materials are to be stored between 50 deg F and 90 deg F. Do not store near flame, heat or strong oxidants.
- C. Protective coating materials are to handled according o their material safety data sheets.

1.9 GUARANTEE

- A. The Manufacture shall provide a three (3) year warranty as defined under the Certification of Preliminary Approval of Trenchless Technology Products.

PART 2: PRODUCTS

2.1 GENERAL

- A. **Manhole wall** shall be examined and rehabilitated through the application of the carious manhole rehabilitation methods contained in the project specifications. This rehabilitation shall be completed on the entire manhole, including the tip 8-inchees of the manhole. This preparation will be completed and paid for under the specific items defined in SS-13, SS-14 and SS-15.

2.2 MATERIALS

- A. **Flexible Sealant Coating.** Subject to compliance with requirements, the Contractor shall provide the following at the specified locations per plan:
 - 1. FlexSeal Utility Sealant® - Manufactured by Sealing System Inc.
 - 2. Or approval equal.
- B. **Design Para meters and Mechanical Properties.** The following values are to be used where indicated by an ASTM standard and shall serve as the minimum acceptable strength requirements for all flexible sealant coating.
 - 1. FlexSeal

FlexSeal Primer

Tensile Strength (ASTM D412	3200psi
Tensile Elongation (ASTM-D412	400%
Adhesive Strength (ASTM-D903)	400ib/in
Tear Resistance (ASTM-D1004	200ib/in

FlexSeal Final Coat

Tensile Strength (ASTM-D412)	1150 psi
Tensile Elongation (ASTM-D412)	800%
Adhesive Strength (ASTM-D903)	175 ib/in
Tear Resistance (ASTM-D 1004)	155ib/in

2.3 EQUIPMENT

- A. Equipment shall be as recommended by the manufacturer to ensure proper mixing and pumping of mortar and shall be clean and in good working order according to the recommendations for safe operation.

PART 3: EXECUTION

3.1 GENERAL

- A. **Debris Dam.** The Contractor shall place a device in the manhole to catch any debris that may be displayed into the manhole during the performance of the work. Work shall not proceed until this device is in place.
- B. **Visual Documentation.** The Contractor shall provide photographs before and after rehabilitation. Refer to sections 1.4.G and 1.4.H of this specification for detailed information. The photographs are to be labeled and of good quality. Other methods may be acceptable as approved by the Engineer.

3.2 SURFACE PREPARATION

- A. **Surface Inspection.** Applicator shall inspect all surfaces specified to receive coating prior to surface preparation. Applicator shall notify Owner of any noticeable disparity in the surfaces, which may interfere with the proper preparation, or application of the repair mortar and protective coating.
- B. **Surface Removal.** All concrete that is not sound or has been damaged by chemical exposure shall be removed to a sound concrete surface.
- C. **Contaminants.** All contaminants included all oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts or other contaminants shall be removed.
- D. **Surface Repair.** All surfaces shall be repaired as required by the coating system in the intended service condition.
- E. **Surfaces.** All surfaces to receive coating shall be cleaned and abraded to produce a sound concrete surface with adequate profile and porosity to provide a strong

bond between the protective coating and the substrate. Generally, this can be achieved with high pressure water cleaning using equipment capable of 5,000 psi at 4 gpm. Mechanical methods such as high pressure water jetting (refer to NACE Standard No. 5/SSPC-SP 12), abrasive blasting, shotblasting, grinding, or scarifying may also be used. Detergent water cleaning and hot water blasting may be necessary to remove oils and grease from the concrete. Whichever method(s) are used, they shall be performed in a manner that provides a uniform, sound, clean surface, that is not excessively damaged.

- F. Wire brushing** of the surface to ensure a clean surface will be completed as required by the manufacturer.
- G. Chlorine Solution.** A mild chlorine solution may be used to neutralize the surface to diminish microbiological bacteria growth prior to final rinse and coating.
- H. Water Infiltration.** Active water infiltration shall be stopped by using a cementitious water plug or hydroactive grout, which is compatible with the specified repair mortar and is suitable for topcoating with the specified protective coating.
- I. Surface Testing.** Prepared surfaces should be tested after cleaning but prior to application of the epoxy coating.
- J. Surface Re-inspection.** All surfaces should be inspected by the Inspector during and after preparation and before the repair mortar is applied.

3.3 APPLICATION OF REPAIR MATERIALS

- A. Exposed Structural Steel.** Areas where structural steel has been exposed or removed shall be repaired in accordance with the Project Engineer according to Owner's requirements and manufacturer's recommendations.
- B. Repair materials** shall meet the specifications in the appropriate manhole rehabilitations specification. The materials shall be trowel or spray applied utilizing proper equipment on to specified surfaces. The material thickness shall be specified by the County Engineer according to Owner's requirements and manufacturer's recommendations.
- C. Trowel Application.** If using approved cementitious repair materials, such shall be trowelled to provide a smooth surface with an average profile equivalent to coarse sandpaper to optimally receive the protective coating. No bugholes or honeycomb surfaces should remain after the final trowel procedure of the repair mortar.

- D. **Curing.** The repair materials shall be permitted to cure according to manufacturer's recommendations. Curing compounds should not be used unless approved by the protective coating manufacturer for compatibility with the specified protective coating.
- E. Observation by Manufacturer's Representative. Application procedure of the repair materials, if not performed by the coating certified applicator, should be observed by the protective coating manufacturer's representative or certified applicator to ensure proper finishing for suitability to receive the specified coating.
- F. **Surface Inspection and Cleaning.** After abrasive blast and active leak repair is performed all surfaces shall be inspected for remaining laitance prior to coating application. Any evidence of remaining contamination or laitance shall be removed by additional abrasive blast, shotblast, or to the approved method. Areas to be coated must be prepared after receiving a cementitious repair mortar and prior to application of the epoxy coating. All surfaces should be inspected during and after preparation and before the protective coating is applied.

3.4 APPLICATION OF MANHOLE COATING

- A. **Application procedures** shall conform to the recommendations of the coating manufacturer, including material handling, mixing, and environmental controls during application, safety, and application equipment.
- B. **Adhesive primer** shall then be applied (if required by manufacturer) by a Certified applicator of the coating manufacturer. The primer shall be applied to the entire surface area that is to be coated with the flexible chimney sealant.
- C. **Flexible Sealant Coating** shall be applied by a Certified applicator at a minimum thickness of 220mils to 250 mils by brush or trowel from a minimum of three (3) inches above the bottom of the manhole frame to three (3) inches below the point where the circular chimney section begins its flare into a conical shape. The flexible sealant shall form a waterproof corrosion resistant seal for the ring-chimney section of the manhole.

3.5 TESTING AND INSPECTION

- A. **Thickness Gage.** During application a wet film thickness gage shall be used to ensure a monolithic coating and uniform thickness during application.
- B. **Final visual inspection** shall be made by the Inspector and manufacturer's representative. Any deficiencies in the finished coating shall be marked and repaired according to the procedures set forth herein by Applicator.

3.6 CLEANING

- A. Trash and loose debris shall not be permitted to accumulate at the project site. All items shall be regularly removed and disposed of at an approved site in accordance with applicable regulatory agencies.

3.7 MEASUREMENT AND PAYMENT

- A. The work specified under this item shall be paid for at the unit bid price per each. Payment will include all material, labor, equipment and sealant system accessories for preparation and installation of this item. All grouting, patching, or other miscellaneous rehabilitation for structural preparation of the chimney of the manhole shall be paid under the specific items defined under SS-10 Cementitious Grouting and Manhole Rehabilitation Items.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
14	Each	Chimney Seal (Flex-Seal Product or Equal)

END OF SECTION

OPWC PROPOSAL NOTES – For insertion into Bid Documents (Rev 6/16)

1. STEEL PRODUCTS MADE IN THE UNITED STATES

Domestic steel use requirements as specified in Ohio Revised Code §153.011 apply to this project. Copies of §153.011 can be obtained from any of the offices of the department of administrative services or through <http://codes.ohio.gov/orc/153.011>.

2. PREVAILING WAGES ON STATE PROJECTS WITH NO FEDERAL-AID (Should this project contain Federal-aid funds then Federal Prevailing Wages must be paid. Contact the appropriate Federal funding agency for language.)

This contract is subject to Ohio Prevailing Wage Laws, Chapter 4115 of the Ohio Revised Code and the Contractor and all subcontractors shall comply with all provisions contained therein or as otherwise provided by this note. The Contractor guarantees that the prevailing wage scale to be paid to all laborers and mechanics employed on this contract shall be in accordance with the schedule of the prevailing hourly wage and fringe benefits as determined by the Ohio Department of Commerce for the county in which the work is being performed. The failure to pay prevailing wages to all laborers and mechanics employed on this project shall be considered a breach of contract. Such a failure may result in the revocation of the contractor's and/or subcontractor's certificate of qualification and debarment. A schedule of the most current prevailing wage rates may be accessed by logging in/registering with the Ohio Department of Commerce, Labor and Worker Safety Division, Wage and Hour Bureau at the following web address:

<http://198.234.41.198/w3/webwh.nsf/wrlogin/?openform>

The Contractor and all subcontractors shall compensate the employees on this contract at a pay rate not less than the hourly wage and fringe rate listed on the website noted above, for the applicable job classification or as may be modified by the Ohio Department of Commerce, Division of Labor and Worker Safety Wage and Hour Bureau, when new prevailing rates are established.

Overtime shall be paid at one and one-half times the basic hourly rate for any hours worked beyond forty hours during a pay week. The Contractor and all subcontractors shall pay all compensation by company check to the worker and fringe benefit program.

The wage and fringe rates determined for this project or as may be later modified, shall be posted by the Contractor in a prominent and accessible place on the project, field office, or equipment yard where they can be easily read by the workers or otherwise made available to the workers. On the first pay date of contract work the Contractor and all subcontractors shall furnish each employee covered by prevailing wage a completed form (WHPW-1512) in accordance with section 4115.05 of the Ohio Revised Code, showing the classification, hourly pay rate, and fringes, and identifying the public authority's Prevailing Wage Coordinator, if such employees are not covered by a collective bargaining agreement or understanding between employers and bona fide organizations of labor. These forms shall be signed by the Contractor or subcontractor and the employee and kept in the Contractor's or subcontractor's payroll files.

The Contractor and all subcontractors shall submit to the Prevailing Wage Coordinator, certified payrolls on form WHPW-1512 or equivalent, in accordance with sections 4115.07 and 4115.071 (C) of the Ohio Revised Code, three weeks after the start of work and every subsequent week until the completion of the contract. Additionally, a copy of the "Apprentice Certification" obtained from the Ohio State Apprenticeship Council, must accompany all certified payrolls submitted, for all apprentices working on this project. Upon completion of the contract and before the final payment, the Contractor shall submit to the Prevailing Wage Coordinator a final wage affidavit in accordance with section 4115.07 of the Ohio Revised Code stating that wages have been paid in conformance with the minimum rates set forth in the contract. Please be aware that it is ultimately the responsibility of the Contractor to ensure that all laws relating to prevailing wages in Chapter 4115 of the Ohio Revised Code are strictly adhered to by all subcontractors.

The Contractor and all subcontractors shall make all of its payroll records available for inspection, copying

or transcription by any authorized representative of the contracting agency. Additionally, the Contractor and all subcontractors shall permit such representatives to interview any employees during working hours while the employee is on the job.

3. UNRESOLVED FINDING FOR RECOVERY

The Contractor affirmatively represents to the local contracting authority that it is not subject to a finding for recovery under Ohio Revised Code §9.24, or that it has taken the appropriate remedial steps required under §9.24 or otherwise qualifies under that section. The Contractor agrees that if this representation is deemed to be false, the contract shall be void ab initio as between the parties to this contract, and any funds paid by the state hereunder shall be immediately repaid to the local contracting authority, or an action for recovery may be immediately commenced by the local government and/or for recovery of said funds.

4. OHIO WORKERS' COMPENSATION COVERAGE

The Contractor must secure and maintain valid Ohio workers' compensation coverage until the project has been finally accepted by the local contracting authority. A certificate of coverage evidencing valid workers' compensation coverage must be submitted to the local contracting authority before the contract is executed.

The Contractor must immediately notify the local contracting authority, in writing, if it or any subcontractor fails or refuses to renew their workers' compensation coverage. Furthermore, the Contractor must notify the local contracting authority, in writing, if its or any of its subcontractor's workers' compensation policies are canceled, terminated or lapse.

The failure to maintain valid workers' compensation coverage shall be considered a breach of contract which may result in the Contractor or subcontractor being removed from the project, withholding of pay estimates and/or termination of the contract.

5. DRUG-FREE WORKPLACE PROGRAM

In accordance with Ohio Revised Code §153.03 and during the life of this project, the Contractor and all its Subcontractors that provide labor on the Project site must be enrolled in and remain in good standing in the Ohio Bureau of Worker's Compensation ("OBWC") Drug-Free Workplace Program ("DFWP") or a comparable program approved by the OBWC.

6. OHIO PREFERENCE

In accordance with Ohio Revised Code §164.05 (A)(6), to the extent practicable, the Contractor and subcontractor shall use Ohio products, materials, services and labor in connection with this project.

7. BID GUARANTY

In accordance with Ohio Revised Code §153.54, the contractor shall file with the bid a bid guaranty in the form of either: 1) a bond for the full amount of the bid, or 2) a certified check, cashier's check, or letter of credit equal to 10% of the bid.

8. OHIO ETHICS LAW

Contractor agrees that it is currently in compliance and will continue to adhere to the requirements of Ohio Ethics law as provided by Section 102.03 and 102.04 of the Ohio Revised Code.

9. STATE OF OHIO EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

NOTICE TO CONTRACTORS:

The provisions of the Ohio Administrative Code (OAC) 123:2-3-02 through 124:2-9 regarding Equal Employment Opportunity on State Construction Contracts and State-assisted Construction Contracts, and OAC 123:2-3-02 through 123:2-9 regarding Equal Employment Opportunity and Female Utilization Goals are applicable to this project, and each contractor will be required to comply in all aspects of these provisions.

CERTIFICATE OF COMPLIANCE FOR EEO PURPOSES:

All prime contractors must secure a valid Certificate of Compliance from the Department of Administrative Services, Equal Opportunity Division, prior to execution of a construction contract.

See <http://www.das.ohio.gov/Divisions/EqualOpportunity/CertificateofCompliance/tabid/129/Default.aspx> for instructions for electronic filing.

>>> Does this bidder have a valid Certificate of Compliance? ___Yes ___No

>>> If "No" to the above, will this bidder be able to obtain a valid Certificate of Compliance prior to the execution of a contract? ___Yes ___No

Bidder must provide a "Yes" answer to one or the other of the above questions.

BIDDER'S AFFIRMATIVE ACTION REQUIREMENTS:

Each prime contract bidder must submit an affirmative action program regarding equal employment opportunity to and receive approval from the State Equal Employment Opportunity (EEO) Coordinator prior to the bid opening, **OR** the prime contract bidder must have evidence within its bid adoption of the minority and female utilization work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

>>> Has the prime contract bidder prepared and submitted an Affirmative Action Program to the State Equal Employment Opportunity Coordinator and that program has been approved by the State Equal Employment Opportunity Coordinator prior to the bid opening ? ___Yes ___No

>>>If "no", with this bid response, the prime contract bidder hereby adopts the minority and female work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

BIDDER'S EEO COVENANTS:

Throughout its performance of any contract awarded to it on this State-assisted project, the prime contract bidder agrees to the following covenants:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry or sex. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, ancestry or sex. Such action shall include, but is not limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will in all solicitations or advertisements for employees placed by or on behalf of the prime contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry or sex.

(3) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the State Administering Agency advising the said labor union or workers' representatives of the contractor's commitments under this covenant and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of the Ohio Department of Administrative Services, Equal Opportunity Division and with the implementing rules, regulations and applicable orders of the State Equal Employment Opportunity Coordinator.

(5) The contractor agrees to fully cooperate with the State Administering Agency, the State Equal Employment Opportunity Coordinator and with any other official or agency, or the State or Federal government which seeks to eliminate unlawful employment discrimination, and with all other State and Federal efforts to assure equal employment practices under its contract and the contractor shall comply promptly with all requests and directions from the State Administering Agency, the State Equal Employment Opportunity Coordinator and any of the State of Ohio officials and agencies in this regard, both before and during construction.

(6) Full cooperation as expressed in clause (5), above, shall include, but not be limited to, being a witness and permitting employees to be witnesses and complainants in any proceeding involving questions of unlawful employment practices, furnishing all information and monthly utilization work hour reports required by the OAC 123: 2-9-01 and by the rules, regulations and orders of the State Equal Employment Opportunity Coordinator pursuant thereto, and permitting access to its books, records, and accounts by the State Administering Agency and the State Equal Employment Opportunity Coordinator for purposes of investigation to ascertain compliance with such rules, regulations and orders. Specifically, contractors will submit workforce utilization reports to the State Equal Opportunity Coordinator by the 10th of each month. The monthly reports must be electronically submitted through the following website: <http://das.ohio.gov/EOD/CCInputForm29.htm>

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of its contract or with any of the said rules, regulations, or orders, its contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further State Contracts or State-assisted Construction Contracts in accordance with procedures authorized in OAC 123:2-3 through 2-9 and such other sanctions may be instituted and remedies invoked, as provided in OAC 123:2-3 through 2-9 or by regulation, or order of the State Equal Employment Opportunity Coordinator, or as otherwise provided by law.

In the event that its contract is terminated for a material breach of OAC 123:2-3 through 2-9 the contractor shall become liable for any and all damages which shall accrue to the State Administering Agency and Applicant and the State of Ohio as a result of said breach.

(8) The contractor will require the inclusion of language reflecting these same eight covenants within every subcontract or purchase order it executes in the performance of its contract unless exempted by rules, regulations or orders of the State Equal Employment Opportunity Coordinator issued pursuant to O.A.C. 123:2-3-02 so that these provisions will be binding upon each subcontractor or vendor. The contractor will take such actions as the Administering Agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in any litigation with a subcontractor, vendor or other party as a result of such direction by the State Administering Agency, the contractor may be requested to protect the interests of the State.

>>>The prime contract bidder hereby adopts the foregoing covenants ? ___Yes ___No

BIDDER'S CERTIFICATION:

The undersigned, being a duly authorized officer of the prime contract bidder, does hereby certify to and agree with the foregoing statements and covenants regarding its subscription to the State's Equal Employment Opportunity Requirements for State-assisted Construction Contracts.

_____/_____/_____
Signature of Authorized Officer Date

Title

>>> PLEASE NOTE: Only a bidder possessing a valid certificate will be awarded a contract pursuant to Chapter 153 of the Revised Code by an owner referred to in section 153.01 of the Revised Code. Application shall be made at least ten working days prior to the date that the bidder expects to receive the certificate. The bidder's failure to elect one of the two Bidder's Affirmative Action Requirements, adopt the Bidder's EEO Covenants, and complete the foregoing certification may cause the bidder's proposal to be rejected as being non-responsive to the State's Equal Employment Opportunity Requirements and in non-compliance with the State Equal Employment Opportunity Bid Conditions. In addition, the bidder must, prior to the execution of a contract, submit to the local subdivision a valid Certificate of Compliance for Equal Employment Opportunity purposes.

"APPENDIX A" OF THE STATE EEO BID CONDITIONS

MINORITY MANPOWER UTILIZATION GOALS AND TIMETABLES

The following minority goals listed are expressed in terms of percentages of work hours for each trade to be used by the contractor in a designated area. Designated areas are defined as Ohio's Standard Metropolitan Statistical Areas (SMSA). They are: Akron, Cincinnati, Cleveland, Columbus, Dayton, Toledo and Youngstown-Warren. In cases where the project is not located in a designated area, the contractor may adopt minority utilization goals of the near/nearest designated area.

	AKRON		CINCINNATI		CLEVELAND	
			<u>Trade</u>		<u>Trade</u>	
All Trades	10%		Asbestos Workers	9%	Asbestos Workers	17%
			Boilermakers	9%	Boilermakers	10%
			Carpenters	10%	Carpenters	16%
			Elevator Constructors	11%	Electricians	20%
			Floor Layers	10%	Elevator Constructors	20%
			Glaziers	10%	Floor Layers	11%
			Lathers	10%	Glaziers	17%
			Marble, Tile, Terrazzo	8%	Ironworkers	13%
			Millwright	10%	Operating Engineers	17%
			Operating Engineers	11%	Painters	17%
			Painters	11%	Pipefitters	17%
			Pipefitters	11%	Plasterers	20%
			Plasterers	10%	Plumbers	17%
			Plumbers	11%	Roofers	17%
			Sheet Metal Workers	11%	Other Trades	17%
			Other Trades	11%		

"APPENDIX B" OF THE STATE EEO BID CONDITIONS

SPECIFIC AFFIRMATIVE ACTION STEPS

The following Affirmative Action steps are directed at increasing minority utilization:

(1) The contractor should maintain a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the contractor, and the reasons therefore. If such individual was sent to the union hiring hall for referral and not referred back by the union or if referred back by the union or if referred, not employed by the contractor, the file should document this and the reason therefore.

To Demonstrate Compliance: Maintain a file of the names, addresses, telephone numbers, and craft of each minority and female applicant showing (a) the date of contact and whether the person was hired; if not, the reason, (b) if the person was sent to a union for referral, and the results (c) follow-up contacts when the contractor was hiring.

(2) The contractor should promptly notify the State Contracting Agency when the Union or Unions with which the contractor has collective bargaining agreements does not refer to the contractor a minority or female worker referred (to the union) by the contractor, or when the contractor has information that the union referral process has impeded efforts to meet its goals.

To Demonstrate Compliance: Have a copy of letters sent, or do not claim the union is impeding the contractors' efforts to comply.

(3) The contractor should disseminate its Equal Employment Opportunity policy within its organization by including it in any company newsletters and annual reports; by advertising at reasonable intervals in union publications; by posting of the policy; by specific review of the policy with minority and female employees; and by conducting staff meetings to explain and discuss the policy.

To Demonstrate Compliance: Have a written EEO policy which includes the name and how to contact the contractor's EEO Officer and (a) include the policy in any company policy manuals, (b) post a copy of the Policy on all company bulletin boards (in the office and on all job sites), (c) records, such as reports or diaries, etc., that each minority and female employee is aware of the Policy and that it has been discussed with them, (d) that the policy has been discussed regularly at staff meetings and (3) copies of newsletters and annual reports which include the Policy.

(4) The contractor should continually monitor all personnel activities to ensure that its EEO policy is being carried out, including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.

To Demonstrate Compliance: Have records that the company EEO Officer reviews all: (a) monthly workforce reports, (b) hiring and terminations, (c) training provided on-the-job, (d) minority and female employees quarterly for promotion and encourages them to prepare for and seek promotion. The records should be the EEO Officer's job description, reports, memos, personnel files, etc., documenting the activities for possible discriminatory patterns.

(5) The contractor should disseminate its EEO policy externally by informing and discussing it with all recruiting sources; by advertising it in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.

To Demonstrate Compliance: Have copies of (a) letters sent, at least six months or at the start of each new major contract, to all recruiting sources (including labor unions) requiring compliance with the

Policy, (b) advertising, which has the EEO "tagline" on the bottom, and (c) purchase order and subcontract agreement forms will include or make reference to the State EEO Covenant, Appendix A or B of the Ohio Administrative Code 123:2-3-02.

(6) The contractor should make specific and reasonably recurrent oral and written recruitment efforts directed at minority and women's organizations, and training organizations with the contractor's recruitment area.

To Demonstrate Compliance: Have a record either in a follow-up file for each organization or on the reverse of the notification letter sent under Item 1, above, of the dates, individuals contacted and the results of the contract from telephone calls or personal meetings with the individuals or groups notified under Item 1.

(7) The contractor, where reasonable, should develop on-the-job training opportunities and participate and assist in all Department of Labor funded and/or approved training programs (including Apprenticeship) Programs relevant to the contractor's employee needs consistent with its obligations in the Bid Conditions.

To Demonstrate Compliance: Have records of contributions in cash, equipment supplied and/or contractor personnel provided as instructors for Bureau of Apprenticeship and Training approved or Department of Labor funded training programs and records of the hiring and training of minorities and females referred to Company by such programs.

(8) The contractor should solicit bids for subcontracts (and joint ventures) from available minority and female subcontractors engaged in the trades covered by the Bid Conditions, including circulation of minority and female contractors associations.

To Demonstrate Compliance: Have copies of letters or other direct solicitation of bids for subcontracts/joint ventures from minority/female contractors with a record of the specific response and any follow-up the contractor has done to obtain a price quotation or to assist a minority/female contractor in preparing or reducing a price quotation; have a list of all minority/female subcontracts awarded or joint ventures participated in with dollar amounts, etc.

EXPLANATION OF AN ACCEPTABLE AFFIRMATIVE ACTION PROGRAM:

An Affirmative Action Program is a set of specific and result-oriented procedures to which a Contractor shall apply every good faith effort. The objective of those procedures and efforts is to assure equal employment opportunity. An acceptable Affirmative Action Program will include an analysis of all trades employed by the Contractor within the last year with an explanation of whether Minorities are currently being under-utilized in any one or more trades. A necessary prerequisite to the development of a satisfactory Affirmative Action Program is the identification and analysis of problem areas inherent in Minority employment and an evaluation of opportunities for utilization of Minority group personnel.

Part I - Basic Contents of an Affirmative Action Program:

1. Development or reaffirmation of the contractor's EEO policy in all personnel actions.
2. Formal internal and external dissemination of contractor's EEO policy.
3. Establishment of responsibilities for implementation of the contractor's affirmative action program.
4. Identification of problem areas (deficiencies) by organizational units and job classification.

5. Establishment of goals and objectives by organizational units and job classification, including timetables for completion.
6. Development and execution of action oriented programs designed to eliminate problems and further designed to attain established goals and objectives.
7. Design and implementation of internal audit and reporting systems to measure effectiveness of the total programs.
8. Compliance of personnel policies and practices with Federal sex discrimination guidelines (41 CFR Part 60-20).
9. Active support of local and national community action programs and community service programs, designed to improve the employment opportunities of minorities.
10. Consideration of ethnic minorities and women not currently in the work force having requisite skills who can be recruited through affirmative action measures.
11. Summary data on applicant flow, hires, terminations and promotions, and training for the last twelve months or the last one hundred applicants, hires, etc., whichever is less.

Part II - Analysis of Individual Trades

1. The minority population of the labor area surrounding (contractor's) projects.
2. The size of the minority unemployment force in the labor area surrounding (the contractor's) projects.
3. The percentage of minority work force as compared with the total work force in the immediate labor area.
4. The general availability of minorities having requisite skills in the immediate labor area.
5. The availability of minorities having requisite skills in the area in which the contractor can reasonably recruit.
6. The availability of promotable minority employees within the contractor's organization.
7. The anticipated expansion, contraction, and turnover of an in the work force.
8. The existence of training institutions capable of training minorities in the requisite skills.
9. The degree of training which the contractor is reasonably able to undertake as a means of making all job classes available to minorities.

Goals, timetables and affirmative action commitments must be designed to correct any identifiable deficiencies. Where deficiencies exist and where numbers or percentages are relevant in developing corrective action, the contractor shall establish and set forth specific goals and timetables. Such goals and timetables, with supporting data and the analysis thereof shall be a part of the contractor's written affirmative action program. Where the contractor has not established a goal, its written affirmative action program must specifically analyze each of the factors listed above, and must detail its reason for a lack of a goal. The goals and timetables should be attainable in terms of the contractor's analysis of its deficiencies and its entire action. Thus, in establishing its goals and timetables, the contractor should consider the results which could be reasonably expected from its good faith efforts to make its overall affirmative action program work. If the contractor does not meet its goals and timetables, the

contractor's good faith efforts shall be judged as to whether the contractor is following its program and attempting to make the program work toward the attainment of its goals.

Support data for the above analysis and program shall be compiled and maintained as part of the contractor's affirmative action program. This data should include applicant flow data and applicant rejection ratios indicating minority status.

Compliance Status: No State Contractor's compliance status shall be judged alone by whether or not he reaches his goals and meets his timetables. Rather each Contractor's compliance posture shall be reviewed and determined by reviewing the contents of his program, the extent of his adherence to his program and his good faith efforts to make his program work toward the realization of the program's goals within the timetables set for completion.

“APPENDIX C” OF THE STATE EEO BID CONDITIONS

FEMALE UTILIZATION GOALS

OAC 123:2-3-05 Required utilization analysis and goals

(A) Each state-involved contractor shall include in his/her affirmative action program the information and analysis required pursuant to part IV 401-C of appendix A of rule 123:2-1-01 of the Administrative Code, in addition to female utilization requirements pursuant to the governor's "Executive Order 84-9" and this rule.

(B) As required by the governor's "Executive Order 84-9", the utilization of women shall be, at a minimum, that currently in use by the federal government as of February 15, 1984. This requirement stated at C.F.R. part 60-4 is 6.9 percent utilization of women. This requirement shall remain at 6.9 percent unless further amended by the governor in a subsequent order. This requirement shall be met by a determination of work hours utilized in the same manner as minority utilization hours are calculated.

BID/CONTRACT DOCUMENTS

**WAYNESVILLE COLLECTION SYSTEM
IMPROVEMENTS PROJECT, PHASE 1**

WARREN COUNTY WATER & SEWER
DEPARTMENT

WARREN COUNTY BOARD OF COMMISSIONERS
406 JUSTICE DRIVE
LEBANON, OHIO 45036
(513) 695-1250

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VOLUME II

TECHNICAL SPECIFICATIONS - AUGUST 2018

SECTION 00040 - INVITATION TO BIDDERS

Separate sealed bids for the Waynesville Collection System Improvements Project, Phase 1 will be received by the Warren County Board of Commissioners at the Office of the Warren County Commissioners, 406 Justice Drive, Lebanon, Ohio 45036, until October 4, 2018 @ 11:00 a.m. and then at said time publicly opened and read aloud.

Bid documents, drawings and specifications are available online at the Warren County's Website at <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>. Existing sanitary sewer video is available upon request. Please Contact Chris Wojnicz at Warren County Water and Sewer Department, (513) 695- 1646.

The project description: Work includes a Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5, 500 feet), two segments of 18- inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes. The Engineer's opinion of probable construction cost is \$900,000.

A Bid guaranty, as required by Ohio Revised Code, Section 153.54, shall accompany each proposal submitted, as follows:

1. A Certified check, cashier's check, or letter of credit equal to ten (10) percent of the bid. A letter of credit may only be revocable by the Owner. Upon entering into a contract with the Owner, the contractor must file a performance bond for the amount of the contract, and the bid guaranty will then be returned to the successful and unsuccessful bidders upon contract execution. **OR**
2. A form of bid guaranty bond (attached) for the full amount of the bid. Such bond is retained for the successful bidder, but returned to unsuccessful bidders after the contract is executed.

Attention of bidders is called to all of the requirements contained in the bid packet. No bidder may withdraw his bid within sixty (60) days after the actual date of the opening thereof. All bids shall be properly signed by an authorized representative of the bidder. All bids shall be sealed and plainly marked:

BID OPENING– WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS PHASE 1, PROJECT, OCTOBER 4, 2018 @ 11:00 a.m.

Warren County reserves the right to reject any or all bids submitted, to waive any irregularities in bids, and enter into a contract with the Bidder who in Warren County's consideration offered the lowest and best bid.

By order of the Board of County Commissioner, County of Warren, State of Ohio.

Tina Osborne, Clerk

SECTION 00100 - BID PROPOSAL

The undersigned declares that the only persons or parties in this Bid are as stated; that the Bid in make without any collusion with other persons, firms, or corporations; that all the Contract Documents as prepared have been carefully examined; that the undersigned is fully informed in regard to all conditions pertaining to the Work and the place where it is to be done, and from them the undersigned makes this Bid. The undersigned do hereby propose to furnish all labor, materials, tools, equipment, etc., necessary to complete the work along High and Main Streets in Waynesville, Ohio. The premiums for all Bonds required shall be paid by the Contractor and shall be included in the Contract Price. The undersigned Bidder further agrees that the Bid Security accompanying this Bid shall become the property of the County if the Bidder fails to execute the Agreement.

The undersigned hereby agrees that the Contract Time shall commence on the date stipulated in the Notice to Proceed and to complete the work in accordance with the terms as stated in the Contract Agreement, and in accordance with the following schedule milestones:

The Owner shall issue a "Notice to Proceed" within 14 days of contract execution. The start of the project shall be determined by the successful bidder and identified in a written preliminary project schedule submitted by the Bidder to the Owner within 30 days of the effective date of the Contract Agreement. The Bidder shall complete the work in accordance with the terms as stated in the Contract Agreement, and in accordance with the following schedule milestones:

- a. Substantial completion shall be within 150 days from Notice to Proceed
- b. Final completion, site restoration work complete, and Contract Closeout shall be within 180 days from Notice to Proceed

The undersigned acknowledges receipt of the following Addenda:

No. _____, dated _____, 2018

No. _____, dated _____, 2018

No. _____, dated _____, 2018

Bids shall include all costs incurred for the Work including materials, equipment, supplies, labor, permit fees, taxes, insurance, miscellaneous costs, overhead, and profit. All Material must comply with the specifications shown on the contract drawings.

The written/typed Total Bid price is for the convenience of the Owner in comparing bids. Any discrepancy between the actual sum of the line item totals and the written/typed total bid price shall be resolved in favor of the actual sum of the correct individual line item.

The undersigned hereby certifies under the penalty of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person or entity. The bid proposals shall remain in full force and effect for ninety (90) days after the date of opening bids. The full name and address of all persons and parties interested in the foregoing bids as principals are as follows:

Individual, Partnership, or Corporation

Signature of Corporate Officer, President, or Owner

Notice of acceptance should be mail or delivered to the following:

(Contact Name)

(Contact Title)

(Company Name)

(Business Address)

(City and State)

(Contact Number)

Date: _____

SECTION 00120 - EXCEPTION SHEET

Exceptions: Exceptions to any bid specification must be clearly stated on this sheet. This sheet must be submitted with each bid. If there are no exceptions, please indicate "none" below.

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____
- 7) _____
- 8) _____
- 9) _____
- 10) _____

SECTION 00130 - BIDDER IDENTIFICATION

ATTENTION BIDDER: Please fill out this form and submit with your bid.

COMPANY NAME: _____

CHIEF EXECUTIVE OFFICER: _____

ADDRESS: _____

PHONE NUMBER: _____

FAX NUMBER: _____

PROJECT CONTACT PERSON: _____

PHONE NUMBER: _____

E-MAIL ADDRESS: _____

FEDERAL ID #: _____

WEBSITE ADDRESS: _____

SECTION 00200 - GENERAL INSTRUCTIONS TO BIDDERS

1. **Receipt and Opening of Bids:** The Warren County Board of Commissioners (herein referred to as "Owner"), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the Office of the Warren County Board of Commissioners until October 4, 2018 @ 11:00 a.m. and then at said office publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to Warren County Board of Commissioners at 406 Justice Drive, Lebanon, Ohio 45036, and shall be clearly marked

BID OPENING– WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS PHASE 1 PROJECT, OCTOBER 4, 2018 @ 11:00 a.m.

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual date of the opening thereof.

2. **Bid Documents:** Bid documents, construction drawings, specifications, geotechnical report, addenda, plan holders list, and other information are available online, free of charge, at the Warren County's Website at <http://www.co.warren.oh.us/commissioners/Resources/Default.aspx>. Contact Chris Wojnicz at christopher.wojnicz@co.warren.oh.us to be added to the plan holders list. All Addenda will be posted on the aforementioned website and shall not be mailed to the bidders. Bidders shall be responsible for checking the website prior to submitting their bids.

3. **Withdraw of Bid:** A Bidder may withdraw his bid from consideration if the price bid was substantially lower than the other bids, provided the bid was submitted in good faith and the reason for the price being substantially lower was a clerical mistake as opposed to a judgment mistake and was actually due to an unintentional omission of a substantial quantity of work, labor or material made directly in the compilation of the bid. Request to withdraw such bid must be made in writing and filed with the Owner within two business days after the opening of bids and prior to the acceptance thereof.

4. **Preparation of Bid:** Each bid must be submitted on the prescribed form and such documents as hereunder described. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures, and the foregoing certifications must be fully completed and executed when submitted.

5. **Method of Bidding:** Bids shall be submitted at the time and place indicated in the Invitation to Bidder and shall be included in a sealed envelope, marked with the project title and name and address of the bidder and accompanied by the bid security and other required documents.

Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted at any time prior to the opening of bids.

The Owner invites unit price bids for the construction described in the plans and specifications. These unit prices shall be extended by estimated quantities to develop a total price for the project.

The estimate of quantities of work, if included in the Proposal, is approximate only, and will not become the basis for calculating final payment for the work. However, the estimated quantities shall be used by the Owner in calculating the total amount of the Proposal for comparison of bids.

If the total price received from the lowest and best bidder exceeds the amount of funds available to finance the contract, the Owner may:

- a. Reject all bids;
 - b. Augment the funds available in an amount sufficient to enable award to the lowest and best bidder or bidders;
 - c. Reduce the scope of work by eliminating certain items of work to produce a total bid which is within available funds;
 - d. Reduce the scope of work by reducing the quantity of certain items of work to produce a total bid which is within available funds;
 - e. Reduce the scope of work by a combination of adjustments as outlined in "c" and "d" above to produce a total bid which is within available funds.
 - f. The Owner may reject all bids or may award the contract on the base bid or on the base bid combined with additions or deductible alternates as produces a net amount which is within the available funds.
 - g. The Owner may consider informal and may reject any bid not prepared and submitted in accordance with the provisions hereof. The Owner reserves the right to reject all bids, to waive any informalities or irregularities in the bids received, and to accept any bid which is deemed lowest and best.
6. **Qualification of Bidder:** The Owner may make such investigations as he/she deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein; conditional bids will not be accepted.
7. **Bid Security:** Each bid must be accompanied by cash, cashier's check, certified check of the bidder, letter of credit equal to ten (10) percent of bid, or a bid bond prepared on the form of bid bond attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner. (See Invitation to Bidders for required amounts) Such cash, checks or bid bonds will be returned to bidders after the Owner has awarded the bid and has executed the contract, or, if no award has been made within 60 days after the date of the opening of

bids, upon demand of the bidder at any time thereafter, so long as he/she has not been notified of the acceptance of his/her bid.

8. **Liquidated Damages for Failure to Enter into Contract:** The successful bidder, upon his/her failure or refusal to execute and deliver the contract and bonds required within 10 days after he/she has received notice of the acceptance of his/her bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid.

9. **Time of Completion and Liquidated Damages:** The Owner shall issue a "Notice to Proceed" within 14 days of contract execution. The start of the project shall be determined by the successful bidder and identified in a written project schedule submitted by the Bidder to the Owner within 14 days of executing the contract. The Bidder shall complete all work within the following requirements:

- a. Substantial completion shall be within 150 days from Notice to Proceed.
- b. Final completion, site restoration work complete, and Contract Closeout shall be within 180days from Notice to Proceed.

Bidder agrees to pay as liquidated damages the sum of \$1,000.00 for each consecutive calendar day thereafter. See the General Conditions and Supplemental Conditions for the definition and requirements of substantial completion.

10. **No Damage for Delay:** No payment, compensation or adjustment of any kind shall be made to the contract price for damages incurred by the contractor because of hindrances or delays in the progress of the work from any cause that is not proximately caused by the Owner's action or failure to act. Whether such hindrances or delays are avoidable or unavoidable, the contractor agrees that he or she will make no claim for compensation, damages or mitigation of liquidated damages for any such delays. Examples of delays include (but are in no manner limited to) obtaining all necessary permission from any government agency or any private party, any act or failure to act by any other contractor, subcontractor and/or supplier, all foreseen and unforeseen events and any conditions or acts of God. It is understood and agreed that the contractor assumes all risks of delays in prosecuting or completing the work under the contract that are not proximately caused by the Owner's action or failure to act. The contractor will accept in full satisfaction for such delays, an extension of time, if any, agreed to by the Owner.

11. **Conditions of Work:** Each bidder must inform him/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to carry out the provisions of his/her contract. Insofar as possible the contractor, in carrying out the work, must employ such methods or means or will not cause any interruption of or interference with the work of any other contractor. No plea of ignorance of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work as the result of failure to make such examination and investigation, will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill in every respect, all the requirements of the

Contract, nor will the same be accepted as a basis for any claim whatsoever for extra compensation or for an extension of time.

12. **Addenda and Interpretations:** No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation must be in writing and emailed Chris Wojnicz, christpher.wojnicz@co.warren.oh.us. **All questions must be submitted by 4:00 p.m., Wednesday, September 26, 2018.** All such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be posted on the Warren County's website at <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>, no later than three days prior to the date fixed for the opening of bids. Addenda **will not** be mailed, emailed, or faxed to potential bidders or individuals on the plan holders list. Failure of any bidder to monitor and download any such addendum or interpretations from the website shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.

13. **Security for Faithful Performance:** Simultaneously with his/her delivery of the executed contract, the Contractor shall furnish a performance (surety) bond as security for faithful performance of this contract and for the payment of all persons performing labor on the project under the contract and furnishing materials in connection with the contract. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owner. Please note that upon execution of the Contract if a Bid Guaranty/Contract Bond was submitted with your original bid a Performance Bond will not be required.

14. **Power of Attorney:** Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

15. **Laws and Regulations:** The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

16. **Method of Award:** The Owner may reject all bids or may award the contract on the base bid or on the base bid combined with additions or deductible alternates, to the lowest and best bidder, as produces a net amount which is within the available funds.

17. **Obligation of Bidder:** At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect of his/her bid.

18. **Safety Standards and Accident Prevention:** With respect to all work performed under this contract, the Contractor shall:

- a. Comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published

by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of title 29 of the code of Federal Regulations, Section 1518 as published in the "Federal Register", Volume 36, N. 75, Saturday, April 17, 1971.

- b. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.
 - c. Maintain at his/her office or other well known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or doctor's care of persons (including employees) who may be injured at the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.
19. **Examination of Site**: Each bidder shall, and is hereby directed to inspect the entire site of the proposed work and judge for him/herself as to all the circumstances affecting the cost and progress of the work and shall assume all patent and latent risks in connection therewith.
20. **Water Supply**: All water for construction purposes, except for the expense of having water conveyed about the work, will be provided by the Owner.
21. **Working Facilities**: The plans show, in the general manner, the existing structures and the land available for construction purposes. The bidders must satisfy themselves of the conditions and difficulties that may be encountered in the execution of the work at this site.
22. **Permits**: No permits are required for this construction.
23. **Signature of Bidders**: The firm, corporate or individual name of the bidder must be signed in ink in the space provided for the signatures on the proposed blanks. In the case of a corporation, the title of the officer signing must be stated and such officer must be thereunto duly authorized and the seal of said corporation duly affixed. In the case of a partnership, the signature of at least one of the partners must follow the firm name, using the term "member of the firm." In the case of an individual, use the terms "doing business as", or "sole owner." The bidder shall further state in his proposal the name and address of each person or corporation interested therein.
24. **Right to Accept or Reject Proposals**: The Owner may consider informal and may reject any bid not prepared and submitted in accordance with the provisions hereof. The Owner reserves the right to reject all bids, to waive any informalities or irregularities in the bids received, and to accept any bid which is deemed lowest and best.
25. **Non-Collusion Affidavit**: The successful bidder will be required to submit a non-collusion affidavit on the form included in these Bid/Contract documents (SECTION 00220). This affidavit shall be dated and executed as part of this bid.
26. **EEO Compliance**: Bidders please see SECTION 00340 for EEO Compliance Requirements and Affidavit.

27. **Wage Rates:** This contract is subject to Ohio Prevailing Wage Laws, Chapter 4115 of the Ohio Revised Code and the Contractor and all subcontractors shall comply with all provisions contained therein or as otherwise provided by this note. The Contractor and all Subcontractors shall comply with the Wage Rate Requirements contained in Section 00500.

28. **Subletting of Contract:** The Contractor shall not sublet, sell, transfer or assign any portion of the contract without written consent of the Owner of his designated agent. When such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his own organization, work amounting to no less than fifty percent of the total contract cost, except that any time designated in the contract before computing the amount of work required to be performed by the Contractor with his own organization, no subcontract, or transfer of contract, shall in any way release the Contractor of his liability under the contract and bonds.

29. **Required Insurance:** In accordance with the specifications, the Contractor, without restricting the obligations and liabilities assumed under the Contract Documents, shall at his own cost and expense purchase and maintaining in force until final acceptance of his work, the forms of insurance coverage listed below.

Certificates from the insurance carrier stating the limits of liability and expiration date shall be filed with the Owner before operations are begun. Such certificates shall not merely name the types of policy provided, **but shall specifically refer to this Contract** and shall name the Board of Warren County Commissioners as additionally insured. However, the original policy for Owner's Protective Bodily Injury (Item F) and Property Damages (Item G) shall at this time be delivered to the Owner for its possession.

All policies as hereinafter required shall be so written that the Owner will be notified of cancellation or restrictive amendment at least ten days prior to the effective date of such cancellation or amendment.

Item A - Workmen's Compensation and/or Employer's liability Insurance as required or specified by State Law.

Item B – Comprehensive General Liability Insurance: In an amount not less than \$1,000,000.00 per occurrence for Bodily Injury and \$500,000 for explosion underground and collapse, commonly known as “XCU.” The following endorsement documents provided by Warren County:

- a. CG 20 10 10 01 – additional insured endorsement (or equivalent)
- b. CG 20 37 10 01 – additional insured endorsement (or equivalent)
- c. CG 25 03 03 97 – designated location aggregate (or equivalent)

General Liability needs to be written on Primary/Non-contributory basis for the benefit of the additional insured.

Item C – Umbrella: In an amount not less than \$1,000,000 occurrence and \$1,000,000 aggregate. Umbrella needs to attach to General Liability, Employers Liability, Auto Liability. Umbrella needs to be written on follow-form primary.

Item D - Bodily Injury Liability Insurance covering motor vehicles either owned by the Contractor or being used in connection with the prosecution of the work embraced under this contract.

Item E - Property Damage Liability Insurance covering motor vehicles either owned by the Contractor or being used in connection with the prosecution of the work embraced under this contract.

Item F - (If Applicable) - Such Protective (including Railroad Protective) and Contractual Bodily Injury Liability Insurance and such Protective (including Railroad Protective) and Contractual Property Damage Liability Insurance as shall be required by the railroad and other utility companies whose property, facilities or rights-of-way may be affected by the work to be done under this contract, in such amounts and in such form as each such utility company may require.

If any part of the work is sublet, insurance of the same types and limits as required by above items numbered A, B, C, D, E, F, and I shall be provided by or on behalf of the Subcontractors to cover that part of the work they have contracted to perform including Property Damage Liability Special Hazards coverage if so required by this contract.

Protective and Contractual Bodily Injury Liability Insurance required by Item F (if applicable) shall be in an amount and form as each railroad or utility company may require.

Builders Risk Insurance: All Risk form, including subsidence and theft of materials from the job site. Such coverage shall be maintained until final acceptance of the Contract by the Owner and payable to the Owner for the benefit of the contractor. The limit for Builders Risk shall be the full value of construction.

30. **Maintenance of Property:** All work activities including storage and stockpiling of materials, is to be conducted within the Owner's property. Bracing, scaffolding, and rigging shall be located within the property unless work agreements are secured from the adjacent property Owners. It is the Contractor's responsibility to secure these work agreements, if deemed necessary. Copies of the work agreements shall be delivered to the Engineer and Owner prior to any work beginning on the affected property.

31. **Foreign Corporation and Contractors:** Definition: "Foreign Corporation" means a corporation incorporated under the laws of another state. No contract shall be entered into with a foreign corporation until the Secretary of State has certified that such corporation is authorized to do business in Ohio: and until, if the bidder so awarded the Contract is a person or partnership, it has filed with the Secretary of State a Power of Attorney designating the Secretary of State as its agent for the purpose of accepting service of summons in any action brought under Ohio Revised Code, Section 153.05 or under Sections 4123.01 to 4123.94, inclusive.

32. **Subcontracts:** Contractor shall provide upon request of the Owner an explanation of all subcontractors intended to be used in performance of the work. In the event the Owner does not object, Contractor may have such work performed by a subcontractor. Contractor shall bind every subcontractor to, and every subcontractor must agree to be bound by the terms of, the Agreement, as far as applicable to the subcontractor's work particularly pertaining to Prevailing Wages and EEO requirements. Nothing contained in the Agreement shall create any contractual relationship between any subcontractor and Owner, nor create any obligations on the part of the Owner to pay or see to the payment of any sums to any subcontractor.

33. **Real and/or Personal Property Tax Affidavit:** All bidders must complete the Real and/or Personal property tax affidavit (Section 00320) and submit with your bid. This section should be fully completed whether or not you as a vendor/contractor own property in Warren County, Ohio.

34. **Description of Project:**

Work includes Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5,500 feet), two segments of 18- inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes. The Engineer's opinion of probable construction cost is \$900,000.

35. **Scope of Work:** Provide all work as described in the Specifications and Drawings herein as necessary to provide for project completion.

36. **Required Forms:** Each Bidder shall complete and submit the following forms with his/her bid:

SECTION 00100 – Bid Proposal

SECTION 00120 - Exception Sheet

SECTION 00130 - Bidder Identification

SECTION 00220 - Non-Collusion Affidavit

SECTION 00260 - Bid Guaranty & contract Bond

SECTION 00300 - Experience Statement

SECTION 00320 - Affidavit of Non-Delinquency of Taxes

SECTION 00340 - Certificate of Compliance Non-Discrimination and Equal Employment
Opportunity Affidavit

SECTION 00360 - Findings for Recovery Affidavit

37. **Subcontractors:** The successful Contractor may be required, at the request of the Owner, to submit a list of sub-contractors and/or suppliers for said project.

38. **Additional Obligations Upon Contact Award:** Upon award of the bid but prior to execution of the final agreement and notice to proceed, the Contractor shall submit all of the following documents, completed as required:

- 1) Contract
- 2) Performance Bond
- 3) Certificates of Insurance

39. Entire bid packet must be completed (except SECTION 00400 - Contract) and returned with bid proposal, as the entire bid packet becomes part of the contract documents.

40. **Changes In Work:** Owner may find it necessary and desirable to make changes and/or alterations in the lines, plans, equipment, or materials from time to time, either before or after construction has begun.

The Owner shall notify the Contractor in writing about all changes in the work at any time, and it shall be completed according to the said changes without any alteration in the Contract Price except in those cases where the changes materially affect the amount of work to be done and the cost thereof. The decision of the Owner regarding changes in work shall be final in all cases where no alteration in price is involved. Changes in work which involve any alteration in the amount to be paid to the Contractor shall not be commenced until approved in writing by the Owner.

If the Contractor claims that any written instructions from the Owner, by drawings or otherwise, involved extra cost or an extension of time, he/she shall so notify the Owner in writing within seven (7) days after receipt of such instructions and before proceeding to execute the work.

41. **Partial Payments to Contractor:** The Owner will make partial payments to the Contractor during construction on the basis of an estimate of the value of work performed during the preceding calendar month under this Contract. The partial payment shall be made in accordance with the applicable sections of the Ohio Revised Code. Owner will furnish an estimate of the quantities of work. Owner will determine the value of work performed and prepare the monthly partial estimate.

All materials and work covered by partial payments made shall thereupon become the sole property of the Owner. This provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of work upon which payments have been made or the restoration of any damaged work. The payment of monthly partial estimates does not waive the right of the Owner to require the fulfillment of all the terms of the Contract Documents.

42. **Owner's Right to Withhold Certain Amounts and Make Applicable Thereof:** The Contractor may be required by the Owner to furnish from time to time, satisfactory evidence that all persons who have done work or furnished materials under this Contract, or may have suffered and claimed damage on account of the Contractor's operation, have been fully paid or secured; and in case such evidence is not furnished as aforesaid, the Owner may in addition to the Portion of any estimate retained under the preceding provisions of these Contract Documents, also withhold sufficient amount of any payment otherwise due to the Contractor to cover:

- a. Payments that may be past due or payable for just claims for labor or materials furnished in an about the performance of the work or for damages sustained under this Contract;
- b. For defective work not remedied as hereinbefore provided, and;
- c. For failure of the Contractor to make proper payments to his Subcontractors.

If the Contractor fails to carry on the work within the time set out in his Proposal, the Owner may retain from the moneys that are, or which may become due said Contractor, the Owner's estimated

daily cost of the completed work, for each and every calendar day the completion of the work be delayed beyond the time specified herein for such completion. The Contractor shall not be entitled to a bonus for early completion.

43. **The Right of Owner to Terminate Contract:** In the event that any of the provisions of these Contract Documents are violated by the Contractor or any of his/her Subcontractors, the Owner may serve written notice upon the Contractor and the Surety, of his intention to terminate such Contract, such notices to contain the reasons for such intention to terminate the Contract, and unless within ten (10) days after the serving of such notice upon the Contractor such violation shall cease and satisfactory arrangements for corrections be made, the Contract shall, upon the expiration of said ten (10) days cease and terminate. In the event of any termination, the Owner shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the Contract, provided, however, that if the Surety does not commence performance thereof within thirty (30) days from the date of the mailing of such Surety or Notice of Termination, the Owner may take over the work and prosecute same to completion by contract for the amount and at the expense of the Contractor, and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may take possession of and utilize in completing the work, such appliances and shop drawings as may be on the site of the work and necessary therefore.

44. **Other Contracts:** The Owner reserves the right to allow other work or to enter into other Contracts for work to be constructed or placed in or about the work herein described, and to order the starting and progress of such other Contracts at any time prior to the completion of this Contract. The Contractor hereby waives any claims for damages or extra compensation by reason of any real or supposed interference with his work.

45. **Suspension of Work:** The Owner reserves the right to suspend the whole or any part of the work to be done hereunder if work is not proceeding in accordance with the Contract Documents, without compensation to the Contractor for such suspension other than extending the time for completing the work as much as it may have been delayed by such suspension. Such suspension shall be in the form of a written "Stop Order" issued by the Owner.

46. **Retainer:** In accordance with ORC Section 153.12 partial payments to the Contractor for labor performed under either a unit or lump sum price contract shall be made at the rate of ninety-two per cent of the estimates prepared by the Contractor and approved by the Engineer. All labor performed after the job is fifty per cent completed shall be paid for at the rate of one hundred per cent of the estimates submitted by the Contractor and approved by the Engineer.

When the major portion of the project is substantially completed and occupied, or in use, or otherwise accepted, and there exists no other reason to withhold retainage, the retained percentages held in connection with such portion shall be released and paid to the contractor, withholding only that amount necessary to assure completion.

47. **Final Inspection:** Owner shall make a final inspection upon completion of work; and if all the work required to be done under the Contract is found acceptable as required by the Contract Documents, he shall prepare and provide the Contractor a written statement indicating completion of all the work under the Contract.

48. **Final Estimate:** The Owner will pay to the Contractor the total earned compensation as stated in the Final Estimate, less all prior payments. All prior estimates and payments, including those relating to "Changes in Work" or "Ext a Work" shall be subject to correction by this Final Estimate for payment of the work included under these Contract Documents. The one (1) year guarantee period shall commence on the date of the Final Estimate. Final payment will not be released until a written waiver of liens is signed and submitted by all subcontractors and material suppliers.

49. The Engineer's Opinion of Probable Construction Cost is \$900,000.

50. **STATEMENT: Do not submit confidential documents or documents of any type that contain trade secrets. All materials submitted become public records once opened and may be copied upon request to anybody including competitive bidders.**

51. **Steel Products Made in the United States (OPWC Requirement)** Domestic steel use requirements as specified in Ohio Revised Code §153.011 apply to this project. Copies of §153.011 can be obtained from any of the offices of the department of administrative services or through <http://codes.ohio.gov/orc/153.011>.

52. **Ohio Worker's Compensation Coverage (OPWC Requirement):** The Contractor must secure and maintain valid Ohio workers' compensation coverage until the project has been finally accepted by the OWNER. A certificate of coverage evidencing valid workers' compensation coverage must be submitted to the OWNER before the contract is executed.

The Contractor must immediately notify the OWNER, in writing, if it or any subcontractor fails or refuses to renew their workers' compensation coverage. Furthermore, the Contractor must notify the OWNER, in writing, if its or any of its subcontractor's workers' compensation policies are canceled, terminated or lapse.

The failure to maintain valid workers' compensation coverage shall be considered a breach of contract which may result in the Contractor or subcontractor being removed from the project, withholding of pay estimates and/or termination of the contract.

53. **Drug-Free Workplace Program (OPWC Requirement):** In accordance with Ohio Revised Code §153.03 and during the life of this project, the Contractor and all its Subcontractors that provide labor on the Project site must be enrolled in and remain in good standing in the Ohio Bureau of Worker's Compensation ("OBWC") Drug-Free Workplace Program ("DFWP") or a comparable program approved by the OBWC.

54. **Ohio Preference (OPWC Requirement):** In accordance with Ohio Revised Code §164.05 (A)(6), to the extent practicable, the Contractor and subcontractor shall use Ohio products, materials, services and labor in connection with this project.

55. **Ohio Ethics Law (OPWC Requirement):** CONTRACTOR agrees that it is currently in compliance and will continue to adhere to the requirements of Ohio Ethics law as provided by Section 102.03 and 102.04 of the Ohio Revised Code.

SECTION 00220 - NONCOLLUSION AFFIDAVIT

State of _____

BID Identification _____

CONTRACTOR _____, being first duly sworn, deposes and says that he is _____ (sole owner, a partner, president, secretary, etc.) of _____, the party making the foregoing BID; that such BID is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that such BID is genuine and not collusive or sham; that said BIDDER has not directly or indirectly colluded, conspired, connived or agreed with any BIDDER or any one else to put in a sham BID, or that any one shall refrain from Bidding; that said BIDDER has not in any manner, directly or indirectly, sought by agreement, communication or conference with any one to fix the BID price of said BIDDER or of any other BIDDER, or to fix any overhead, profit, or cost element of such BID price, or of that of any other BIDDER, or to secure any advantage against the OWNER awarding the contract or anyone interested in the proposed contract; that all statement contained in such BID are true; and, further, that said BIDDER has not, directly or indirectly, submitted his BID price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid and will not pay any fee in connection therewith, to any corporation, partnership, company, association, organization, BID depository, or to any member or agent thereof, or to any other individual except to such person or persons who have a partnership or other financial interest with said BIDDER in his general business.

Signed:

Subscribed and sworn to before
me this ___ day of _____, 2018.

Seal of Notary

SECTION 00240 - BONDING AND INSURANCE REQUIREMENTS

A state or local unit of government receiving a grant from the federal government which requires contracting for construction of facility improvement shall follow its own requirements relating to bid guarantees, performance bonds, and payment bonds, except for contracts or subcontracts exceeding \$100,000. For contracts or subcontracts exceeding \$100,000, the Federal agency may accept the bonding policy and requirements of the grantee provided the Federal agency has made a determination that the Government's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

- a. A bid guaranty from each bidder. The "bid guaranty" shall consist of a firm commitment such as a bid bond in the amount of one hundred (100) percent of the bid price, or ten (10) percent of the bid price if certified check or other negotiable instrument accompanying a bid, as assurance the bidder will, upon acceptance of his/her bid, execute such contractual documents as may be required within the time specified.
- b. A performance bond on the part of the Contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

SECTION 00260 - BID GUARANTY AND CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

(Insert full name or legal title of Contractor and Address)

as Principal and _____
(Insert full name or legal title of Surety)

as Surety, are hereby held and firmly bound unto the Warren County Board of Commissioners hereinafter called the Oblige, in the penal sum of the dollar amount of the bid submitted by the Principal to the Oblige on _____ to undertake the project known as:

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

The penal sum referred to herein shall be the dollar amount of the Principal's bid to the Oblige, incorporating any additive or deductive alternate proposals made by the Principal on the date referred to above to the Oblige, which are accepted by the Oblige. In no case shall the penal sum exceed the amount of _____ DOLLARS, \$ _____. If this item is left blank, the penal sum will be the full amount of the Principal's bid, including alternates. Alternatively, if completed, the amount stated must not be less than the full amount of the bid, including alternates in dollars and cents. A percentage is not acceptable.

For the payment of the penal sum well and truly to be made we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above named Principal has submitted a bid on the above referred to project;

NOW, THEREFORE, if the Oblige accepts the bid of the Principal and the Principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the Principal pays to the Oblige the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid and such larger amount for which the Oblige may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the Oblige does not award the contract to the next lowest bidder and resubmits the project for bidding, the Principal will pay the Oblige the difference not to exceed ten percent of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new contract documents, required advertising, and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect. If the Oblige accepts the bid of the Principal and within TEN days after the awarding of the contract, enters into a proper contract in accordance with

the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as though set forth herein; and

IF THE SAID PRINCIPAL SHALL well and faithfully perform each and every condition of such contract; and indemnify the Obligee against all damage suffered by failure to perform such contract according to the provisions thereof and in accordance with the plans, details, specifications, and bills of material therefore; and shall pay all lawful claims of subcontractors, materialmen, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract: we agreeing and assenting that this undertaking shall be for benefit of any materialman or laborer having a just claim, as well as for the Obligee herein; THEN THIS OBLIGATION SHALL be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of said contract or in or to the plans and specifications therefor shall in any wise affect the obligations of said surety on its bond, and it does hereby waive notice of any such modifications, omissions or additions to the terms of the contract or to the work or to the specifications.

SIGNED AND SEALED this _____ day of _____ 2018.

PRINCIPAL

SURETY

By: _____

By: _____

Attorney-in-fact

Title: _____

Surety Agent's Name and Address:

SECTION 00280 - PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called
(Corporation, Partnership or Individual)

Principal, and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

WARREN COUNTY OHIO, BOARD OF COMMISSIONERS
406 Justice Drive
Lebanon, OH 45036

hereinafter called OWNER, in the penal sum of _____ Dollars, \$(_____) in
lawful money of the United States, for the payment of which sum well and truly to be made, we bind
ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a
certain contract with the OWNER, dated the _____ day of _____, 2018,
a copy of which is hereto attached and made a part hereof for the construction of:

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the
undertakings, covenants, terms, conditions, and agreements of said contract during the original term
thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to
the Surety and during the guaranty period(s), and if he shall satisfy all claims and demands incurred
under such contract, and shall fully indemnify and save harmless the OWNER from all costs and
damages which it may suffer by reason of failure to do so, and shall reimburse and repay the
OWNER all outlay and expense which the OWNER may incur in making good any default, then this
obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received, hereby stipulates and agrees that
no change, extension of time, alteration or addition of the terms of the contract or the WORK to be
performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its

obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in counterparts, each one of which shall be deemed an original, this the _____ day of _____ 2018.

ATTEST:

(Principal)

(SEAL)

By _____

ATTEST:

(SEAL)

(Surety)

IMPORTANT: Pursuant to Ohio Revised Code §122.87(A) defines surety company as, “. . . a company that is authorized by the department of insurance to issue bonds as a surety”.

SECTION 00300 - EXPERIENCE STATEMENT

The Bidder is required to state in detail in the space provided below, what work he has done of a character similar to that included in the proposed contract, to give references and such other detailed information as will enable the Owner to judge of his responsibility, experience, skill and financial standing. Completion of this statement is required and must be submitted with the Bid in order to qualify for consideration for award of contract.

SUBMITTED FOR:

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

SUBMITTED BY:

Name: _____

(Print or Type Name of Bidder)
(A Corporation/A Partnership/An Individual)
[Bidder to strike out inapplicable terms.]

Address: _____

The undersigned certifies under oath the truth and correctness of all statements and of all answers to questions made hereinafter.

(Note: Attach Separate Sheets as Required)

1.0 How many years has your organization been in business as a contractor?

2.0 How many years has your organization been in business under its present name?

3.0 Has any construction contracts to which you have been a party been terminated by the owner; have you ever terminated work on a project prior to its completion for any reason; has any surety which issued a performance bond on your behalf ever completed the work in its own name or financed such completion on your behalf; has any surety expended any monies in connection with a contract for which they furnished a bond on your behalf? If the answer to any portion of this question is "yes", please furnish details of all such occurrences including name, address, phone number, and contact person of owner, architect or engineer, and surety, and name and date of project.

No _____ Yes _____, If yes, attach details described above.

10.0 List the states in which your organization is legally qualified to do business.

11.0 List name, address and telephone number of an individual who represents each of the following and whom OWNER may contact for a financial reference:

11.1 A surety:

Name _____

Contact _____

Address _____

_____ Phone No. _____

Financial Reference _____

11.2 A bank:

Name _____

Contact _____

Address _____

_____ Phone No. _____

Financial Reference _____

11.3 A major material supplier:

Name _____

Contact _____

Address _____

Phone No. _____

Financial Reference _____

12.0 Dated at _____, this ___ day of _____, 2018.

(Print or Type Name of Bidder)

By: _____

(Seal, if corporation)

------(Affidavit for Individual)-----

_____, being duly sworn, deposes and says that all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Partnership)-----

_____, being duly sworn, deposes and says that he/she is a member of the partnership of _____ and that all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Corporation)-----

_____, being duly sworn, deposes and says that he/she is _____ of _____, and that all of (Full name of Corporation)

the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Joint Venture)-----

_____ and _____, being duly sworn, deposes and says that they are members of _____ (Full Name of Joint Venture)

, and that all of the foregoing qualification information is true, complete, and accurate.

------(Acknowledgment)-----

_____, being duly sworn, deposes and says that he/she is
of _____;
(Name of Bidder)

affidavit and that he/she makes it on behalf of () himself/herself; () said partnership; () said corporation.

Sworn to before me this _____ day of _____, 2018, in the County of _____, State of _____.

(Notary Public)

My commission expires _____

(Seal)

END OF SECTION

WARNING: MAKING A FALSE STATEMENT ON THIS AFFIDAVIT MAY BE
PUNISHABLE BY A FINE AND/OR IMPRISONMENT

**SECTION 00340 - EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS, BID
CONDITIONS, NON-DISCRIMINATION, AND EQUAL EMPLOYMENT OPPORTUNITY
AFFIDAVIT**

All prime contractors must secure a valid Certificate of Compliance from the Department of Administrative Services, Equal Opportunity Division, prior to execution of a construction contract.

See <http://www.das.ohio.gov/Divisions/EqualOpportunity/CertificateofCompliance/tabid/129/Default.aspx> for instructions for electronic filing.

- Does this bidder have a valid Certificate of Compliance? ___Yes ___No
- If "No" to the above, will this bidder be able to obtain a valid Certificate of Compliance prior to the execution of a contract? ___Yes ___No

Bidder must provide a "Yes" answer to one or the other of the above questions.

BIDDER'S AFFIRMATIVE ACTION REQUIREMENTS:

Each prime contract bidder must submit an affirmative action program regarding equal employment opportunity to and receive approval from the State Equal Employment Opportunity (EEO) Coordinator prior to the bid opening, **OR** the prime contract bidder must have evidence within its bid adoption of the minority and female utilization work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

- Has the prime contract bidder prepared and submitted an Affirmative Action Program to the State Equal Employment Opportunity Coordinator and that program has been approved by the State Equal Employment Opportunity Coordinator prior to the bid opening ? ___Yes ___No
- If "no", with this bid response, the prime contract bidder hereby adopts the minority and female work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

BIDDER'S EEO COVENANTS:

Throughout its performance of any contract awarded to it on this State-assisted project, the prime contract bidder agrees to the following covenants:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry or sex. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, ancestry or sex. Such action shall include, but is not limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will in all solicitations or advertisements for employees placed by or on behalf of the prime contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry or sex.

(3) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the State Administering Agency advising the said labor union or workers' representatives of the contractor's commitments under this covenant and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of the Ohio Department of Administrative Services, Equal Opportunity Division and with the implementing rules, regulations and applicable orders of the State Equal Employment Opportunity Coordinator.

(5) The contractor agrees to fully cooperate with the State Administering Agency, the State Equal Employment Opportunity Coordinator and with any other official or agency, or the State or Federal government which seeks to eliminate unlawful employment discrimination, and with all other State and Federal efforts to assure equal employment practices under its contract and the contractor shall comply promptly with all requests and directions from the State Administering Agency, the State Equal Employment Opportunity Coordinator and any of the State of Ohio officials and agencies in this regard, both before and during construction.

(6) Full cooperation as expressed in clause (5), above, shall include, but not be limited to, being a witness and permitting employees to be witnesses and complainants in any proceeding involving questions of unlawful employment practices, furnishing all information and monthly utilization work hour reports required by the OAC 123: 2-9-01 and by the rules, regulations and orders of the State Equal Employment Opportunity Coordinator pursuant thereto, and permitting access to its books, records, and accounts by the State Administering Agency and the State Equal Employment Opportunity Coordinator for purposes of investigation to ascertain compliance with such rules, regulations and orders. Specifically, contractors will submit workforce utilization reports to the State Equal Opportunity Coordinator by the 10th of each month. The monthly reports must be electronically submitted through the following website: <http://das.ohio.gov/EOD/CCInputForm29.htm>

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of its contract or with any of the said rules, regulations, or orders, its contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further State Contracts or State-assisted Construction Contracts in accordance with procedures authorized in OAC 123:2-3 through 2-9 and such other sanctions may be instituted and remedies invoked, as provided in OAC 123:2-3 through 2-9 or by regulation, or order of the State Equal Employment Opportunity Coordinator, or as otherwise provided by law.

In the event that its contract is terminated for a material breach of OAC 123:2-3 through 2-9 the contractor shall become liable for any and all damages which shall accrue to the State Administering Agency and Applicant and the State of Ohio as a result of said breach.

(8) The contractor will require the inclusion of language reflecting these same eight covenants within every subcontract or purchase order it executes in the performance of its contract unless exempted by rules, regulations or orders of the State Equal Employment Opportunity Coordinator issued pursuant to O.A.C. 123:2-3-02 so that these provisions will be binding upon each subcontractor or vendor. The contractor will take such actions as the Administering Agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in any litigation with a subcontractor, vendor or other party as a result of such direction by the State Administering Agency, the contractor may be requested to protect the interests of the State.

- The prime contract bidder hereby adopts the foregoing covenants ? ___Yes ___No

NOTE: Only a bidder possessing a valid certificate will be awarded a contract pursuant to Chapter 153 of the Revised Code by an owner referred to in section 153.01 of the Revised Code. Application shall be made at least ten working days prior to the date that the bidder expects to receive the certificate. The bidder's failure to elect one of the two Bidder's Affirmative Action Requirements, adopt the Bidder's EEO Covenants, and complete the foregoing certification may cause the bidder's proposal to be rejected as being non-responsive to the State's Equal Employment Opportunity Requirements and in non-compliance with the State Equal Employment Opportunity Bid Conditions. In addition, the bidder must, prior to the execution of a contract, submit to the local subdivision a valid Certificate of Compliance for Equal Employment Opportunity purposes.

"APPENDIX B" OF THE STATE EEO BID CONDITIONS

SPECIFIC AFFIRMATIVE ACTION STEPS

The following Affirmative Action steps are directed at increasing minority utilization:

(1) The contractor should maintain a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the contractor, and the reasons therefore. If such individual was sent to the union hiring hall for referral and not referred back by the union or if referred back by the union or if referred, not employed by the contractor, the file should document this and the reason therefore.

To Demonstrate Compliance: Maintain a file of the names, addresses, telephone numbers, and craft of each minority and female applicant showing (a) the date of contact and whether the person was hired; if not, the reason, (b) if the person was sent to a union for referral, and the results (c) follow-up contacts when the contractor was hiring.

(2) The contractor should promptly notify the State Contracting Agency when the Union or Unions with which the contractor has collective bargaining agreements does not refer to the contractor a minority or female worker referred (to the union) by the contractor, or when the contractor has information that the union referral process has impeded efforts to meet its goals.

To Demonstrate Compliance: Have a copy of letters sent, or do not claim the union is impeding the contractors' efforts to comply.

(3) The contractor should disseminate its Equal Employment Opportunity policy within its organization by including it in any company newsletters and annual reports; by advertising at reasonable intervals in union publications; by posting of the policy; by specific review of the policy with minority and female employees; and by conducting staff meetings to explain and discuss the policy.

To Demonstrate Compliance: Have a written EEO policy which includes the name and how to contact the contractor's EEO Officer and (a) include the policy in any company policy manuals, (b) post a copy of the Policy on all company bulletin boards (in the office and on all job sites), (c) records, such as reports or diaries, etc., that each minority and female employee is aware of the Policy and that it has been discussed with them, (d) that the policy has been discussed regularly at staff meetings and (3) copies of newsletters and annual reports which include the Policy.

(4) The contractor should continually monitor all personnel activities to ensure that its EEO policy is being carried out, including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.

To Demonstrate Compliance: Have records that the company EEO Officer reviews all: (a) monthly workforce reports, (b) hiring and terminations, (c) training provided on-the-job, (d) minority and female employees quarterly for promotion and encourages them to prepare for and seek promotion. The records should be the EEO Officer's job description, reports, memos, personnel files, etc., documenting the activities for possible discriminatory patterns.

(5) The contractor should disseminate its EEO policy externally by informing and discussing it with all recruiting sources; by advertising it in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.

To Demonstrate Compliance: Have copies of (a) letters sent, at least six months or at the start of each new major contract, to all recruiting sources (including labor unions) requiring compliance with the Policy, (b) advertising, which has the EEO "tagline" on the bottom, and (c) purchase order and subcontract agreement forms will include or make reference to the State EEO Covenant, Appendix A or B of the Ohio Administrative Code 123:2-3-02.

(6) The contractor should make specific and reasonably recurrent oral and written recruitment efforts directed at minority and women's organizations, and training organizations with the contractor's recruitment area.

To Demonstrate Compliance: Have a record either in a follow-up file for each organization or on the reverse of the notification letter sent under Item 1, above, of the dates, individuals contacted and the results of the contract from telephone calls or personal meetings with the individuals or groups notified under Item 1.

(7) The contractor, where reasonable, should develop on-the-job training opportunities and participate and assist in all Department of Labor funded and/or approved training programs (including Apprenticeship) Programs relevant to the contractor's employee needs consistent with its obligations in the Bid Conditions.

To Demonstrate Compliance: Have records of contributions in cash, equipment supplied and/or contractor personnel provided as instructors for Bureau of Apprenticeship and Training approved or Department of Labor funded training programs and records of the hiring and training of minorities and females referred to Company by such programs.

(8) The contractor should solicit bids for subcontracts (and joint ventures) from available minority and female subcontractors engaged in the trades covered by the Bid Conditions, including circulation of minority and female contractors associations.

To Demonstrate Compliance: Have copies of letters or other direct solicitation of bids for subcontracts/joint ventures from minority/female contractors with a record of the specific response and any follow-up the contractor has done to obtain a price quotation or to assist a minority/female contractor in preparing or reducing a price quotation; have a list of all minority/female subcontracts awarded or joint ventures participated in with dollar amounts, etc.

EXPLANATION OF AN ACCEPTABLE AFFIRMATIVE ACTION PROGRAM:

An Affirmative Action Program is a set of specific and result-oriented procedures to which a Contractor shall apply every good faith effort. The objective of those procedures and efforts is to assure equal employment opportunity. An acceptable Affirmative Action Program will include an analysis of all trades employed by the Contractor within the last year with an explanation of whether Minorities are currently being under-utilized in any one or more trades. A necessary prerequisite to the development of a satisfactory Affirmative Action Program is the identification and analysis of

problem areas inherent in Minority employment and an evaluation of opportunities for utilization of Minority group personnel.

Part I - Basic Contents of an Affirmative Action Program:

1. Development or reaffirmation of the contractor's EEO policy in all personnel actions.
2. Formal internal and external dissemination of contractor's EEO policy.
3. Establishment of responsibilities for implementation of the contractor's affirmative action program.
4. Identification of problem areas (deficiencies) by organizational units and job classification.
5. Establishment of goals and objectives by organizational units and job classification, including timetables for completion.
6. Development and execution of action oriented programs designed to eliminate problems and further designed to attain established goals and objectives.
7. Design and implementation of internal audit and reporting systems to measure effectiveness of the total programs.
8. Compliance of personnel policies and practices with Federal sex discrimination guidelines (41 CFR Part 60-20).
9. Active support of local and national community action programs and community service programs, designed to improve the employment opportunities of minorities.
10. Consideration of ethnic minorities and women not currently in the work force having requisite skills who can be recruited through affirmative action measures.
11. Summary data on applicant flow, hires, terminations and promotions, and training for the last twelve months or the last one hundred applicants, hires, etc., whichever is less.

Part II - Analysis of Individual Trades

1. The minority population of the labor area surrounding (contractor's) projects.
2. The size of the minority unemployment force in the labor area surrounding (the contractor's) projects.
3. The percentage of minority work force as compared with the total work force in the immediate labor area.
4. The general availability of minorities having requisite skills in the immediate labor area.
5. The availability of minorities having requisite skills in the area in which the contractor can reasonably recruit.
6. The availability of promotable minority employees within the contractor's organization.
7. The anticipated expansion, contraction, and turnover of an in the work force.
8. The existence of training institutions capable of training minorities in the requisite skills.
9. The degree of training which the contractor is reasonably able to undertake as a means of making all job classes available to minorities.

Goals, timetables and affirmative action commitments must be designed to correct any identifiable deficiencies. Where deficiencies exist and where numbers or percentages are relevant in developing corrective action, the contractor shall establish and set forth specific goals and timetables. Such goals and timetables, with supporting data and the analysis thereof shall be a part of the contractor's written affirmative action program. Where the contractor has not established a goal, its written affirmative action program must specifically analyze each of the factors listed above, and must detail its reason for a lack of a goal. The goals and timetables should be attainable in terms of the contractor's analysis of its deficiencies and its entire action. Thus, in establishing its goals and timetables, the contractor should consider the results which could be reasonably expected from its good faith efforts to make its

overall affirmative action program work. If the contractor does not meet its goals and timetables, the contractor's good faith efforts shall be judged as to whether the contractor is following its program and attempting to make the program work toward the attainment of its goals.

Support data for the above analysis and program shall be compiled and maintained as part of the contractor's affirmative action program. This data should include applicant flow data and applicant rejection ratios indicating minority status.

Compliance Status: No State Contractor's compliance status shall be judged alone by whether or not he reaches his goals and meets his timetables. Rather each Contractor's compliance posture shall be reviewed and determined by reviewing the contents of his program, the extent of his adherence to his program and his good faith efforts to make his program work toward the realization of the program's goals within the timetables set for completion.

“APPENDIX C” OF THE STATE EEO BID CONDITIONS

FEMALE UTILIZATION GOALS

OAC 123:2-3-05 Required utilization analysis and goals

(A) Each state-involved contractor shall include in his/her affirmative action program the information and analysis required pursuant to part IV 401-C of appendix A of rule 123:2-1-01 of the Administrative Code, in addition to female utilization requirements pursuant to the governor's "Executive Order 84-9" and this rule.

(B) As required by the governor's "Executive Order 84-9", the utilization of women shall be, at a minimum, that currently in use by the federal government as of February 15, 1984. This requirement stated at C.F.R. part 60-4 is 6.9 percent utilization of women. This requirement shall remain at 6.9 percent unless further amended by the governor in a subsequent order. This requirement shall be met by a determination of work hours utilized in the same manner as minority utilization hours are calculated.

SECTION 00360 - FINDINGS FOR RECOVERY AFFIDAVIT

STATE OF _____
COUNTY OF _____, SS:

_____, upon being duly cautioned and sworn, hereby states the following based on personal knowledge:

- 1) That he/she is _____ (title), of _____ (name of bidder) and authorized to execute this affidavit; and,
- 2) That _____ (name of bidder) is not a person or entity against whom a finding for recovery has been issued by the Auditor of State, which finding for recovery is unresolved as defined in Ohio Revised Code [General Provisions] Section 9.24 (B); and,
- 3) That _____ (name of bidder) does not appear in the database of unresolved findings of recovery maintained by the Auditor of State pursuant to Ohio Revised Code [General Provisions] Section 9.24 (D).

The CONTRACTOR agrees that if this representation is deemed to be false, the Contract shall be void ab initio as between the parties to this contract, and any funds paid by the State of Ohio through the Ohio Public Works Commission or any other state program shall be immediately repaid to the OWNER, or an action for recovery may be immediately commenced by the OWNER for recovery of said funds.

Affiant

Sworn to and subscribed in my presence this ____ day of _____, 2018.

Notary Public

My Commission expires: _____

SECTION 00400 - CONTRACT

SECTION 00400 - CONTRACT

THIS AGREEMENT, made this _____ day of _____, 2018, with the Warren County Board of Commissioners, 406 Justice Drive, Lebanon, Ohio, hereinafter called "Owner" and **ENTER CONTRACTOR NAME AND ADDRESS HERE**, doing businesses as (an individual, partner, a corporation) hereinafter called "Contractor."

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Owner, the Contractor hereby agrees with the Owner to commence and complete the construction described as follows:

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS, PHASE 1 PROJECT

hereinafter called the project, for the sum of **\$ENTER AMOUNT HERE AND WRITE IT OUT HERE**, and all work in connection therewith, under the terms as stated in the Conditions of the Contract; and as his (its or their) own proper cost and expense furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, Conditions of the Contract, the Specifications and Contract Documents. "Contract Documents" means and includes the following:

- ADDENDUMS
- VOLUME I
- SECTION 00040 - INVITATION TO BIDDERS
- SECTION 00100 - BID PROPOSAL
- SECTION 00120 - EXCEPTION SHEET
- SECTION 00130 - BIDDER IDENTIFICATION
- SECTION 00200 - GENERAL INSTRUCTIONS TO BIDDERS
- SECTION 00220 - NONCOLLUSION AFFIDAVIT
- SECTION 00240 - BONDING AND INSURANCE REQUIREMENTS
- SECTION 00260 - BID GUARANTY AND CONTRACT BOND
- SECTION 00280 - PERFORMANCE BOND
- SECTION 00300 - EXPERIENCE STATEMENT
- SECTION 00320 - AFFIDAVIT OF NON-DELINQUENCY OF REAL AND/OR PERSONAL PROPERTY TAX
- SECTION 00340 - EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS, BID CONDITIONS, NON-DISCRIMINATION, AND EQUAL EMPLOYMENT OPPORTUNITY AFFIDAVIT
- SECTION 00360 - FINDINGS FOR RECOVERY AFFIDAVIT
- SECTION 00400 - CONTRACT
- SECTION 00500 - WAGE RATE DETERMINATION
- SECTION 00700 - GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT
- SECTION 00730 - TECHNICAL SPECIFICATIONS

CONTRACTOR hereby agrees to commence work under this contract on or before a date to be specified in a Written "Notice to Proceed" of the OWNER and shall complete all work within the following requirements:

- a. Substantial completion shall be within 300 days from Notice to Proceed.
- b. Final completion, site restoration work complete, and Contract Closeout shall be within 335 days from Notice to Proceed.

Contractor also agrees to pay as liquidated damages, the sum of \$1,000.00 for each consecutive calendar day thereafter.

This Agreement may be terminated by either party upon written notice in the event of substantial failure by the other party to perform in accordance with the terms of this Agreement. The nonperforming party shall have fifteen calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party.

OWNER may terminate or suspend performance of this Agreement for OWNER'S convenience upon written notice to the CONTRACTOR. CONTRACTOR shall terminate or suspend performance of the services/work on a schedule acceptable to the OWNER.

The CONTRACTOR will indemnify and save the OWNER, their officers and employees, harmless from loss, expenses, costs, reasonable attorneys fees, litigation expenses, suits at law or in equity, causes of action, actions, damages, and obligations arising from (a) negligent, reckless or willful and wanton acts, errors or omissions by CONTRACTOR, its agents, employees, licensees, consultants, or subconsultants; (b) the failure of the CONTRACTOR, its agents, employees, licensees, consultants or subconsultants to observe the applicable standard of care in providing services pursuant to this agreement; (c) the intentional misconduct of the CONTRACTOR, its agents, employees, licensees, consultants, or subconsultants that result in injury to persons or damage to property for which the OWNER may be held legally liable.

The CONTRACTOR does hereby agree to indemnify and hold the OWNER harmless for any and all sums for which the OWNER may be required to pay or for which the OWNER may be held responsible for failure of the CONTRACTOR or any subcontractors to pay the prevailing wage upon this project.

The OWNER agrees to pay the CONTRACTOR in the manner and at such times as set forth in the General Provisions such amounts as required by the Contract Documents.

This Contract shall be construed under the laws of the State of Ohio, and the parties hereby stipulate to the venue for any and all claims, disputes, interpretations, litigation of any kind arising out of this Contract being exclusively in the Warren County, Ohio Court of Common Pleas (unless both parties mutually agree in writing to alternate dispute resolution), as well as waiving any right to bring or remove such matters in or to any other state or federal court.

This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

Contractor shall bind every subcontractor to, and every subcontractor must agree to be bound by the terms of, this Agreement, as far as applicable to the subcontractor's work particularly pertaining to Prevailing Wages and EEO requirements. Nothing contained in this Agreement shall create any contractual relationship between any subcontractor and Owner, nor create any obligations on the part of the Owner to pay or see to the payment of any sums to any subcontractor.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in two counterparts, each of which shall be deemed an original on the date first above written.

WARREN COUNTY BOARD OF COMMISSIONERS
(Owner)

Tom Grossmann, President

ATTEST:

David G. Young

Name

Shannon Jones

(Seal)

ATTEST:

ENTER CONTRACTOR NAME HERE
(Contractor)

By: _____
Name

Title

Approved as to Form:

Assistant Prosecutor

SECTION 00500 - WAGE RATE DETERMINATION

PART 1 GENERAL

1.01 PREVAILING WAGES

This contract is subject to Ohio Prevailing Wage Laws, Chapter 4115 of the Ohio Revised Code and the Contractor and all subcontractors shall comply with all provisions contained therein. The Contractor guarantees that the prevailing wage scale to be paid to all laborers and mechanics employed on this contract shall be in accordance with the schedule of the prevailing hourly wage and fringe benefits as determined by the Ohio Department of Commerce for Warren County. The failure to pay prevailing wages to all laborers and mechanics employed on this project shall be considered a breach of contract. Such a failure may result in the revocation of the contractor's and/or subcontractor's certificate of qualification and debarment. A schedule of the most current prevailing wage rates may be accessed by logging in/registering with the Ohio Department of Commerce, Labor and Worker Safety Division, Wage and Hour Bureau at the following web address:

<http://198.234.41.198/w3/webwh.nsf/wrlogin/?openform>

The Contractor and all subcontractors shall compensate the employees on this contract at a pay rate not less than the hourly wage and fringe rate listed on the website noted above, for the applicable job classification or as may be modified by the Ohio Department of Commerce, Division of Labor and Worker Safety Wage and Hour Bureau, when new prevailing rates are established.

Overtime shall be paid at one and one-half times the basic hourly rate for any hours worked beyond forty hours during a pay week. The Contractor and all subcontractors shall pay all compensation by company check to the worker and fringe benefit program.

The wage and fringe rates determined for this project or as may be later modified, shall be posted by the Contractor in a prominent and accessible place on the project, field office, or equipment yard where they can be easily read by the workers or otherwise made available to the workers. On the first pay date of contract work the Contractor and all subcontractors shall furnish each employee covered by prevailing wage a completed form (WHPW-1512) in accordance with section 4115.05 of the Ohio Revised Code, showing the classification, hourly pay rate, and fringes, and identifying the public authority's Prevailing Wage Coordinator, if such employees are not covered by a collective bargaining agreement or understanding between employers and bona fide organizations of labor. These forms shall be signed by the Contractor or subcontractor and the employee and kept in the Contractor's or subcontractor's payroll files.

The Contractor and all subcontractors shall submit to the Prevailing Wage Coordinator, certified payrolls on form WHPW-1512 or equivalent, in accordance with sections 4115.07 and 4115.071 (C) of the Ohio Revised Code, three weeks after the start of work and every subsequent week until the completion of the contract. Additionally, a copy of the “Apprentice Certification” obtained from the Ohio State Apprenticeship Council, must accompany all certified payrolls submitted, for all apprentices working on this project. Upon completion of the contract and before the final payment, the Contractor shall submit to the Prevailing Wage Coordinator a final wage affidavit in accordance with section 4115.07 of the Ohio Revised Code stating that wages have been paid in conformance with the minimum rates set forth in the contract. Please be aware that it is ultimately the responsibility of the Contractor to ensure that all laws relating to prevailing wages in Chapter 4115 of the Ohio Revised Code are strictly adhered to by all subcontractors.

The Contractor and all subcontractors shall make all of its payroll records available for inspection, copying or transcription by any authorized representative of the contracting agency. Additionally, the Contractor and all subcontractors shall permit such representatives to interview any employees during working hours while the employee is on the job.

John R. Kasich
Governor

Jacqueline T. Williams
Director



The Ohio Department of Commerce
Division of Industrial Compliance and Labor
Bureau of Labor and Worker Safety
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
614-644-2223
<http://www.com.ohio.gov>

PREVAILING WAGE PACKET

This packet of information is provided as a summary of the Prevailing Wage guidelines and responsibilities. The Ohio Revised Code, Chapter 4115 should be referred to for the exact words of the law. Also included are references and forms which should be helpful in the compliance of the Prevailing Wage Law.

PACKET INFORMATION INDEX

- A. The Ohio Department of Commerce – Division of Industrial Compliance, Wage and Hour Administration Investigators and their assigned counties
 - 1. The Wage and Hour Investigators for the State of Ohio are listed with their contact information
 - a. If you have questions or need assistance pertaining to Prevailing Wage, you can contact the Investigator in your area
- B. Prevailing Wage Guide for Public Authorities
 - 1. Notice of change of the Prevailing Wage Threshold Level
 - a. A notification will be sent to you when there is a change of the Prevailing Wage threshold level
 - 2. Outline of the Public Authority's responsibilities for Prevailing Wage
 - 3. Public Authority's Compliance Checklist form
 - a. A form for tracking the progress of a Prevailing Wage project
 - 4. Request form for Prevailing Wage Rates
 - a. PW Rates can be obtained on the website www.com.ohio.gov
 - 1. Prevailing Wage Determination Schedule of wages must be attached to and made part of the specifications for the project, and must be printed on the bidding blanks where the work is done by contact
 - 5. Bid Tabulation form
 - a. A form to be completed and returned to ODOC-DIC-Bureau of Wage and Hour Administration when the contract has been awarded
 - 6. Prevailing Wage Bonds form
 - a. Information needed to be kept on file by the PW Coordinator when bonds from the Public Authority are used for a project
- C. Prevailing Wage Guidelines for the Public Authority's Coordinator
 - 1. Guideline for the Prevailing Wage Coordinator
 - a. The Prevailing Wage complaint form and instructions can be obtained on the website www.com.ohio.gov
 - 2. Record of the Certified Payroll Reports Received form
 - a. Helpful form for recording the Certified Payroll Reports and the dates received from the contractors and subcontractors
 - 3. Employee Interview form
 - a. Helpful form for the use by the PW Coordinator when making on-site visits
 - 4. Employee vs. Independent Contractor
 - a. Helpful questions when determining if a person is an Employee or an Independent Contractor
- D. Prevailing Wage Guide for Contractors
(Incorporate this section in the Specs. or supply copies for the pre-construction meeting)
 - 1. Outline of responsibilities for the Prevailing Wage Contractor
 - 2. Notification form from the Contractor to the Employee
 - a. The contractor must submit to employees a completed and signed notification form
 - b. Some PW Coordinators may require a copy of the completed Notification to the Employee form be submitted with the Certified Payroll Reports
 - 3. Certified Payroll Report form
 - a. The contractor can use any form/format he chooses as long as ALL the information has been provided
 - 4. Certified Payroll Report form instruction sheet
 - 5. Corrected Certified Payroll Report Example
 - 6. Affidavit of Compliance form
 - a. No Public Authority shall make final payment unless the Final Affidavits have been filed by the contractors and subcontractors



John R. Kasich
Governor

Jacqueline T. Williams
Director

INVESTIGATORS CONTACT INFORMATION

OHIO DEPARTMENT OF COMMERCE
Division of Industrial Compliance
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
Fax: 614-728-8639
www.com.ohio.gov
TTY/TDD: 1-800-750-0750

The Ohio Department of Commerce is an Equal Opportunity Employer and Service Provider



Department of Commerce

Division of Industrial Compliance

John R. Kasich, Governor
Jacqueline T. Williams, Director

Bureau of Wage and Hour Administration
6606 Tussing Road - PO Box 4009
Reynoldsburg, OH 43608-9009
Phone 614-644-2239 | Fax 614-728-8639
TTY/TDD 800-750-0750
com.ohio.gov

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PREVAILING WAGE CONTRACTOR RESPONSIBILITIES

This is a summary of prevailing wage contractors' responsibilities. For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

General Information

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$250,000 for new construction or \$75,000 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$91,150 for new construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction or \$27,309 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting of a public improvement that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction.

- a) Thresholds are to be adjusted biennially by the Administrator of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration
- b) Biennial adjustments to threshold levels are made according to the Price Deflator for Construction Index, United States Department of Commerce, Bureau of the Census*, but may not increase or decrease more than 3% for any year

Penalties for violation

Violators are to be assessed the wages owed, plus a penalty of 100% of the wages owed.

Intentional Violations

If an intentional violation is determined to have occurred, the contractor is prohibited from contracting directly or indirectly with any public authority for the construction of a public improvement. Intentional violation means "a willful, knowing, or deliberate disregard for any provision" of the prevailing wage law and includes but is not limited to the following actions:

- Intentional failure to submit payroll reports as required, or knowingly submitting false or erroneous reports.
- Intentional misclassification of employees for the purpose of reducing wages.
- Intentional misclassification of employees as independent contractors or as apprentices.
- Intentional failure to pay the prevailing wage.
- Intentional failure to comply with the allowable ratio of apprentices to skilled workers as required by the regulations established by Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration.
- Intentionally employing an officer, of a contractor or subcontractor, that is known to be prohibited from contracting, directly or indirectly, with a public authority.

Responsibilities

- A. Pay the prevailing rate of wages as shown in the wage rate schedules issued by the Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration, for the classification of work being performed.
 1. Wage rate schedules include all modifications, corrections, escalations, or reductions to wage rates issued for the project.

2. Overtime must be paid at time and one-half the employee's base hourly rate. Fringe benefits are paid at straight time rate for all hours including overtime.
 3. Prevailing wages must be paid in full without any deduction for food, lodging, transportation, use of tools, etc.; unless, the employee has voluntarily consented to these deductions in writing. The public authority and the Director of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration - must approve these deductions as fair and reasonable. Consent and approval must be obtained before starting the project.
- B. Use of Apprentices and Helpers cannot exceed the ratios permitted in the wage rate schedules.
1. Apprentices must be registered with the U.S. Department of Labor Bureau of Apprenticeship and Training.
 2. Contractors must provide the Prevailing Wage Coordinator a copy of the Apprenticeship Agreement for each apprentice on the project.
- C. Keep full and accurate payroll records available for inspection by any authorized representative of the Ohio Department of Commerce, Division of Industrial Compliance, and Labor, Bureau of Wage and Hour Administration or the contracting public authority, including the Prevailing Wage Coordinator. Records should include but are not limited to:
1. Time cards, time sheets, daily work records, etc.
 2. Payroll ledger\journals and canceled checks\check register.
 3. Fringe benefit records must include program, address, account number, & canceled checks.
 4. Records made in connection with the public improvement must not be removed from the State for one year following the completion of the project.
 5. Out-of-State Corporations must submit to the Ohio Secretary of State the full name and address of their Statutory Agent in Ohio.
- D. Prevailing Wage Rate Schedule must be posted on the job site where it is accessible to all employees.
- E. Prior to submitting the initial payroll report, supply the Prevailing Wage Coordinator with your project dates to schedule reporting of your payrolls.
- F. Supply the Prevailing Wage Coordinator a list of all subcontractors including the name, address, and telephone number for each.
1. **Contractors are responsible for their subcontractors' compliance with requirements of Chapter 4115 of the Ohio Revised Code.**
- G. Before employees start work on the project, supply them with written notification of their job classification, prevailing wage rate, fringe benefit amounts, and the name of the Prevailing Wage Coordinator for the project. A copy of the completed signed notification should be submitted to Prevailing Wage Coordinator.
- H. Supply all subcontractors with the Prevailing Wage Rates and changes.
- I. Submit certified payrolls within two (2) weeks after the initial pay period. Payrolls must include the following information:
1. Employees' names, addresses, and social security numbers.
 - (a) Corporate officers/owners/partners and any salaried personnel who do physical work on the project are considered employees. All rate and reporting requirements are applicable to these individuals.
 2. Employees' work classification.
 - (a) Be specific about the laborers and/or operators (Group)
 - (b) For all apprentices, show level/year and percent of journeyman's rate
 3. Hours worked on the project for each employee.

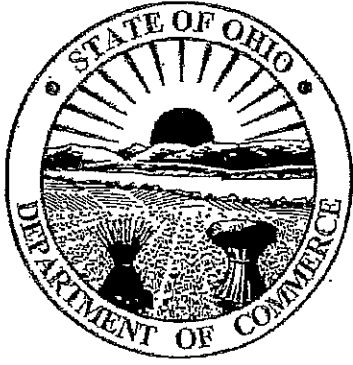
- (a) The number of hours worked in each day and the total number of hours worked each week.
 - 4. Hourly rate for each employee.
 - (a) The minimum rate paid must be the wage rate for the appropriate classification. The Department's Wage Rate Schedule sets this rate.
 - (b) All overtime worked is to be paid at time and one-half for all hours worked more than forty (40) per week.
 - 5. Where fringes are paid into a bona fide plan instead of cash, list each benefit and amount per hour paid to program for each employee.
 - (a) When the amount contributed to the fringe benefit plan and the total number of hours worked by the employee on all projects for the year are documented, the hourly amount is calculated by dividing the total contribution of the employer by the total number of hours worked by the employee.
 - (b) When the amount contributed to the fringe benefit is documented but not the total hours worked, the hourly amount is calculated by **dividing the total yearly contribution by 2080**.
 - 6. Gross amount earned on all projects during the pay period.
 - 7. Total deductions from employee's wages.
 - 8. Net amount paid.
- J. The reports shall be certified by the contractor, subcontractor, or duly appointed agent stating that the payroll is correct and complete; and that the wage rates shown are not less than those required by the O.R.C. 4115.
- K. Provide a Final Affidavit to the Prevailing Wage Coordinator upon the completion of the project.

OHIO DEPARTMENT OF COMMERCE Division of Industrial Compliance Bureau of Wage and Hour Administration Chief, Stephen Clegg	6606 Tussing Road, PO Box 4009 Reynoldsburg, Ohio 43068-9009 614-644-2239 Fax: 614-728-8639 www.com.ohio.gov
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INVESTIGATORS and THEIR ASSIGNED COUNTIES

#48 Dave Horvath PO Box 1512 Lima, Ohio 45802-1512 Voice: (419)302-1200 Fax : (614) 728-8639 Dave.Horvath@com.state.oh.us	Allen *
#30 Mike McKee PO Box 1342 Cambridge, Ohio 43725-2247 Voice: (740) 432-1987 Michael.McKee@com.state.oh.us	Guernsey *
#56 Shawn Miles PO Box 2547 North Canton, Ohio 44720 Voice: (614) 496-9076 Shawn.Miles@com.state.oh.us	Stark *
#37 David Rice PO Box 291843 Kettering, Ohio 45429 Voice: (740) 502-0883, Fax: (614)995-7768 Dave.Rice@com.state.oh.us	Montgomery *
#35 Sean Seibert PO Box 422 Painesville, Ohio 44077-3938 Voice: (614) 557-8662 Fax: (614) 232-9541 Sean.Seibert@com.state.oh.us	Lake *

<p>#11 Kela D. Thompson 6606 Tussing Rd, PO Box 4009 Reynoldsburg, Ohio 43068-9009 Voice: (614) 728-5007 Fax: (614) 232-9537 Kela.Thompson@com.state.oh.us</p>	<p>Franklin *</p>
<p>* Headquarter County</p>	
<p>Stephen Clegg, Chief 6606 Tussing Rd, PO Box 4009 Reynoldsburg, Ohio 43068-9009 Voice: (614) 728-8686 Fax: (614) 728-8639 Stephen.Clegg@com.state.oh.us</p>	<p>#90 Jackie Clark, Supervisor 6606 Tussing Rd, PO Box 4009 Reynoldsburg, Ohio 43068-9009 Voice: (614) 728-5019 Fax: (614) 728-8639 Jackie.Clark@com.state.oh.us</p>



John R. Kasich
Governor

Jacqueline T. Williams
Director

PREVAILING WAGE GUIDE
FOR
PUBLIC AUTHORITIES

OHIO DEPARTMENT OF COMMERCE
Division of Industrial Compliance
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
Fax: 614-728-8639
www.com.ohio.gov
TTY/TDD: 1-800-750-0750

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PREVAILING WAGE THRESHOLD LEVELS

IMPORTANT NOTICE

Before advertising for bids, contracting, or undertaking construction with its own forces, to construct a public improvement, the Public Authority shall have the Ohio Department of Commerce-Division of Industrial Compliance, Bureau of Wage and Hour Administration determine the prevailing rates of wages for workers employed on the public improvement. The wage determination must be included in the project specifications and printed on the bidding blanks where work is done by contract.

“New” construction threshold for <i>Building Construction</i>:	\$250,000
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“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” threshold level for <i>Building Construction</i>:	\$75,000
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As of January 1, 2018:

“New” construction that involves <i>roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction</i> threshold level has been adjusted to:	\$91,150
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“Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting” that involves <i>roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction</i> threshold level has been adjusted to:	\$27,309
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- A) Thresholds are to be adjusted biennially by the Director of the Ohio Department of Commerce.
- B) Biennial adjustments to threshold levels are made according to the Building Cost for Skilled Labor Index published by McGraw-Hill’s Engineering News-Record, but may not increase or decrease more than 3% for any year.

If there are questions concerning this notification, please contact:

Ohio Department of Commerce
 Division of Industrial Compliance
 Bureau of Wage and Hour Administration
 6606 Tussing Road, PO Box 4009
 Reynoldsburg, Ohio 43068-9009
 Phone: 614-644-2239
 Fax: 614-728-8639
www.com.ohio.gov

Public Authority Responsibilities
ORC Chapter 4115: Wages and Hours on Public Works
(Prevailing Wage Coordinator)

1. Before advertising for bids, contracting, or undertaking construction with its own forces, to construct a public improvement, the public authority shall have the Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour Administration determine the prevailing rates of wages for workers employed on the public improvement. The wage determination must be included in the project specifications and printed on the bidding blanks where work is done by contract.
 - a) "New" construction has a threshold level of \$250,000.
 - b) "Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting" has a threshold level of \$75,000.
 - c) "New" construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction has a threshold level of \$91,150.
 - d) "Reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting" that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction has a threshold of \$27,309.
 - i.) Thresholds are to be adjusted biennially by the Director of Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour Administration.
 - ii.) Biennial adjustments to threshold levels are made according to the Price Deflator for Construction Index, United States Department of Commerce, Bureau of the Census, but may not increase or decrease more than 3% for any year.
2. Every contract for public work shall contain a provision that each worker employed by the contractor or subcontractor, or other person about or upon the public work, must be paid the prevailing rate of wages.
3. If contracts are not awarded or construction undertaken within ninety days (90) from the date of the determination of the prevailing wage there shall be a re-determination of the wage rates before the contract is awarded.
4. Within seven (7) working days after the receipt of notification of a change in the prevailing wage rates, the public authority shall notify all affected contractors and subcontractors. If it is determined that a contractor or subcontractor has violated sections 4115.03 to 4115.16 of the Ohio Revised Code because they were not notified as required, **the public authority is liable** for any back wages, fines, damages, court costs and attorney's fees for the period of time covering the receipt of wage changes, until they give the required notice.
5. No public authority shall award a contract for a public improvement to any contractor or subcontractor whose name appears on the list of debarred contractors. This list is filed with the Secretary of State by the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration **The filing of the notice of conviction with the secretary of state constitutes notice to all public authorities.** These contractors are prohibited from working on public improvements for periods ranging from one to three years. The list of debarred contractors can be located on the website www.com.ohio.gov/laws
6. A public authority must designate and appoint **one of its own employees** to serve as the Prevailing Wage Coordinator during the life of the contract for constructing the public improvement. A Prevailing Wage Coordinator must be appointed no later than ten days before the first payment of wages by contractors to employees working on the public improvement.

PUBLIC AUTHORITY'S COMPLIANCE CHECKLIST FOR PREVAILING WAGE

Project:		Number:
Department:		Phone#:
PW Coordinator:		Phone#:
Architect/Engineer:		Phone#:
Contractor:		Phone#:
Contact Person:		Title:
General Contractor:		Prime Contractor:
		Construction Mgr:
Date Completed		Compliance Item Description
	1.	Request Prevailing Wage Determination Schedule from ODOC-DIC-Wage & Hour
	2.	Received Prevailing Wage Determination Schedule
	3.	Incorporate Determination Schedule in Specs./Bidding Blanks
	4.	Incorporate notice of Prevailing Wage requirements in Invitation for Bids/Notice to Bidders
	5.	Incorporate Prevailing Wage requirements in Contract
	6.	Submit complete Invitation for Bid to ODOC-DIC-Wage & Hour
	7.	Invitation for Bids
	8.	Bid Opening
	9.	Check Listing of Violators
	10.	Award of Contract. (see note)
	11.	Submit Bid Tabulation/Award to ODOC-DIC-WAGE & HOUR
	12.	Notice to Successful Bidder
	13.	Work Commenced...(see note)
	14.	Appoint Prevailing Wage Coordinator
	15.	Received list of Subcontractors' names, addresses, phone #'s & email's
	16.	Received Payroll Date Schedule
	17.	Received Registered Apprenticeship Agreement Certifications
	18.	Received Deduction Agreements
	19.	Received Payroll Reports with Certification...(see attachment)
	20.	Visited project site
	21.	Received Changes to Determination Schedule
	22.	Notice to Contractors of Determination Schedule change
	23.	Request Final Compliance Affidavit from contractors & subcontractors
	24.	Received Final Affidavits from all contractors & subcontractors
	25.	Certify Final Payment

Note: If contract is not awarded or construction undertaken within 90 days from the date of establishment of the Prevailing Wage Rates, a re-determination of the Prevailing Wage Rates is required.

REQUEST FOR STATE OF OHIO PREVAILING WAGE RATES

Date	(Mark (X) One) ~ Residential ~ Construction	
Project Information (only one project and one county per request form please)		
County of Project	Project Name	This form MUST be filled out COMPETELY & CORRECTLY for us to process your request. Forms not completed correctly will be RETURNED TO THE SENDER .
Site Address	City	
Owner/Public Authority		Prevailing Wage Rates can be obtained on the website www.com.ohio.gov
Address	Telephone Number	ODOC-DIC-WAGE & HOUR DATE STAMP
City	Zip Code	
PW Coordinator	Telephone Number	
Issuing Authority of Bonds	Type of Financing	
Estimated Total Overall Project Cost		
~ New Construction ~ "Old" Construction *		
A copy of this form will be returned to you with your wage rates. You must send that copy to us with your bid tabulations once the contract has been awarded.		
Expected Date of Contract Award		PLEASE MAIL THIS REQUEST TO: Ohio Department of Commerce Division of Industrial Compliance Bureau of Wage & Hour Administration 6606 Tussing Road, PO Box 4009 Reynoldsburg, Ohio 43068-9009 PHONE: (614) 644-2239 FAX: (614) 728-8639
Projected Completion Date		
Send Wage Rates to: (contractors are charged \$5.00 per county)		ODOC-DIC-W&H DATE STAMP (bid tab)
~ Mail ~ Pick Up ~ Federal Express Account Number		
Name	Company or Public Authority	
Address		
City	Zip	Telephone Number
* "Old" construction is reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.		

INDUSTRIAL DEVELOPMENT BONDS

Bond Projects require the Public Authority to keep the following information on file			
1. Type of Bonds issued:	Amount:		
2. The total cost of the Project:			
3. The other type of financing involved in the project:			
4. Portion of the project being constructed with each type of financing:			
5. Are Prevailing Wage Rates being applied to all construction on the project: ~ Yes ~ No			
6. The name of the political subdivision who issued the bonds:			
7. When were the bonds issued:			
8. For what purpose were the bonds issued:			
9. Who handles the funds once the bonds are sold:			
10. Who is the lending institution that purchased the bonds:			
11. How are the funds to be paid out:			
12. When are the funds to be paid out: .			
13. Who is the Bond Council:			
14. Who has been appointed as the Prevailing Coordinator:			
PWC Address:			
City:	OHIO	Zip:	Telephone #:
15. Obtain a copy of the inducement and other official documents for the issuance of the bonds.			



John R. Kasich
Governor

Jacqueline T. Williams
Director

PREVAILING WAGE GUIDELINES
FOR THE
PUBLIC AUTHORITIES
PW COORDINATOR

OHIO DEPARTMENT OF COMMERCE
Division of Industrial Compliance and Labor
Bureau of Wage and Hour Administration
6606 Tussing Road, PO Box 4009
Reynoldsburg, Ohio 43068-9009
Phone: 614-644-2239
Fax: 614-728-8639
www.com.ohio.gov
TTY/TDD: 1-800-750-0750

The Ohio Department of Commerce is an Equal Opportunity Employer and Service Provider

Prevailing Wage Coordinator Guidelines

For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

- A. Attend any pre-bid and/or pre-construction meetings.
 - 1. To explain the prevailing wage rate requirements.
 - 2. To explain the contractor's responsibilities.
- B. Set up and maintain files containing all contractors' and subcontractors' payroll reports, affidavits, and related documents. These files must be available for public inspection.
- C. Obtain from each contractor a list of their subcontractors' names, addresses, telephone numbers, and email addresses.
- D. Require each contractor and subcontractor to provide their project dates. This will be used to make a time schedule for receiving their certified payrolls.
- E. Obtain from each contractor, the name and address of their Bonding\Surety Company.
- F. Obtain from out-of-state corporations, the name and address of their Statutory Agent. (This agent must be located in the State of Ohio and registered with the Ohio Secretary of State.)
 - 1. Records made in connection with the public improvement must not be removed from the State of Ohio for the period of one year following the completion of the project.
- G. Supply contractors with any changes in the Prevailing Wage Rates.
- H. Within two weeks after the first pay, obtain a certified payroll report from each contractor. A certified report is one that is sworn to and signed by the contractor.
 - 1. If the job will exceed four months, all reports after the initial report can be filed once per month. (The initial report must be filed within two weeks.)
 - 2. If the job will last less than four months, all reports are to be filed weekly after the initial report.
- I. Establish and follow procedures to monitor compliance by contractors and subcontractors.
 - 1. Visit project to verify posting requirements and job classifications.
 - 2. Review certified payroll reports to ensure they are submitted in a timely fashion and complete with the following information for each employee:
 - a) Name, current address, and their social security number or last 4 when permitted
 - b) Classification (must be specific for laborers and operators, including level)
 - c) Hours worked on the project
 - d) Hourly rate
 - e) Fringe benefits, if applicable
 - f) Total hours worked for the week (all jobs)
 - g) Gross wages, all deductions, net pay
 - 3. Compare rates and fringes reported to rates in prevailing wage schedule.
- J. Upon completion of the project and prior to the final payment, require an affidavit of compliance from each contractor and subcontractor. **No public authority shall make final payment to any contractor or subcontractor unless the final affidavits have been filed by the respective contractor and subcontractor. (O.R.C. section 4115.07)**
- K. Report any non-compliance to Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage & Hour Administration. The PW complaint form and instructions can be obtained on the website www.com.ohio.gov.

RECORD OF THE CERTIFIED PAYROLL REPORTS RECEIVED

Project:		Number:
Contractor:		Phone #: Email:
General Contractor:	Prime Contractor:	Subcontractor:
Date work commenced:	Completed:	Final Affidavit:

Payroll	Payroll Date	Date Received		Payroll	Payroll Date	Date Received
1				33		
2				34		
3				35		
4				36		
5				37		
6				38		
7				39		
8				40		
9				41		
10				42		
11				43		
12				44		
13				45		
14				46		
15				47		
16				48		
17				49		
18				50		
19				51		
20				52		
21				53		
22				54		
23				55		
24				56		
25				57		
26				58		
27				59		
28				60		
29				61		
30				62		
31				63		
32				64		

EMPLOYEE VS. INDEPENDENT CONTRACTOR

EMPLOYEE	↔	<input type="checkbox"/> YES	Does the employer have the right to control and direct worker?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the worker receive instructions about how and where the work is to be done instead of the employer merely specifying the desired result?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Is payment based on time spent rather than a set price for the work to be performed?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the worker devote virtually all his working time to the employer rather than offering services to the general public?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the worker performing services make their services available to the general public and/or other businesses?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Is there a continuing relationship between employer and worker?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Can the worker be discharged at will?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Did the employer train the worker for the job?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> YES	Does the employer have employees performing the same work as the independent contractor?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR

PREVAILING WAGE INVESTIGATION\EMPLOYEE INTERVIEW

Failure to complete this interview form may reduce our ability to recover back wages which may be owed to you.

Project:		Case #:	
Address:		City:	County:
Employee Name:			Last 4 digits of the SS#:
Address:		City:	State: Zip:
Telephone #: (Home)	(Work)	Email:	Best time to be reached:
Another source by which we can contact you. (Someone not living at your address):			
Name:		Relationship:	Telephone #:
Contractor's Name:		Telephone #:	
Address:		City:	State: Zip:
Date hired:	Date started on this project:	Approximate hours - Straight time:	Overtime:
Method of recording hours: ~ Time Card ~ Called into office		Recorded by: ~ Employee ~ Foreman	
Did you keep a personal record of your hours worked on this project? ~ Yes ~ No		Do you have check stubs? ~ Yes ~ No	
Did anyone else keep a personal record? ~ Yes ~ No		If yes, who:	
List your job classification(s):		~ Journeyman ~ Helper ~ Apprentice - Level	
List your specific job duties:		List tools/equipment used:	
Hourly rate of pay for this project:		Your regular rate of pay:	
Fringe benefits paid by contractor: ~ None ~ Health Insurance ~ Life Insurance ~ Pension ~ Bonus ~ Vacation - Amount _____ ~ Holidays - Amount _____ ~ Apprenticeship training ~ Profit Sharing ~ Other (list):			
Did you work overtime? ~ Yes ~ No		Were hours over 40 per week paid at time and one half? ~ Yes ~ No	
When is your pay day?		Method of payment: ~ Check ~ Cash ~ Direct Deposit	
List names of co-workers on this project:			
Comments:		Please provide a detailed list of the dates, times and hours worked within each classification that may apply to the work performed on a separate sheet.	
SIGNATURE AND NOTARY			
<p>Affiant is further informed that Section 2921.13 of the Ohio Revised Code provides a penalty of a misdemeanor of the first degree and that prosecution will be pursued of those persons who "knowingly swear or affirm the truth of a false statement when ...the statement is sworn or affirmed before a notary public..."</p> <p>Sworn to before me and subscribed by the said:</p> <p>_____</p> <p>in my presence this _____ day of _____, 20_____</p> <p>_____ Notary Public</p>		<p>I hereby certify that this is a true statement to the best of my knowledge and belief.</p> <p>Signature _____ Date _____</p> <p>Return to: Ohio Department of Commerce Division of Industrial Compliance & Labor Bureau of Wage and Hour Administration 6606 Tussing Road P.O. Box 4009 Reynoldsburg, Ohio 43068-9009 (614) 644-2239 www.com.ohio.gov</p>	
Signature of PW Coordinator:		Date:	

EMPLOYEE VS. INDEPENDENT CONTRACTOR-continued

EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the worker perform services personally rather than delegating them to others?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the employer set a specific time when the individual services are to be performed?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Does the employer furnish the tools and materials used by the worker performing services?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input checked="" type="checkbox"/> YES	Is the employer assuming all the financial risk, rather than the worker making a significant financial investment in the job and having the opportunity to realize a profit or loss from the work?	<input type="checkbox"/> NO	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> NO	Does the individual performing the services publicly advertise these services in for example, the newspaper or yellow pages?	<input checked="" type="checkbox"/> YES	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> NO	Does the individual performing the services have a business license?	<input checked="" type="checkbox"/> YES	↔	INDEPENDENT CONTRACTOR
EMPLOYEE	↔	<input type="checkbox"/> NO	Does the individual performing the services operate d.b.a. or under a tradename?	<input checked="" type="checkbox"/> YES	↔	INDEPENDENT CONTRACTOR



John R. Kasich
Governor

Jacqueline T. Williams
Director

PREVAILING WAGE GUIDE

FOR

CONTRACTORS

(Revised January 2016)

OHIO DEPARTMENT OF COMMERCE

Division of Industrial Compliance and Labor

Bureau of Wage and Hour Administration

6606 Tussing Road, PO Box 4009

Reynoldsburg, Ohio 43068-9009

Phone: 614-644-2239

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PREVAILING WAGE CONTRACTOR RESPONSIBILITIES

This is a summary of prevailing wage contractors' responsibilities. For more detailed information please refer to Chapter 4115 of the Ohio Revised Code

General Information

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$250,000 for new construction or \$75,000 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting.

Ohio's prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than \$88,495 for new construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction or \$26,514 for reconstruction, enlargement, alteration, repair, remodeling, renovation, or painting of a public improvement that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction.

- a) Thresholds are to be adjusted biennially by the Administrator of Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration
- b) Biennial adjustments to threshold levels are made according to the Construction Cost Index for Commercial Construction published by McGraw Hill's Engineering News Record.

Penalties for violation

Violators are to be assessed the wages owed, plus a penalty of 100% of the wages owed.

Intentional Violations

If an intentional violation is determined to have occurred, the contractor is prohibited from contracting directly or indirectly with any public authority for the construction of a public improvement. Intentional violation means "a willful, knowing, or deliberate disregard for any provision" of the prevailing wage law and includes but is not limited to the following actions:

- Intentional failure to submit payroll reports as required or knowingly submitting false or erroneous reports.
- Intentional misclassification of employees for the purpose of reducing wages.
- Intentional misclassification of employees as independent contractors or as apprentices.
- Intentional failure to pay the prevailing wage.
- Intentional failure to comply with the allowable ratio of apprentices to skilled workers as required by the regulations established by Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration.
- Intentionally employing an officer, of a contractor or subcontractor, that is known to be prohibited from contracting, directly or indirectly, with a public authority.

Responsibilities

- A. Pay the prevailing rate of wages as shown in the wage rate schedules issued by the Ohio Department of Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration, for the classification of work being performed.
 1. Wage rate schedules include all modifications, corrections, escalations, or reductions to wage rates issued for the project.
 2. Overtime must be paid at time and one-half the employee's base hourly rate. Fringe benefits are paid at straight time rate for all hours including overtime.
 3. Prevailing wages must be paid in full without any deduction for food, lodging, transportation, use of tools, etc.; unless, the employee has voluntarily consented to these deductions in writing. The public authority and the Director of Ohio Department of

Commerce, Division of Industrial Compliance and Labor, Bureau of Wage and Hour Administration - must approve these deductions as fair and reasonable. Consent and approval must be obtained before starting the project.

- B. Use of Apprentices and Helpers cannot exceed the ratios permitted in the wage rate schedules.
 - 1. Apprentices must be registered with the U.S. Department of Labor Bureau of Apprenticeship and Training.
 - 2. Contractors must provide the Prevailing Wage Coordinator a copy of the Apprenticeship Agreement for each apprentice on the project.

- C. Keep full and accurate payroll records available for inspection by any authorized representative of the Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Wage and Hour Administration or the contracting public authority, including the Prevailing Wage Coordinator. Records should include but are not limited to:
 - 1. Time cards, time sheets, daily work records, etc.
 - 2. Payroll ledger\journals and canceled checks\check register.
 - 3. Fringe benefit records must include program, address, account number, & canceled checks.
 - 4. Records made in connection with the public improvement must not be removed from the State for one year following the completion of the project.
 - 5. Out-of-State Corporations must submit to the Ohio Secretary of State the full name and address of their Statutory Agent in Ohio.

- D. Prevailing Wage Rate Schedule **must** be posted on the job site where it is accessible to all employees.

- E. Prior to submitting the initial payroll report, supply the Prevailing Wage Coordinator with your project dates to schedule reporting of your payrolls.

- F. Supply the Prevailing Wage Coordinator a list of all subcontractors including the name, address, and telephone number for each.
 - 1. **Contractors are responsible for their subcontractors' compliance with requirements of Chapter 4115 of the Ohio Revised Code.**

- G. Before employees start work on the project, supply them with written notification of their job classification, prevailing wage rate, fringe benefit amounts, and the name of the Prevailing Wage Coordinator for the project. A copy of the completed signed notification should be submitted to Prevailing Wage Coordinator.

- H. Supply all subcontractors with the Prevailing Wage Rates and changes.

- I. Submit certified payrolls within two (2) weeks after the initial pay period. Payrolls must include the following information:
 - 1. Employees' names, addresses, and social security numbers.
 - (a) Corporate officers/owners/partners and any salaried personnel who do physical work on the project are considered employees. All rate and reporting requirements are applicable to these individuals.
 - 2. Employees' work classification.
 - (a) Be specific about the laborers and/or operators (Group)
 - (b) For all apprentices, show level/year and percent of journeyman's rate
 - 3. Hours worked on the project for each employee.
 - (a) The number of hours worked in each day and the total number of hours worked each week.
 - 4. Hourly rate for each employee.
 - (a) The minimum rate paid must be the wage rate for the appropriate classification. The Department's Wage Rate Schedule sets this rate.

- (b) All overtime worked is to be paid at time and one-half for all hours worked more than forty (40) per week.
 - 5. Where fringes are paid into a bona fide plan instead of cash, list each benefit and amount per hour paid to program for each employee.
 - (a) When the amount contributed to the fringe benefit plan and the total number of hours worked by the employee on all projects for the year are documented, the hourly amount is calculated by dividing the total contribution of the employer by the total number of hours worked by the employee.
 - (b) When the amount contributed to the fringe benefit is documented but not the total hours worked, the hourly amount is calculated by **dividing the total yearly contribution by 2080**.
 - 6. Gross amount earned on all projects during the pay period.
 - 7. Total deductions from employee's wages.
 - 8. Net amount paid.
- J. The reports shall be certified by the contractor, subcontractor, or duly appointed agent stating that the payroll is correct and complete; and that the wage rates shown are not less than those required by the O.R.C. 4115.
- K. Provide a Final Affidavit to the Prevailing Wage Coordinator upon the completion of the project.

PREVAILING WAGE NOTIFICATION to EMPLOYEE

5.05...the contractor or subcontractor shall furnish each employee NOT covered by a collective bargaining agreement written notification of the job classification to which the employee is assigned, the prevailing wage determined to be applicable to that classification, separated into the hourly rate of pay and the fringe payments, and the identity of the prevailing wage coordinator appointed by the public authority. The contractor or subcontractor shall furnish the same notification to each affected employee every time the job classification of the employee is changed.

Project Name:	Job Number:
Contractor:	
Project Location:	

Prevailing Wage Coordinator	Employee
Public Authority:	Name:
Name of PWC:	Street:
Address:	City:
City:	State/Zip:
State/Zip:	Phone:
Phone:	Email:
Phone:	Last 4 Digits of SS #:

You will be performing work on this project that falls under these classifications. You will be paid the appropriate rate for the type of work you are performing.

Classification:	Prevailing Wage Rate Total Package:	Minus your fringe benefits *:	Your hourly base rate and overtime:
			/
			/
			/
			/
			/
			/
			/

Hourly fringe benefits paid on your behalf by this company (Yearly amount the company pays divided by 2080):

Fringe	Amount	Fringe	Amount
Health Insurance		Vacation	
Life Insurance		Holiday	
Pension		Sick Pay	
Other (Specify)		Training	
Other (Specify)		Total Hourly Fringes *	

Contractor's Signature:	Date:
Employee's Signature:	Date:

INSTRUCTIONS FOR PREPARING CERTIFIED PAYROLL REPORTS

General:

Contractors and subcontractors are required by law to submit certified payroll reports for work on projects covered by Ohio's Prevailing Wage Law. This form meets the reporting requirements established by Ohio Revised Code Chapter 4115. The use of this form is not mandatory; employers may submit their own forms provided that all of the required information is included. This form may be reproduced, or additional copies obtained from:

Ohio Department of Commerce
Division of Industrial Compliance
Bureau of Wage and Hour Administration
6606 Tussing Road, P.O. Box 4009
Reynoldsburg, Ohio 43068-9009
614-644-2239
www.com.ohio.gov

Certified Payroll Heading:

Employer name and address: Company's full name and address... Indicate if the company is a subcontractor.

Subcontractor: Check and list the name of the General Contractor or Prime.

Project: Name and location of the project, including county.

Contracting Public Authority: Name and address of the contracting public authority... (Owner of the project):

Week Ending: Month, day, and year for last day of reporting period.

Payroll #: Indicates first, second, third, etc. payroll filed by the company for the project.

Page indicator: number of pages included in the report.

Project Number: Determined by the public authority... If there is no number leave blank.

Payroll Information by column:

- Employee Name, Address and Social Security number:** This information must be provided for all employees that perform physical labor on the project. The Social Security number is required; the last four digits may be permitted by the public authority. Corporate officers, partners, and salaried employees are considered employees and must be paid the prevailing rate. Individual sole proprietors do not have to pay themselves prevailing rate but must report their hours on the project.
- Work Class:** List classification of work actually performed by employee. If unsure of work classification, consult the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration. Employees working more than one classification should have separate line entries for each classification. Indicate what year/level for Apprentices. Be specific when using laborer and operator classifications; for example, Backhoe Operator or Asphalt Laborer or by "Group".
- Hours Worked, Day & Date:** In the first row of column 3, enter days of the company's pay period for example; M T W TH F S S. The second row is for the date that corresponds with each day for the pay period. In the employee information section, enter the number of hours worked on the prevailing wage project and which day the hours were worked. Separate rows are labeled for (ST) straight time hours and (OT) overtime hours. All hours worked after 40, must be paid at the appropriate overtime rate.
- Project Total Hours:** Total the hours entered for pay period.
- Base Rate:** Enter actual rate per hour paid to the employee. The overtime hourly rate is time and one-half the base rate listed in the prevailing wage schedule plus fringe benefits at straight time rate. The prevailing wage schedule lists the base rate plus fringe benefit amounts. These amounts added together equal the total prevailing wage rate. Employers must pay this total amount in one of three ways.
 - Total rate may be paid in entirety in the base rate to the employee; in which case, the cash designation will be checked for fringe benefits.
 - Total rate may be paid as listed in prevailing wage rate schedule with total fringe amounts paid approved plans.
 - Total rate may be paid with a combination of base rate and fringe payments to approved plans in amounts other than those listed in schedule.
- Project Gross:** Enter total gross wages earned on the project for straight time and overtime. Project hours "X" base rate should equal project gross.
- Fringes:** If fringe benefits are paid in the hourly base rate, indicate this by marking the Cash space. If fringe benefits are paid to approved plans as listed in the prevailing wage rate schedule, mark the space Approved Plans. If fringe benefits are paid partially in the base rate and partially to approved plans, mark the space Cash & Approved Plans. List the hourly amount paid to approved plans for each fringe. If payments are not made on a per hour basis, calculate the hourly fringe credit by dividing the yearly employer contribution by the lesser of: hours actually worked in the year (these must be documented) or 2080. Fringe benefits include: Employer's share of health insurance, life insurance, retirement plan, bonus/profit sharing, sick pay, holiday pay, personal leave, vacation, and education/training programs. If unsure of a possible fringe benefit, contact the Ohio Department of Commerce-Division of Industrial Compliance & Labor-Bureau of Wage and Hour Administration.
- Total Hours All Jobs:** Total all hours worked during the pay period including non-prevailing wage jobs.
- Total Gross All Jobs:** Gross amount earned in the pay period for all hours worked.
- Self explanatory.
- Self explanatory.

DO NOT REDO FORM AND CHANGE RATES IF AN ERROR HAS BEEN MADE! SUBMIT A CORRECTED REPORT:

****CORRECTED****

CORRECTED FORMS CAN BE HANDWRITTEN

CERTIFIED PAYROLL REPORT

1. Name & Address # out all other areas of the form as SSN #		Name of General / Prime Contractor		Project Name & Location		Contracting Party Summary		Difference in base rate & corrected base rate if applicable.	
2. Work Code		3. Hours Worked - Day & Date		4. Project Total Hrs		5. Base Rate		6. Total Hours All Jobs	
3. Hours Worked - Day & Date		4. Project Total Hrs		5. Base Rate		6. Total Hours All Jobs		7. Total Gross Payroll	
8. Fringe Cash Approved Plans Cash & Approved Plans		9. Total Gross Payroll		10. Total Hours All Jobs		11. Total Gross Payroll		12. NET Paid	
9. Total Gross Payroll		10. Total Hours All Jobs		11. Total Gross Payroll		12. NET Paid		13. Difference in base rate & corrected base rate if applicable.	
14. Fringes & corrected fringes if applicable.		15. Difference in fringes & corrected fringes if applicable.		16. Total Gross Payroll		17. Total Hours All Jobs		18. NET Paid	

Date Fill in My signature on this form signifies that I pay, or supervise the payment of the employees shown above. I am certifying: 1) That during the pay period reported on this form, all hours worked on this project have been paid at the appropriate prevailing wage rate for the class or work done. 2) That the fringe benefits have been paid as indicated above. 3) That no rebates or deductions have been or will be made, directly or indirectly from the total wages earned, other than permissible deductions as defined in the Ohio Revised Code Chapter 4115. 4) That apprentices are registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training. The willful falsification of any of the above statements may subject the contractor or subcontractor to civil or criminal prosecution.

Name and Title Complete Signature Sign

Send cover letter stating what happened, with a signed letter from the employee acknowledging that they were underpaid, received payment, check or transaction number.

**FINAL
AFFIDAVIT OF COMPLIANCE
PREVAILING WAGES**

I, _____ do hereby certify
(Name of person signing affidavit) (Title)

that the wages paid to all employees of : _____
(Company name)

for all hours worked on project: _____
(Project name)

(Project location)

During the period from _____ to _____ are in compliance with
(Project Dates)

Prevailing Wage requirements of Chapter 4115 of the Ohio Revised Code. I further certify that no rebates or deductions have been or will be made, directly or indirectly, from any wages paid in connection with this project, other than those provided by law.

(Signature of Officer or Agent)

(Print Name of Officer or Agent)

Sworn to and subscribed in my presence this _____ day of _____, 20_____.

(Notary Public)

The above affidavit must be executed and sworn to by the officer or agent of the contractor or subcontractor who supervises the payment of employees. This affidavit must be submitted to the owner (public authority) before the surety is released or final payment due under the terms of the contract is made.

of a crew per Article VIII paragraph 65, will not be subject the apprenticeship ratios in this collective bargaining agreement.

DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

**Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if they are required to have CDL.

Class 1 - Air Compressors on Steel Erection; Barrier Moving Machine; Boiler Operators, on Compressors or Generators, when mounted on a rig; Cableways, Combination Concrete mixers & Towers; Concrete Pumps; Concrete Plants (over 4 yd capacity); Cranes (all types, including Boom Trucks, Cherry Pickers); Derricks; Draglines, Dredgers (dipper, clam or suction); Elevating Graders or Euclid Loaders; Floating Equipment (all types); Gradalls, Helicopter Crew (Operator- hoist or winch); Hoes (all types); Hoisting Engines, on shaft or tunnel work; Hydraulic Gantry (lifting system); Industrial - Type Tractors; Jet Engine Dryers (D8 or D9), Diesel Tractors; Locomotives (standard gage); Maintenance Operators (class A); Mixers, paving (single or double drum); Mucking Machines; Multiple Scrapers; Piledriving Machines (all types); Power Shovels, Prentice Loader; Quad 9 (double pusher); Rail Tamper (with automatic lifting and aligning device); Refrigerating Machines (freezer operation); Side Booms; Slip Form Pavers; Tower Dericks; Tree Shredders; Truck Mounted Concrete Pumps; Tug Boats; Tunnel Machines and /or Mining Machines; Wheel Excavators. Rough Terrain Fork-lift with Winch/Hoist; Compact Cranes, track rubber over 4,000 pound capacity, self-erecting cranes; stationary, track or truck (all configurations) Bucket trench machines (over 24 inches wide).

Class 2 - Asphalt Pavers; Automatic Subgrade Machines, self-propelled (CMI-type); Bobcat-type and /or skid steer loader with hoe attachment greater than 7000 lbs.; Boring Machine Operators (more than 48 inches); Bulldozers; Endloaders; Hydro Milling Machine; Kolman-type Loaders (production type-dirt); Lead Greasemen; Maintenance Operators, Class B (Portage and Summit Counties only); Pettibone-Rail Equipment; Power Graders; Power Scrapers; Push Cats; Lighting and Traffic Signal Installation Equipment includes all groups or classifications; Trench Machines (24inch wide and under); Vermeer Type Concrete saw. Material Transfer Equipment (Shuttle buggy) Asphalt; All rotomills,grinders and planers of all types. Horizontal Directional Drill (Over 50,000 ft.lbs.thrust and over)

Class 3 - A-Frames; Air Compressors, on tunnel work (low Pressure); Asphalt Plant Engineers; Bobcat-type and/or skid steer loader with or without attachments; Power Boilers (15 lbs pressure and over); Highway Drills (all types); Rollers, asphalt; Pump Operators (installing or operating well Points); Pumps (4 inch and over discharge); Railroad Tie Inserter/Remover; Rotator (lime-soil Stabilizer), Switch & Tie Tampers (without lifting and aligning device); Locomotives (narrow gage); Mixers, concrete (more than one bag capacity); Mixers, one bag capacity (side loader); Utilities Operators, (small equipment); Welding Machines; Material hoist/elevators. Articulating/straight bed end dumps if assigned (minus \$4.00 per hour).

Class 4 -Ballast Re-locator; Backfillers, Batch Plants; Bar and Joint Installing Machines; Boring Machine Operators (48 inch or less); Bull Floats; Burlap and Curing Machines; Concrete Plants (capacity 4 yd and under); Conveyors (highway); Concrete Saws (multiple); Crushers; Deckhands; Farm type tractors, with attachments (highway), except masonry; Finishing Machines; Firemen, Floating Equipment (all types); Fork Lifts (highway); Form Trenchers; Hydro Hammers; Hydro Seeders; Pavement Breakers; Plant Mixers; Post Drivers; Post Hole Diggers (power auger); Power Brush Burners; Power Form Handling Equipment; Road Widening Trenchers; Rollers (brick, grade, macadam); Self-Propelled Power Spreaders; Self-Propelled Sub-Graders; Tractors, pulling sheepsfoot rollers or graders; Steam Firemen; Vibratory Compactors, with integral power.

Class 5 - Compressors (portable, Sewer, Heavy and Highway); Generators; Inboard-Outboard Motor Boat Launches; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters; Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen; Drum Fireman (in Asphalt Plant); Oil Heaters (Asphalt Plant); Tire Repairmen; VAC/ALLS; Fueling and greasing (plus \$3.00), compact cranes: track or rubber under 4,000 pounds.

Class 6 - Master Mechanic

(1) Registered Apprentice or trainee Engineer through the referral when they are available. An apprentice, while employed as part of a crew per Article VIII, paragraph 77, will not be subject to the apprenticeship ratios in this collective bargaining agreement

CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WYANDOT

Special Jurisdictional Note :

Details :

**Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% increase if required to have CDL

Class 1 - Barrier Moving Machine; Boiler Operators or Compressor Operators, when compressor or boiler is mounted on crane (Piggyback Operation); Boom Trucks (all types); Cableways Cherry Pickers; Combination - Concrete Mixers & Towers; All Concrete Pumps with Booms; Cranes (all types) Derricks (all types); Draglines Dredges (dipper, clam or suction) 3-man crew; Elevating Graders or Euclid Loaders; Floating Equipment; Gradalls; Helicopter Operators; hoisting building materials; Helicopter Winch Operators, Hoisting building materials; Hoes (All types); Hoists (with two or more drums in use); Hydraulic Gantry (lift system); Laser Finishing Machines; Lift Slab or Panel Jack Operators; Locomotives (all types); Maintenance Engineers (Mechanic and/or Welder); Mixers, paving (multiple drum); Mobile Concrete Pumps, with booms, Panelboards, (all types on site); Pile Drivers; Power Shovels; Prentice Loader; Rail Tamper (with automatic lifting and aligning device); Rotary Drills (all) used on caissons for foundations and sub-structure work; Side Booms; Slip Form Pavers; Straddle Carriers (Building Construction on site); Tug Boats. Horizontal Directional Drill, Rough Terrain Fork-lift with Winch/Hoist, Laser Screed, and Like equipment; Compact Cranes, track or rubber over 4,000 pound capacity, self-erecting cranes: stationary, track or truck (all configurations) bucket trench machines (over 24 " wide).

Class 2 - Asphalt Pavers; Bobcat-type and/or skid steer loader with hoe attachment greater than 7000 lbs. Bulldozers; CMI type Equipment; Endloaders; Hydro Milling Machine; Kolman-type Loaders (Dirt Loading); Lead Greasemen; Mucking Machines; Pettibone-Rail Equipment; Power Graders; Power Scoops; Power Scrapers; Push Cats; Vermeer Type Concrete Saw; All rotomills, grinders & planers of all types. Articulating/end dumps (minus \$4.00/hour from Class 2 rate)

Class 3 - A Frames; Air Compressors, Pressurizing Shafts or Tunnels; All Asphalt Rollers; Bobcat-type and/or skid steer loader with or without attachments; Boilers (15 lbs pressure and over); All

concrete Pumps (without booms with 5 inch system); Fork Lifts (except masonry); Highway Drillers - all types (with integral power); Hoists (with one drum); House Elevators (except those automatic call button controlled); Man lifts; Mud Jacks; Pressure Grouting; Pump Operators (installing or operating Well Points or other types of Dewatering Systems); Pumps (4 inches and over discharge); Railroad Tie Inserter/Remover; Rotator (Lime-Soil Stabilizer); Submersible Pumps (4 inches and over discharge); Switch & Tie Tampers (without lifting and aligning device); Trench Machines (24 inches and under); Utility Operators; Material hoist/elevators.

Class 4 - Ballast Re-locator; Backfillers and Tampers; Batch Plant Operators; Bar and Joint Installing Machines; Bull Floats; Burlap and Curing Machines; Clefplanes; Compressors, on building construction; Concrete Spreader; Conveyors, used for handling building materials; Concrete Mixers, one bag capacity (side loader); Concrete Mixers, capacity more than one bag; Crushers; Deck Hands; Drum Fireman (in Asphalt Plant); Farm type tractors pulling attachments; Finishing Machines; Form Trenchers; Generators; Gunite Machines; Hydro-Seeders; Pavement Breakers (hydraulic or cable); Post Drivers; Post Hole Diggers; Pressure Pumps (over 1/2 inch discharge); Road Widening Trenchers; Rollers (except asphalt); All Concrete pumps (without Boom with 4 inch or smaller systems); Self-Propelled Power Spreaders; Concrete Spreaders; Self-Propelled Sub-graders; Shotcrete Machines; Tire Repairmen; Tractors, pulling sheepfoot rollers or graders; VAC/ALLS; Vibratory Compactors, with integral power; Welder Operators.

Class 5 - Boilers (less than 15 lbs. pressure); Inboard/outboard Motor Boat Launches; Light Plant Operators; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalmen, Submersible Pumps (under 4 inch discharge). Directional Drill Locator and Allen Screed Concrete Paver. Fueling and greasing (plus \$3.00), compact cranes; track or rubber under 4,000 pounds.

Class 6 - Master Mechanic

Class 7 - Boom & Jib 150 - 180 feet

Class 8 - Boom & Jib 180 - 249 feet

Class 9 - Boom & Jib 250 - or over

Prevailing Wage Rate Skilled Crafts

Name of Union: Labor HevHwy 3

Change # : LCN01-2018fbLocalHevHwy3

Craft : Laborer Group 1 Effective Date : 05/01/2018 Last Posted : 04/11/2018

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Laborer Group 1	\$30.62		\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$41.67	\$56.98
Group 2	\$30.79		\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$41.84	\$57.24
Group 3	\$31.12		\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$42.17	\$57.73
Group 4	\$31.57		\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$42.62	\$58.41
Watch Person	\$23.35		\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$34.40	\$46.08
Apprentice	Percent											
0-1000 hrs	60.00	\$18.37	\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$29.42	\$38.61
1001-2000 hrs	70.00	\$21.43	\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$32.48	\$43.20
2001-3000 hrs	80.00	\$24.50	\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$35.55	\$47.79
3001-4000 hrs	90.00	\$27.56	\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$38.61	\$52.39
More than 4000 hrs	100.00	\$30.62	\$6.90	\$3.60	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$41.67	\$56.98

Special Calculation Note : Watchmen have no Apprentices. Tunnel Laborer rate with air-pressurized add \$1.00 to the above wage rate.

Ratio :
 1 Journeymen to 1 Apprentice
 3 Journeymen to 1 Apprentice thereafter

Jurisdiction (* denotes special jurisdictional note) :
 ADAMS, ALLEN, ASHLAND, ATHENS,
 AUGLAIZE, BELMONT, BROWN, BUTLER,
 CARROLL, CHAMPAIGN, CLARK,
 CLERMONT, CLINTON, COLUMBIANA,
 COSHOCTON, CRAWFORD, DARKE,

DEFIANCE, DELAWARE, FAIRFIELD,
 FAYETTE, FRANKLIN, FULTON, GALLIA,
 GREENE, GUERNSEY, HAMILTON,
 HANCOCK, HARDIN, HARRISON, HENRY,
 HIGHLAND, HOCKING, HOLMES, JACKSON,
 JEFFERSON, KNOX, LAWRENCE, LICKING,
 LOGAN, MADISON, MARION, MEIGS,
 MERCER, MIAMI, MONROE,
 MONTGOMERY, MORGAN, MORROW,
 MUSKINGUM, NOBLE, PAULDING, PERRY,
 PICKAWAY, PIKE, PREBLE, PUTNAM,
 RICHLAND, ROSS, SCIOTO, SENECA,
 SHELBY, TUSCARAWAS, UNION, VAN
 WERT, VINTON, WARREN, WASHINGTON,
 WAYNE, WILLIAMS, WYANDOT

Special Jurisdictional Note : Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Details :

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker, (Swimming) Pool Construction Laborer, Utility Man, *Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

*Bridge Man will perform work as per the October 31, 1949, memorandum on concrete forms, by and between the United Brotherhood of Carpenters and Joiners of America and the Laborers' International Union of North America, which states in; "the moving, cleaning, oiling and carrying to the next point of erection, and the stripping of forms which are not to be re-used, and forms on all flat arch work shall be done by members of the Laborers' International Union of North America."

Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Diver, Form Setter, Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), ***Lead Abatement, Hazardous Waste (level C)

***Includes the erecting of structures for the removal, including the encapsulation and containment of Lead abatement process.

Group 3

Blast and Powder Person, Muckers will be defined as shovel men working directly with the miners, Wrencher (mechanical joints & utility pipeline), Yarnner, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Grade Checker, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person will receive the rate equal to the rate paid the Laborer classification for which the Laborer is signaling.

Group 4

Miner, Welder, Gunitite Nozzle Person

A.) The Watchperson shall be responsible to patrol and maintain a safe traffic zone including but not limited to barrels, cones, signs, arrow boards, message boards etc.

The responsibility of a watchperson is to see that the equipment, job and office trailer etc. are secure.

1 Journeyman to 1 Apprentice
3 Journeyman to 1 Apprentice

Special Jurisdictional Note :

Details :

Note:

Group 1: Building & Common Laborer; All general laborers work including all forms of landscaping, Rough Rider - all pump's 4 inch or smaller, Small Pump Portable Generators-Bobcat to Cleanup, Firewatch and Monitor, (Safety Person)

Group 2: Asphalt Raker, Tamper, Smoother, Hand Air Pump, Hand air Tamper, Chisel, Power Tamper, Operator, Switch, Assemblies, Handling & Laying Precast Concrete Floors & Deck Tool Repairman.

Group 3: Concrete Specialist; Skid Steers (with attachments to perform Laborer's duties) Jack Hammer * Concrete Busterman, Barco Tamper Man, Power Georgia Buggy Man, Power Sweeper Man, Vibrator, Concrete Saw Man, Rail Spikers, Acetylene Burner, Pipelayers, Bos'n Cradleman, Bottom Man, Chipping Hammer Grade Checker, Radio Operator, Form Cleanout & blowout Man, Red Concrete Coloring Man (Electrical Safety)

Group 4: Mason Tender, Mortar Mixers & Scaffold Builders

Group 5: Fork Lift for Mason, all work involving Refractory Materials Including Demolition of Refractory Materials.

Asbestos Removal and Hazardous Waste Removal (handling, control, removal abatement, encapsulation or disposal of asbestos & hazardous waste),

Group 6: Gunnite Man, Sand Blaster, Concrete & Grout Pump & Hose Man, Blast Trac, Miners & Muckers, Free Air, Powderman or Blaster, Mortar or Gypsum Machineman, Welder, Scuba Diver.

Group 7: Watchman & Tool Checker/Toolroom Man

LOGAN, LORAIN, LUCAS, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

HOLMES, HURON, JACKSON, JEFFERSON,
KNOX, LAKE, LAWRENCE, LICKING,
LOGAN, LORAIN, LUCAS, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

(A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.

(B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

1 Journeymen to 1 Apprentice
 2 Journeymen to 2 Apprentice
 10 Journeymen to 4 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ADAMS*, BROWN, BUTLER*, CLERMONT, CLINTON*, HAMILTON, HIGHLAND*, WARREN*

Special Jurisdictional Note : Adams County Twps included: Bratton, Scott, Winchester, Wayne. Butler County Twps included: Oxford, St. Clair, Fairfield, Morgan, Liberty, Union, Ross, Reily, Hanover. West Chester. In Clinton County, Manchester and South West Borrow. Highland County Twps included: Dotson, Salem, Clay, White Oak, Hamer, New Market, Concord, Jackson, Washington. Warren County Twps included: Harlan, Deerfield, Hamilton.

Details :

Structural Iron Work but not limited to:field fabrication, all loading to and including the erecting,rigging,assembly,dismantling, placing, temporary and permanent securing by any means of all structural iron,steel,ornamental lead,bronze,brass,copper,aluminum,glass all ferrous and non ferrous metal and composite material, precast prestressed and post-stressed concrete structures. Bridges and bridge rails,bridge viaducts,bucks bulkheads,bumper and bumper post,canopies and unistrut canopies,corrugated ferrous and non ferrous sheets when attached to steel frames,columns,beams,bar-joists,trusses,grinders,roof decking,electrical supports,elevator cars,elevator fronts and enclosures,erection of steel towers,flag poles, gymnasium equipment,stadium and arena seating,jail cell work,jail cell beds,benches,bunks,chairs,tables,mirrors,jail cell access doors,rigging and installation of machinery and equipment(erection,aligning,anchoring and dismantling, erection and dismantling of tower cranes,derrick monorail systems, Chicago booms,overhead cranes,gantries,material and personnel hoists,tanks,hoppers and conveyors. All pre-engineered metal buildings and their entirety including siding,roofing, gutters, downspouts and erection of all.

Ornamental Iron Work but not limited to:all work in connection with field fabrication,handling including loading/off loading,sorting,cutting,fastening,anchoring,bending,hoisting,placing,burning,welding,and tying,dismantling of all materials used in miscellaneous iron or steel, for stairs,hand railings,rolling doors, rolling gates,rolling shutters,fence,windows,curtain wall,erection and welding of all metal, sash,architectural and ornamental treatments, but not necessarily limited to all sizes and types of ornamental,steel iron,lead,bronze,brass,copper,aluminum,all ferrous and non ferrous metals and composite materials

Fence Erector Iron Worker but not limited to: All work in connection with the field fabrication and erection of chain link fence,which includes but not limited to the loading and of the fence fabric and posts also the installation of the above.

MERCER*, MIAMI, MONTGOMERY,
PREBLE, SHELBY, VAN WERT*, WARREN*

Special Jurisdictional Note : Allen County Twps included are: Auglaize, Perry, Shawnee, Amanda, Spencer, Marion, Sugar Creek, American, Bath, Jackson. Butler County Twps included are: Milford, Wayne, Madison, Lemon. Champaign Cnty Twps included are: Union, Urbana, Jackson, Concord, Salem, Mad River, Johnson, Harrison, Adams. Fayette County Twps included are: Green, Jasper, Concord, Jefferson. Hardin County Twps included are: Round Head, Marion, Liberty. Highland County Twps included are: Fairfield, Penn, Union, Marshall, Liberty, Paint, Brush Creek. Logan County Twps included are: Richland, Stokes, Bloomfield, Washington, Harrison, McArthur, Lake, Liberty, Pleasant, Miami. Madison County Twps included are: Stokes. Mercer County Twps included are: Dublin, Washington, Jefferson, Recovery, Gibson, Union, Liberty, Butler, Granville, Center, Hopewell, Franklin, Marion. VanWert County Twps included are: Jennings. Warren County Twps included are: Franklin, Clear Creek, Turtle Creek, Wayne, Massie, Washington, Salem, Union.

Details :

Structural Iron Work but not limited to:field fabrication, all loading to and including the erecting,rigging,assembly,dismantling, placing, temporary and permanent securing by any means of all structural iron,steel,ornamental lead,bronze,brass,copper,aluminum,glass all ferrous and non ferrous metal and composite material, precast prestressed and post-stressed concrete structures. Bridges and bridge rails,bridge viaducts,bucks bulkheads,bumper and bumper post,canopies and unistrut canopies,corrugated ferrous and non ferrous sheets when attached to steel frames,columns,beams,bar-joists,trusses,grinders,roof decking,electrical supports,elevator cars,elevator fronts and enclosures,erection of steel towers,flag poles, gymnasium equipment,stadium and arena seating,jail cell work,jail cell beds,benches,bunks,chairs,tables,mirrors,jail cell access doors,rigging and installation of machinery and equipment(erecting,aligning,anchoring and dismantling, erection and dismantling of tower cranes,derrick monorail systems, Chicago booms,overhead cranes,gantries,material and personnel hoists,tanks,hoppers and conveyors. All pre-engineered metal buildings and their entirety including siding,roofing, gutters, downspouts and erection of all.

Ornamental Iron Work but not limited to:all work in connection with field fabrication,handling including loading/off loading,sorting,cutting,fastening,anchoring,bending,hoisting,placing,burning,welding,and tying,dismantling of all materials used in miscellaneous iron or steel, for stairs,hand railings,rolling doors, rolling gates,rolling shutters,fence,windows,curtain wall,erection and welding of all metal, sash,architectural and ornamental treatments, but not necessarily limited to all sizes and types of ornamental,steel iron,lead,bronze,brass,copper,aluminum,all ferrous and non ferrous metals and composite materials

Fence Erector Iron Worker but not limited to: All work in connection with the field fabrication and erection of chain link fence,which includes but not limited to the loading and of the fence fabric and posts also the installation of the above.

1 Journeyman to 1 Apprentice
3 Journeyman to 1 Apprentice
5 Journeyman to 1 Apprentice

Special Jurisdictional Note :

Details :

Carpenter duties shall include but not limited to: Pile driving, milling, fashioning, joining, assembling, erecting, fastening, or dismantling of all material of wood, plastic, metal, fiber, cork, and composition, and all other substitute materials: pile driving, cutting, fitting, and placing of lagging, and the handling, cleaning, erecting, installing, and dismantling of machinery, equipment, and erecting pre-engineered metal buildings.

Pile Drivers work but not limited to: unloading, assembling, erection, repairs, operation, signaling, dismantling, and reloading all equipment that is used for pile driving including pile butts. pile butts is defined as sheeting or scrap piling. Underwater work that may be required in connection with the installation of piling. The diver and his tender work as a team and shall arrive at their own financial arrangements with the contractor. Any configuration of wood, steel, concrete, or composite that is jettied, driven, or vibrated onto the ground by conventional pile driving equipment for the purpose of supporting a future load that may be permanent or temporary.

Driving bracing, plumbing, cutting off and capping of all piling whether wood, metal, pipe piling or composite. loading, unloading, erecting, framing, dismantling, moving, and handling of pile driving equipment. piling used in the construction and repair of all wharves, docks, piers, trestles, caissons, cofferdams, and the erection of all sea walls and breakwaters. All underwater and marine work on bulkheads, wharves, docks, shipyards, caissons, piers, bridges, pipeline work, viaducts, marine cable and trestles, as well as salvage and reclamation work where divers are employed.

Rate shall include carpenters, acoustic, and ceiling installers, drywall installers, pile drivers, and floorlayers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Floorlayer SW District G

Change # : LCR01-2017fbLocSWDayton

Craft : Carpenter Effective Date : 09/14/2017 Last Posted : 09/14/2017

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Floorlayer	\$24.47		\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$39.28	\$51.51
Apprentice	Percent											
1st 3 months	50.00	\$12.24	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12.24	\$18.35
2nd 3 months	50.00	\$12.24	\$6.65	\$0.00	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$20.09	\$26.21
2nd 6 months	55.00	\$13.46	\$6.65	\$0.00	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$21.32	\$28.05
3rd 6 months	60.00	\$14.68	\$6.65	\$0.00	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$22.54	\$29.88
4th 6 months	65.00	\$15.91	\$6.65	\$0.00	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$23.77	\$31.72
5th 6 months	70.00	\$17.13	\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$31.94	\$40.50
6th 6 months	75.00	\$18.35	\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$33.16	\$42.34
7th 6 months	80.00	\$19.58	\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$34.39	\$44.17
8th 6 months	85.00	\$20.80	\$6.65	\$6.95	\$0.29	\$0.00	\$0.80	\$0.12	\$0.00	\$0.00	\$35.61	\$46.01

Special Calculation Note : Other for \$0.12 is for UBC National Fund.

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BROWN, BUTLER, CHAMPAIGN, CLARK, CLERMONT, CLINTON, DARKE, GREENE, HAMILTON, LOGAN, MIAMI,

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter & Pile Driver SW District HevHwy

Change # : LCN01-2018fbLoc126

Craft : Carpenter Effective Date : 06/13/2018 Last Posted : 06/13/2018

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter	\$29.87		\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$46.59	\$61.53
Pile Driver	\$29.34		\$6.63	\$6.95	\$0.40	\$0.00	\$1.97	\$0.10	\$0.00	\$0.00	\$45.39	\$60.06
Apprentice	Percent											
1st 6 Months	60.00	\$17.92	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$34.64	\$43.60
2nd 6 Months is 1st year	65.00	\$19.42	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$36.14	\$45.84
3rd 6 Months	70.00	\$20.91	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$37.63	\$48.08
4th 6 Months is 2 years	75.00	\$22.40	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$39.12	\$50.32
5th 6 Months	80.00	\$23.90	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$40.62	\$52.56
6th 6 Months is 3 years	85.00	\$25.39	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$42.11	\$54.80
7th 6 Months	90.00	\$26.88	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$43.60	\$57.04
8th 6 Months is 4 years	95.00	\$28.38	\$7.08	\$6.95	\$0.38	\$0.00	\$2.19	\$0.12	\$0.00	\$0.00	\$45.10	\$59.28

Special Calculation Note : Other is UBC National Fund.

Ratio : Jurisdiction (* denotes special jurisdictional note) :

1 Journeymen to 1 Apprentice

An employer shall have the right to employ one (1) Apprentice for one (1) Journeyman Carpenter in its employment for the first Apprentice employed, and 1 (1) Apprentice for two (2) Journeyman Carpenter for additional Apprentices employed.

Thereafter, every third additional carpenter hired shall be an apprentice, if available, and if practical for the type of work being performed.

BROWN, BUTLER, CHAMPAIGN, CLARK,
CLERMONT, CLINTON, DARKE, GREENE,
HAMILTON, LOGAN, MIAMI,
MONTGOMERY, PREBLE, SHELBY,
WARREN

Special Jurisdictional Note :**Details :**

Highway Construction, Airport Construction, Heavy Construction but not limited to: (tunnels,subways,drainage projects,flood control,reservoirs). Railroad Construction,Sewer Waterworks & Utility Construction but not limited to: (storm sewers, waterlines, gaslines). Industrial & Building Site, Power Plant, Amusement Park, Athletic Stadium Site, Sewer and Water Plants. When the Contractor furnishes the necessary underwater gear for the Diver, the Diver shall be paid one and one half (1&1/2) times the journeyman rate for the time spent in the water.

Details :

All work in connection with Asbestos Removal, Abatement, Encapsulation, Lead Abatement, Hazardous Materials and Fire Stopping which is performed by employees in the Mechanic or Apprentice Classification shall be covered under the terms of this Agreement.

Clear Creek, Franklin, Mossie, Turtle Creek & Wayney). Ashtabula County: (post offices & townships of Ashtabula, Austinburg, Geneva, Harperfield, Jefferson, Plymouth & Saybrook) (townships of Andover, Cherry Valley, Colbrook, Canneaut, Denmark, Dorset, East Orwell, Hartsgrove, Kingville, Lenox, Monroe, Morgan, New Lyme, North Kingsville, Orwell, Pierpoint, Richmond Rock Creek, Rome, Sheffield, Trumbull, Wayne, Williamsfield & Windsor) Erie County: (post offices & townships of Berlin, Berlin Heights, Birmingham, Florence, Huron, Milan, Shinrock & Vermilion)

Details :

Asbestos & lead paint abatement including, but not limited to the removal or encapsulation of asbestos & lead paint, all work in conjunction with the preparation of the removal of same & all work in conjunction with the clean up after said removal. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) is recognized as being the exclusive work of the Asbestos Abatement Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

An Abatement Journeyman is anyone who has more than 300 hours in the Asbestos Abatement field.

Prevailing Wage Rate Skilled Crafts

Name of Union: Truck Driver Bldg & HevHwy Class 1
Locals 20,40,92,92b,100,175,284,438,377,637,908,957

Change # : LCON1-2017fbBldgHevHwy

Craft : Truck Driver Effective Date : 07/05/2017 Last Posted : 07/05/2017

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Truck Driver CLASS 1 4 wheel service, dump, and batch trucks, Oil Distributor - Asphalt Distributor-Tandems	\$26.49		\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.99	\$54.24
Apprentice	Percent											
First 6 months	80.00	\$21.19	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$35.69	\$46.29
7-12 months	85.00	\$22.52	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.02	\$48.27
13-18 months	90.00	\$23.84	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.34	\$50.26
19-24 months	95.00	\$25.17	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.67	\$52.25
25-30 months	100.00	\$26.49	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.99	\$54.24

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice
per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spray bar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Prevailing Wage Rate Skilled Crafts

**Name of Union: Truck Driver Bldg & HevHwy Class 2
Locals 20,40,92,92b,100,175,284,438,377,637,908,957**

Change # : CN1-2017-fbBldgHevHwy

Craft : Truck Driver Effective Date : 07/05/2017 Last Posted : 07/05/2017

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund	Total PWR	Overtime Rate	
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET	MISC		
								(*)	(*)		
Truck Driver CLASS 2	\$26.91	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.41	\$54.87
Tractor											
Trailer-Semi											
Tractor											
Trucks-Pole											
Trailers-											
Ready Mix											
Trucks-Fuel											
Trucks-											
Asphalt-Oil											
Spray bar											
men- 5 Axle											
& Over -Belly											
Dumps-End											
Dumps-											
Articulated											
Dump Trucks-											
Low boys-											
Heavy duty											
Equipment											
(irrespective											
of load											
carried) when											
used											
exclusively											
for											
transportation-											
Truck											
Mechanics											
(when											
needed)											

Apprentice	Percent												
First 6 months	80.00	\$21.53	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.03	\$46.79
7-12 months	85.00	\$22.87	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.37	\$48.81
13-18 months	90.00	\$24.22	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.72	\$50.83
19-24 months	95.00	\$25.56	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.06	\$52.85
25-30 months	100.00	\$26.91	\$7.00	\$7.30	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.41	\$54.87

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice
per company/project

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spray bar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Special Jurisdictional Note :

Details :

HIGHLAND, MIAMI, MONTGOMERY,
PREBLE, SHELBY*, WARREN

Special Jurisdictional Note : Fayette County: Eastern portion of route #41 being the dividing line between locals 372 and 387. Local 387 has jurisdiction of projects built on property which borders route #41 East. Shelby County: Southern portion of routes #47 & 29.

Details :

Special Jurisdictional Note :

Details :

Apprentice and Shop Hand Pension are \$1.00 less than Journeyman.

Helpers shall be permitted to work on ONLY , Exterior Sewers, Concrete, Vitrified Clay or PVC Pipe and Digging and Backfilling for Piping Work. The ratio shall not exceed 2 helpers to 1 Journeymen when performing the scope of work listed above

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : LCN02-2018fbLoc669

Craft : Sprinkler Fitter Effective Date : 04/04/2018 Last Posted : 04/04/2018

Classification	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Sprinkler Fitter	\$37.78	\$9.67	\$6.40	\$0.52	\$0.00	\$5.12	\$0.00	\$0.00	\$0.00	\$0.00	\$59.49	\$78.38
Indentured Between April 1, 2010-March 31, 2013												
45%	\$17.00	\$7.75	\$0.00	\$0.52	\$0.00	\$0.69	\$0.00	\$0.00	\$0.00	\$0.00	\$25.96	\$34.46
50%	\$18.89	\$7.75	\$0.00	\$0.52	\$0.00	\$0.74	\$0.00	\$0.00	\$0.00	\$0.00	\$27.90	\$37.35
55%	\$20.78	\$9.67	\$6.40	\$0.52	\$0.00	\$0.53	\$0.00	\$0.00	\$0.00	\$0.00	\$37.90	\$48.29
60%	\$22.67	\$9.67	\$6.40	\$0.52	\$0.00	\$0.58	\$0.00	\$0.00	\$0.00	\$0.00	\$39.84	\$51.18
65%	\$24.56	\$9.67	\$6.40	\$0.52	\$0.00	\$1.13	\$0.00	\$0.00	\$0.00	\$0.00	\$42.28	\$54.56
70%	\$26.45	\$9.67	\$6.40	\$0.52	\$0.00	\$1.18	\$0.00	\$0.00	\$0.00	\$0.00	\$44.22	\$57.45
75%	\$28.34	\$9.67	\$6.40	\$0.52	\$0.00	\$1.23	\$0.00	\$0.00	\$0.00	\$0.00	\$46.16	\$60.33
80%	\$30.22	\$9.67	\$6.40	\$0.52	\$0.00	\$1.28	\$0.00	\$0.00	\$0.00	\$0.00	\$48.09	\$63.20
85%	\$32.11	\$9.67	\$6.40	\$0.52	\$0.00	\$1.32	\$0.00	\$0.00	\$0.00	\$0.00	\$50.02	\$66.07
90%	\$34.00	\$9.67	\$6.40	\$0.52	\$0.00	\$1.37	\$0.00	\$0.00	\$0.00	\$0.00	\$51.96	\$68.96
Apprentice Indentured after April 1, 2013	Percent											
CLASS 1	45.00	\$17.00	\$7.75	\$0.00	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25.27	\$33.77
CLASS 2	50.00	\$18.89	\$7.75	\$0.00	\$0.52	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.16	\$36.61
CLASS 3	55.00	\$20.78	\$9.67	\$6.40	\$0.52	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$38.02	\$48.41
CLASS 4	60.00	\$22.67	\$9.67	\$6.40	\$0.52	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$39.91	\$51.24
CLASS 5	65.00	\$24.56	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$42.05	\$54.33
CLASS 6	70.00	\$26.45	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$43.94	\$57.16
CLASS 7	75.00	\$28.33	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$45.83	\$59.99
CLASS 8	80.00	\$30.22	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$47.71	\$62.83
CLASS 9	85.00	\$32.11	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$49.60	\$65.66

CLASS 10	90.00	\$34.00	\$9.67	\$6.40	\$0.52	\$0.00	\$0.90	\$0.00	\$0.00	\$0.00	\$51.49	\$68.49
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Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Sprinkler Fitter work shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Cardox Systems, Dry Chemical Systems, Foam Systems and all other fire protection systems.

Details :

****In order to utilize a Pre-Apprentice, you must have 1 Registered Apprentice in your employ.****

Ratio :

- 1 Journeyman to 1 Apprentice
- 5 Journeymen to 1 Apprentice
- 10 Journeymen to 2 Apprentices
- 15 Journeymen to 3 Apprentices
- 20 Journeymen to 4 Apprentices
- 25 Journeymen to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, BROWN, BUTLER, CLERMONT, GALLIA,
HAMILTON, LAWRENCE, PREBLE*, SCIOTO,
WARREN, WARREN*

Special Jurisdictional Note : Warren in the townships of Dixon, Gasper, Isrsel, Somers & Gratis in Prebble County

Details :

JACKSON, LAWRENCE, LICKING,
MADISON, MEIGS, MIAMI, MONTGOMERY,
MORGAN, MUSKINGUM, NOBLE, PERRY,
PICKAWAY, PIKE, PREBLE, ROSS, SCIOTO,
VINTON, WARREN

Special Jurisdictional Note :

Details :

the page. **In order to utilize a Pre-Apprentice, you must have 1 Registered Apprentice in your employ.**

Ratio :

- 1 Journeyman to 1 Apprentice
- 5 Journeymen to 1 Apprentice
- 10 Journeymen to 2 Apprentices
- 15 Journeymen to 3 Apprentices
- 20 Journeymen to 4 Apprentices
- 25 Journeymen to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, BROWN, BUTLER, CLERMONT, GALLIA, HAMILTON, LAWRENCE, PREBLE*, SCIOTO, WARREN, WARREN*

Special Jurisdictional Note : Warren in the townships of Dixon, Gasper, Isrsel, Somers & Gratis in Prebble County

Details :

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

5 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BUTLER, COLUMBIANA, FAYETTE,
JEFFERSON, LAWRENCE, MERCER,
WARREN, WASHINGTON

Special Jurisdictional Note :

Details :

Work includes but not limited to: boiler making, acetylene burning, riveting, chipping, caulking, rigging, fitting-up, grinding, reaming, impact machine operating, unloading, and handling of boilermaker's material and equipment. Boilermakers, Blacksmiths, Forgers, Iron Shipbuilders

methods and the rate of pay shall be a \$1.00 per hour above the industrial rate. Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

repair garages, processing plants, storage tanks, warehouses, skeletons structures, bridges unless highest point of clearance is 60 feet or more whether new or old construction offices and office buildings in industrial sites are at industrial rates. Heavy & Highway Bridges-Guard Rails- Light Poles. A hazardous steeplejack rate shall apply on radio towers, stacks, light towers, water towers, steeples, skeleton steel, and exterior industrial conveyors over 25 feet, where such items require steeplejack methods and the rate of pay shall be a \$1.00 per hour above the industrial rate. Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

Special Jurisdictional Note :**Details :**

Industrial Work paid as commercial work above for each class which includes, Industrial Plants, repair garages, processing plants, storage tanks, warehouses, skeletons structures, bridges unless highest point of clearance is 60 feet or more whether new or old construction offices and office buildings in industrial sites are at industrial rates. Heavy & Highway Bridges-Guard Rails- Light Poles. A hazardous steeplejack rate shall apply on radio towers, stacks, light towers, water towers, steeples, skeleton steel, and exterior industrial conveyors over 25 feet, where such items require steeplejack methods and the rate of pay shall be a \$1.00 per hour above the industrial rate. Steeplejack rate to apply to bridges where highest point of clearance is 60 feet.

HARRISON, HENRY, HIGHLAND, HOCKING,
HOLMES, HURON, JACKSON, JEFFERSON,
KNOX, LAKE, LAWRENCE, LICKING,
LOGAN, LORAIN, LUCAS, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA,
PAULDING, PERRY, PICKAWAY, PIKE,
PORTAGE, PREBLE, PUTNAM, RICHLAND,
ROSS, SANDUSKY, SCIOTO, SENECA,
SHELBY, STARK, SUMMIT, TRUMBULL,
TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Top Helper: Shall perform the responsibilities of a Helper and be responsible for the setup, break down, safety and quality of the company's product.

Helper : Shall be responsible for performing tasks in refinishing, compliance with safety procedures, setting up and breaking down job sites, scaffolding and swing stages and preparing surfaces for refinishing including but not limited to, masking and stripping and cleaning, oxidizing, polishing and scratch removal on various surfaces

Class A Workers: Less than 1 Year of Service.

Class B Workers: More than 1 and less than 8 Years of Service.

Class C Workers: More than 8 Years of Service.

Metal Polisher Scope of Work: Polishing, buffing, stripping, coloring, lacquering, spraying, cleaning and maintenance of ornamental and architectural metals, iron, bronze, nickel, aluminum and stainless steel and in mental specialty work, various stone finishes, stone specialty work and any other work pertaining to the finishing of metal, stones, woods, and any window washing/cleaning done in conjunction with this work, using chemicals, solvents, coatings and hand applied lacquer thinner, removing scratches from mirror finished metals, burnishing of bronze, statuary finishes on exterior and interior surfaces and the use of all tools required to perform such work, including but not limited to polishes, spray equipment and scaffolding.

Swing State Rate: All work on scaffold 4 sections or higher, including any boom lifts and swing stage scaffolds including the rigging and derigging of hanging/suspended swing stage systems and rappelling/bolson chair work, ADD \$1.50 per hour.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 639 Zone 2 Sign

Change # : LCN01-2016fbLoc639

Craft : Painter Effective Date : 08/03/2016 Last Posted : 08/03/2016

Classification	BHR	Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Painter Sign Journeyman Tech/Team Leader Class A	\$21.25	\$1.33	\$0.14	\$0.00	\$0.00	\$0.00	\$0.57	\$0.00	\$0.00	\$23.29	\$33.92
Painter Sign Journeyman Tech/Team Leader Class B	\$21.25	\$1.33	\$0.14	\$0.00	\$0.41	\$0.00	\$0.57	\$0.00	\$0.00	\$23.70	\$34.32
Painter Sign Journeyman Tech/Team Leader Class C	\$21.25	\$1.33	\$0.14	\$0.00	\$0.82	\$0.00	\$0.57	\$0.00	\$0.00	\$24.11	\$34.74
Painter Sign Journeyman Tech/Team Leader Class D	\$21.25	\$1.33	\$0.14	\$0.00	\$1.23	\$0.00	\$0.57	\$0.00	\$0.00	\$24.52	\$35.14
Sign Journeyman Class A	\$20.98	\$1.33	\$0.14	\$0.00	\$0.00	\$0.00	\$0.56	\$0.00	\$0.00	\$23.01	\$33.50
Sign Journeyman Class B	\$20.98	\$1.33	\$0.14	\$0.00	\$0.40	\$0.00	\$0.56	\$0.00	\$0.00	\$23.41	\$33.90
Sign Journeyman Class C	\$20.98	\$1.33	\$0.14	\$0.00	\$0.81	\$0.00	\$0.56	\$0.00	\$0.00	\$23.82	\$34.31
Sign Journeyman Class D	\$20.98	\$1.33	\$0.14	\$0.00	\$1.21	\$0.00	\$0.56	\$0.00	\$0.00	\$24.22	\$34.71
Tech Sign Fabrication/ Erector Class A	\$15.90	\$1.33	\$0.14	\$0.00	\$0.00	\$0.00	\$0.43	\$0.00	\$0.00	\$17.80	\$25.75

HIGHLAND, HOCKING, HOLMES, JACKSON,
JEFFERSON, KNOX, LAKE, LAWRENCE,
LICKING, LOGAN, LORAIN, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, PERRY, PICKAWAY,
PIKE, PORTAGE, PREBLE, RICHLAND, ROSS,
SCIOTO, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Cable Splicer: Inspect and test lines or cables, analyze results, and evaluate transmission characteristics. Cover conductors with insulation or seal splices with moisture-proof covering. Install, splice, test, and repair cables using tools or mechanical equipment. This will include the splicing of fiber.

Journeyman Technician I: Must know all aspects of telephone and cable work. This is to include aerial, underground, and manhole work. Must know how to climb and run bucket. Must have all the tools required to perform these tasks. Must be able to be responsible for the safety of the crew at all times. Must also have CDL license and have at least 5 years experience.

Installer/Repairman: Perform tasks of repairing, installing, and testing phone and CATV services.

Technician II: Have at least three years of telephone and CATV experience. Must have the knowledge of underground, aerial, and manhole work. Must be able to climb and operate bucket. Must have CDL. Must have all tools needed to perform these tasks.

Equipment Operator I: Able to operate a digger derrick or bucket truck. Have at least 5 years of experience and must have a valid CDL license.

Equipment Operator II: Able to operate a digger derrick or bucket truck. Have at least 3 years of experience and must have a valid CDL license.

Groundman W/CDL: Must have a valid CDL license and be able to perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Must have at least 5 year's experience.

Groundman: Perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Experience 0-5 years.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Outside Utility Power.

Change # : LCN01-2018fbLoc7

Craft : Lineman Effective Date : 03/28/2018 Last Posted : 03/28/2018

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Electrical Lineman	\$40.12	\$5.75	\$1.20	\$0.40	\$0.00	\$8.83	\$0.35	\$0.00	\$0.00	\$56.65	\$76.71
Substation Technician	\$40.12	\$5.75	\$1.20	\$0.40	\$0.00	\$8.83	\$0.35	\$0.00	\$0.00	\$56.65	\$76.71
Cable Splicer	\$41.99	\$5.75	\$1.26	\$0.42	\$0.00	\$9.24	\$0.35	\$0.00	\$0.00	\$59.01	\$80.00
Operator A	\$36.01	\$5.75	\$1.08	\$0.36	\$0.00	\$7.92	\$0.35	\$0.00	\$0.00	\$51.47	\$69.47
Operator B	\$31.90	\$5.75	\$0.96	\$0.32	\$0.00	\$7.02	\$0.35	\$0.00	\$0.00	\$46.30	\$62.25
Operator C	\$25.73	\$5.75	\$0.77	\$0.26	\$0.00	\$5.66	\$0.35	\$0.00	\$0.00	\$38.52	\$51.39
Groundman 0-12 months Exp	\$20.06	\$5.75	\$0.60	\$0.20	\$0.00	\$4.41	\$0.35	\$0.00	\$0.00	\$31.37	\$41.40
Groundman 0-12 months Exp w/CDL	\$22.07	\$5.75	\$0.66	\$0.22	\$0.00	\$4.86	\$0.35	\$0.00	\$0.00	\$33.91	\$44.95
Groundman 1 yr or more	\$22.07	\$5.75	\$0.66	\$0.22	\$0.00	\$4.86	\$0.35	\$0.00	\$0.00	\$33.91	\$44.95
Groundman 1 yr or more w/CDL	\$26.08	\$5.75	\$0.78	\$0.26	\$0.00	\$5.74	\$0.35	\$0.00	\$0.00	\$38.96	\$52.00
Equipment Mechanic A	\$31.90	\$5.75	\$0.96	\$0.32	\$0.00	\$7.02	\$0.35	\$0.00	\$0.00	\$46.30	\$62.25
Equipment Mechanic B	\$28.83	\$5.75	\$0.86	\$0.29	\$0.00	\$6.34	\$0.35	\$0.00	\$0.00	\$42.42	\$56.84
Equipment Mechanic C	\$25.73	\$5.75	\$0.77	\$0.26	\$0.00	\$5.66	\$0.35	\$0.00	\$0.00	\$38.52	\$51.39
	\$28.39	\$5.75	\$0.85	\$0.28	\$0.00	\$6.25	\$0.35	\$0.00	\$0.00	\$41.87	\$56.07

Line Truck w/uuger												
Apprentice	Percent											
1st 1000 hrs	60.00	\$24.07	\$5.75	\$0.72	\$0.24	\$0.00	\$5.30	\$0.35	\$0.00	\$0.00	\$36.43	\$48.47
2nd 1000 hrs	65.00	\$26.08	\$5.75	\$0.78	\$0.26	\$0.00	\$5.74	\$0.35	\$0.00	\$0.00	\$38.96	\$52.00
3rd 1000 hrs	70.00	\$28.08	\$5.75	\$0.84	\$0.28	\$0.00	\$6.18	\$0.35	\$0.00	\$0.00	\$41.48	\$55.53
4th 1000 hrs	75.00	\$30.09	\$5.75	\$0.90	\$0.30	\$0.00	\$6.62	\$0.35	\$0.00	\$0.00	\$44.01	\$59.05
5th 1000 hrs	80.00	\$32.10	\$5.75	\$0.96	\$0.32	\$0.00	\$7.06	\$0.35	\$0.00	\$0.00	\$46.54	\$62.58
6th 1000 hrs	85.00	\$34.10	\$5.75	\$1.02	\$0.34	\$0.00	\$7.50	\$0.35	\$0.00	\$0.00	\$49.06	\$66.11
7th 1000 hrs	90.00	\$36.11	\$5.75	\$1.08	\$0.36	\$0.00	\$7.94	\$0.35	\$0.00	\$0.00	\$51.59	\$69.64

Special Calculation Note : Other is Health Retirement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS,

SCIOTO, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note : 0.30 is for Health Retirement Account.

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 High Tension Pipe Type Cable

Change # : LCN01-2018fbLoc7

Craft : Lineman Effective Date : 03/28/2018 Last Posted : 03/28/2018

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Electrical Lineman	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58
Certified Lineman Welder	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58
Certified Cable Splicer	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58
Operator A	\$37.98	\$5.75	\$1.14	\$0.38	\$0.00	\$8.36	\$0.35	\$0.00	\$0.00	\$53.96	\$72.95
Operator B	\$33.67	\$5.75	\$1.01	\$0.34	\$0.00	\$7.41	\$0.35	\$0.00	\$0.00	\$48.53	\$65.36
Operator C	\$27.18	\$5.75	\$0.82	\$0.27	\$0.00	\$5.98	\$0.35	\$0.00	\$0.00	\$40.35	\$53.94
Groundman 0-12 months Exp	\$21.16	\$5.75	\$0.63	\$0.21	\$0.00	\$4.66	\$0.35	\$0.00	\$0.00	\$32.76	\$43.34
Groundman 0-12 months Exp w/CDL	\$23.28	\$5.75	\$0.70	\$0.23	\$0.00	\$5.12	\$0.35	\$0.00	\$0.00	\$35.43	\$47.07
Groundman 1 yr or more	\$23.28	\$5.75	\$0.70	\$0.23	\$0.00	\$5.12	\$0.35	\$0.00	\$0.00	\$35.43	\$47.07
Groundman 1 yr or more w/CDL	\$27.51	\$5.75	\$0.83	\$0.28	\$0.00	\$6.05	\$0.35	\$0.00	\$0.00	\$40.77	\$54.53
Equipment Mechanic A	\$33.67	\$5.75	\$1.01	\$0.34	\$0.00	\$7.41	\$0.35	\$0.00	\$0.00	\$48.53	\$65.36
Equipment Mechanic B	\$30.42	\$5.75	\$0.91	\$0.30	\$0.00	\$6.69	\$0.35	\$0.00	\$0.00	\$44.42	\$59.63
	\$27.18	\$5.75	\$0.82	\$0.27	\$0.00	\$5.98	\$0.35	\$0.00	\$0.00	\$40.35	\$53.94

Equipment Mechanic C												
X-Ray Technician	\$42.32	\$5.75	\$1.27	\$0.42	\$0.00	\$9.31	\$0.35	\$0.00	\$0.00	\$59.42	\$80.58	
Apprentice	Percent											
1st 1000 hrs	60.00	\$25.39	\$5.75	\$0.76	\$0.25	\$0.00	\$5.59	\$0.35	\$0.00	\$0.00	\$38.09	\$50.79
2nd 1000 hrs	65.00	\$27.51	\$5.75	\$0.83	\$0.28	\$0.00	\$6.05	\$0.35	\$0.00	\$0.00	\$40.77	\$54.52
3rd 1000 hrs	70.00	\$29.62	\$5.75	\$0.89	\$0.30	\$0.00	\$6.52	\$0.35	\$0.00	\$0.00	\$43.43	\$58.25
4th 1000 hrs	75.00	\$31.74	\$5.75	\$0.95	\$0.32	\$0.00	\$6.98	\$0.35	\$0.00	\$0.00	\$46.09	\$61.96
5th 1000 hrs	80.00	\$33.86	\$5.75	\$1.02	\$0.34	\$0.00	\$7.45	\$0.35	\$0.00	\$0.00	\$48.77	\$65.69
6th 1000 hrs	85.00	\$35.97	\$5.75	\$1.08	\$0.36	\$0.00	\$7.91	\$0.35	\$0.00	\$0.00	\$51.42	\$69.41
7th 1000 hrs	90.00	\$38.09	\$5.75	\$1.14	\$0.38	\$0.00	\$8.38	\$0.35	\$0.00	\$0.00	\$54.09	\$73.13

Special Calculation Note : Other is Health Retirement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

*All Operators of cranes 45 ton or larger shall be paid the journeyman rate of pay. \$0.30 is for Health Retirement Account.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON,

HIGHLAND, HOCKING, HOLMES, JACKSON,
JEFFERSON, KNOX, LAKE, LAWRENCE,
LICKING, LOGAN, LORAIN, MADISON,
MAHONING, MARION, MEDINA, MEIGS,
MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, PERRY, PICKAWAY,
PIKE, PORTAGE, PREBLE, RICHLAND, ROSS,
SCIOTO, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION,
VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Outside Cincinnati

Change # : LCN01-2017fbLoc71Cincinnati

Craft : Lineman Effective Date : 03/29/2017 Last Posted : 03/29/2017

Classification	BHR	Fringe Benefit Payments						Irrevocable Fund	Total PWR	Overtime Rate	
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Electrical Lineman	\$36.64	\$5.50	\$1.10	\$0.37	\$0.00	\$6.60	\$0.06	\$0.00	\$0.00	\$50.27	\$68.59
Traffic Signal & Lighting Journeyman	\$35.26	\$5.50	\$1.06	\$0.35	\$0.00	\$6.35	\$0.06	\$0.00	\$0.00	\$48.58	\$66.21
Equipment Operator	\$32.24	\$5.50	\$0.97	\$0.32	\$0.00	\$5.80	\$0.06	\$0.00	\$0.00	\$44.89	\$61.01
Groundman 0-12 months (W/O CDL)	\$19.70	\$5.50	\$0.59	\$0.20	\$0.00	\$3.55	\$0.06	\$0.00	\$0.00	\$29.60	\$39.45
Groundman 0-21 Months (W/CDL)	\$21.49	\$5.50	\$0.64	\$0.21	\$0.00	\$3.87	\$0.06	\$0.00	\$0.00	\$31.77	\$42.52
Groundman 1 Year or More (W/CDL)	\$23.28	\$5.50	\$0.70	\$0.23	\$0.00	\$4.19	\$0.06	\$0.00	\$0.00	\$33.96	\$45.60
Traffic Signal Apprentices											
1st 1,000 hours	\$21.16	\$5.50	\$0.63	\$0.21	\$0.00	\$3.81	\$0.06	\$0.00	\$0.00	\$31.37	\$41.95
2nd 1,000 hours	\$22.92	\$5.50	\$0.69	\$0.23	\$0.00	\$4.13	\$0.06	\$0.00	\$0.00	\$33.53	\$44.99
3rd 1,000 hours	\$24.68	\$5.50	\$0.74	\$0.25	\$0.00	\$4.44	\$0.06	\$0.00	\$0.00	\$35.67	\$48.01
4th 1,000 hours	\$26.45	\$5.50	\$0.79	\$0.26	\$0.00	\$4.76	\$0.06	\$0.00	\$0.00	\$37.82	\$51.04
5th 1,000 hours	\$28.21	\$5.50	\$0.85	\$0.28	\$0.00	\$5.08	\$0.06	\$0.00	\$0.00	\$39.98	\$54.09
6th 1,000 hours	\$31.73	\$5.50	\$0.95	\$0.32	\$0.00	\$5.71	\$0.06	\$0.00	\$0.00	\$44.27	\$60.14

Apprentice Lineman	Percent											
1st 1,000 Hours	60.00	\$21.98	\$5.50	\$0.66	\$0.22	\$0.00	\$3.96	\$0.06	\$0.00	\$0.00	\$32.38	\$43.38
2nd 1,000 Hours	65.00	\$23.82	\$5.50	\$0.71	\$0.24	\$0.00	\$4.29	\$0.06	\$0.00	\$0.00	\$34.62	\$46.52
3rd 1,000 Hours	70.00	\$25.65	\$5.50	\$0.77	\$0.26	\$0.00	\$4.62	\$0.06	\$0.00	\$0.00	\$36.86	\$49.68
4th 1,000 Hours	75.00	\$27.48	\$5.50	\$0.82	\$0.27	\$0.00	\$4.95	\$0.06	\$0.00	\$0.00	\$39.08	\$52.82
5th 1,000 Hours	80.00	\$29.31	\$5.50	\$0.88	\$0.29	\$0.00	\$5.28	\$0.06	\$0.00	\$0.00	\$41.32	\$55.98
6th 1,000 Hours	85.00	\$31.14	\$5.50	\$0.93	\$0.31	\$0.00	\$5.61	\$0.06	\$0.00	\$0.00	\$43.55	\$59.13
7th 1,000 Hours	90.00	\$32.98	\$5.50	\$0.99	\$0.33	\$0.00	\$5.94	\$0.06	\$0.00	\$0.00	\$45.80	\$62.28

Special Calculation Note : Other is Safety & Education Fund.

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BROWN, BUTLER, CLERMONT, HAMILTON, WARREN

Special Jurisdictional Note :

Details :

A groundman when directed shall assist a Journeyman in the performance of his/her work on the ground, including the use of hand tools. A Groundman under no circumstances shall climb poles, towers, ladders, or work from an elevated platform or bucket truck.

No more than three (3) Groundmen shall work alone. Jobs with more than three Groundmen shall be supervised by a Groundcrew Foreman, Journeyman Lineman, Journeyman Traffic Signal Technician or an Equipment Operator.

Scope of Work: installation and maintenance of highway and street lighting, highway and street sign lighting, electronic message boards and traffic control systems, camera systems, traffic signal work, substation and line construction including overhead and underground projects for private and industrial work as in accordance with the IBEW Constitution. This Agreement includes the operation of all tools and equipment necessary for the installation of the above projects.

Special Jurisdictional Note : The following townships in Warren County are included:
Clearcreek, Franklin and Wayne.

Details :

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Technician to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE, WARREN*

Special Jurisdictional Note : The following townships in Warren County are included: (Clearcreek, Franklin and Wayne)

Details :

Work covered but not limited to: installation which utilize transmission and/or transference of voice, sound, vision or digital for commercial, education, security and entertainment purposes for the following:

TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multimedia, multiplex, nurse call system, radio page, school intercom, sound and low voltage master clock systems.

Fire Alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit.

All HVAC control work is not covered by this wage rate but by the Inside Electrical wage rate.

4th period 3501-5000 hrs												
5th period 5001-6500 hrs	60.00	\$17.16	\$6.20	\$5.07	\$0.29	\$0.00	\$1.47	\$0.00	\$0.00	\$0.00	\$30.19	\$38.77
6th period 6501-8000 hrs	75.00	\$21.45	\$6.20	\$6.34	\$0.36	\$0.00	\$1.84	\$0.00	\$0.00	\$0.00	\$36.19	\$46.92

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 to 3 Journeymen to 3 Apprentices
 4 to 6 Journeymen to 6 Apprentices
 per job site

Jurisdiction (* denotes special jurisdictional note) :

CLINTON, DARKE, GREENE, MIAMI,
 MONTGOMERY, PREBLE, WARREN*

Construction Electrician and Construction Wireman Ratio

There shall be a minimum ratio of one inside Journeyman to every (4) employees of different classification per jobsite. An inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used.

Special Jurisdictional Note : The following townships in Warren County are included: Clearcreek, Franklin and Wayne.

The scope of work for the light commercial agreement shall apply to the following facilities not to exceed 200,000 square feet; office buildings, shopping centers, auto sales agencies and garages, churches, funeral homes, nursing homes, hotels, retail and wholesale facilities, small stand-alone manufacturing facilities when free standing and not part of a larger facility (not to exceed 50,000 square fee), solar projects (500 panels or less) unless otherwise covered under the agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures, warehouses, gas stations, food service centers, restaurants, entertainment facilities, hospitals, clinics, motels, residential buildings.

Details :

first person assigned to any job site shall be a journeyman

Special Jurisdictional Note : In Warren County the following townships are included: (Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union, and Washington)

Details :

Electricians while splicing cable shall receive \$.50 an hour above the regular electrical rate.

All work that requires the use of gas masks or respirators, shall be paid 50% above the appropriate rate of pay. Work up to & including 40 feet shall be paid \$.50 over the journeyman rate. All work from a Boatswain Chair, Swinging Scaffold, or Barrel shall be at double the Journeyman rate. Workmen required to work 50 feet or more below the surface of the earth will be paid 50% above the Journeyman rate.

4th period 3501- 5000 hrs	55.00	\$16.50	\$6.45	\$4.90	\$0.25	\$0.00	\$2.00	\$0.50	\$0.00	\$0.00	\$30.60	\$38.85
5th period 5001- 6500 hrs	62.00	\$18.60	\$6.45	\$5.52	\$0.28	\$0.00	\$2.00	\$0.56	\$0.00	\$0.00	\$33.41	\$42.71
6th period 6501- 8000 hrs	71.00	\$21.30	\$6.45	\$6.32	\$0.32	\$0.00	\$2.00	\$0.64	\$0.00	\$0.00	\$37.03	\$47.68

Special Calculation Note : Other is for NEBF (National Electrical Benifit Fund)

Ratio :

1-3 Journeymen to 2 Apprentice
 4-6 Journeymen to 4 Apprentice
 7-9 Journeymen to 6 Apprentice
 first person assigned to any job site shall be a journeyman

Jurisdiction (* denotes special jurisdictional note) :

BUTLER, WARREN*

Construction Electrician and Construction Wireman

Ratio

There shall be a minimum ratio of one inside Journeyman to every (4) employees of different classification per jobsite. An inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used

Special Jurisdictional Note : In Warren County the following townships are included: (Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union, and Washington)

The scope of work for the light commercial agreement shall apply to the following facilities not to exceed 200,000 square feet; office buildings, shopping centers, auto sales agencies and garages, churches, funeral homes, nursing homes, hotels, retail and wholesale facilities, small stand-alone manufacturing facilities when free standing and not part of a larger facility (not to exceed 50,000 square fee), solar projects (500 panels or less) unless otherwise covered under the agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures, warehouses, gas stations, food service centers, restaurants, entertainment facilities, hospitals, clinics, motels, residential buildings.

Details :

Electricians while splicing cable shall receive \$.50 an hour above the regular electrical rate.

All work that requires the use of gas masks or respirators, shall be paid 50% above the appropriate rate of pay. Work up to & including 40 feet shall be paid \$.50 over the journeyman rate. All work from a Boatswain Chair, Swinging Scaffold, or Barrel shall be at double the Journeyman rate. Workmen required to work 50 feet or more below the surface of the earth will be paid 50% above the Journeyman rate.

**SECTION 00700 – STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION
CONTRACT**

PART 1 GENERAL

1.01 GENERAL CONDITIONS

The Warren County Water and Sewer Department has adopted the *Standard General Conditions of the Construction Contract* prepared by the Engineers Joint Contract Documents Committee and issued and published jointly by the American Consulting Engineers Council, the National Society of Professional Engineers, and the American Society of Civil Engineers. This document, contained herein, shall be made part of the Contract and shall be used during the performance of the work.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN COUNCIL OF ENGINEERING COMPANIES

AMERICAN SOCIETY OF CIVIL ENGINEERS

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These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *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.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course 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.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *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 and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does

not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws 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.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and

duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *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 judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by

Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a 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.

1.02 Terminology

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. Intent of Certain Terms or Adjectives

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. Day

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

- a. does not conform to the Contract Documents, or
- b. does not meet the requirements of any applicable inspection, reference standard, test, or

approval referred to in the Contract Documents, or

c. has been damaged prior to Engineer's - recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which

Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day 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 will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, 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 referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other

submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. 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 Owner, 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 Owner, or Engineer, or any of their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. 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:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or

2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived 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 govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify 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. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor

may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and
2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
- b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice:

(i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence

of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclu-

sion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and

any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and,

in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make

settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques,

sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. "Or-Equal" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. Special Guarantee: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. Engineer's Cost Reimbursement: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute

item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. Contractor's Expense: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. 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 Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or

royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on

entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the

Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or

indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor 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 Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples*: Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the

requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to

revisions other than the corrections called for by Engineer on previous submittals.

6.18 Continuing the Work

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;
2. recommendation by Engineer or payment by Owner of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures.

Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and
2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
2. the specific matters to be covered by such authority and responsibility will be itemized; and
3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and

disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to

check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the

Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All

cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone

directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. Costs Excluded: The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

C. Contractor's Fee: When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide 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 unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
2. there is no corresponding adjustment with respect any other item of Work; and
3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier

Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections,

tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and
3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to

an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment,

including final payment, will impose responsibility on Engineer:

- a. to supervise, direct, or control the Work, or
- b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
- c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
- d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
- e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

- a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
- b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling Owner to a set-off against the amount recommended; or
- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue

a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

- a. all documentation called for in the Contract Documents, including but not limited to the

evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and, will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
3. Contractor's disregard of the authority of Engineer; or
4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),
2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and
3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment

within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or
2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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OHIO PUBLIC WORKS COMMISSION (OPWC) NOTES

SECTION 01 11 00

SUMMARY OF WORK

PART 1 – GENERAL

1.1 LOCATION OF WORK

- A. The work for this Contract is located in Warren County, Ohio and consists of Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5,500 feet), two segments of 18-inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes along High and Main Streets in Waynesville, OH.
- B. Specific location of the Project is as indicated in the “Location Map” on Project Cover Sheet.
- C. Access to the site can be gained by contacting the Warren County Water & Sewer Department, Project Manager, Chris Wojnicz at (513) 695-1646.

1.2 GENERAL

- A. The installing Contractor shall obtain necessary building and related permits and pay necessary application fees at no additional cost to Owner. Obtain any and all permits in a timely fashion to facilitate the construction schedule.
- B. The Contractor shall furnish all labor, materials, equipment, tools, services and incidentals to complete all work required by these Specifications and as shown on the Drawings.
- C. The Contractor shall perform the work complete, in place, and ready for continuous service, and shall include repairs, testing, permits, cleanup, replacements and restoration required as a result of construction of the work.
- D. All materials, equipment skills, tools and labor which is reasonably and properly inferable and necessary for the proper completion of the work in a substantial manner and in compliance with the requirements stated or implied by these Specifications or Drawings shall be furnished and installed by the Contractor without additional compensation, whether specifically indicated in the Contract Documents or not.
- E. The Contractor shall comply with all municipal, county, state, federal, and other codes, which are applicable to the proposed construction work.

1.3 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required for construction of Phase I of the Waynesville Collection System Improvements in its entirety as shown on the Drawings and specified herein.
- B. General Construction work includes all work shown on the contract drawings and specifications, including, but is not limited to, the following:
 - 1. Site work including earthwork, dewatering, piping, paving, and restoration.

1.4 WORK SEQUENCE

- A. Contractor to perform work with coordination of the Village of Waynesville representatives regarding road access. State Route 73, Main Street, High Street, and South Street to remain open at all times.

1.5 WORK HOURS

- A. Work shall be limited to the hours of 8 AM – 5 PM.

1.6 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit the use of the premises for his/her Work and for storage to allow for:
 - 1. Work by other contractors.
 - 2. OWNER occupancy.
- B. Coordinate use of premises with Owner.
- C. CONTRACTOR shall assume full responsibility for security of all his/her and his/her subcontractors' materials and equipment stored on the site.
- D. If directed by the ENGINEER, move any stored items, which interfere with operations of Owner or other contractors.
- E. Obtain and pay for use of additional storage or work areas if needed to perform the Work.

1.7 PLANS AND SPECIFICATIONS

- A. The General Condition Section (No. 00 70 00) contains General Requirements which govern the work. The Technical Specifications consist of three parts: General, Products, and Execution. Products and Execution modify and supplement these by detailed requirements of the work and shall always govern whenever there appears to be a conflict.

1.8 WORK BY OWNER

A. OWNER will perform the following activities in connection with the Work:

1. Operation of all existing valves, gates, pumps, equipment, and appurtenances that will affect OWNER'S operation, unless specified otherwise.

1.9 EASEMENTS AND RIGHT-OF-WAY

A. Easements and rights-of-way will be provided by OWNER. Confine construction operations within OWNER'S property, public rights-of-way, and easements obtained by OWNER, and the limits shown. Use care in placing construction tools, equipment, excavated materials, and products to be incorporated into the Work to avoid damage to property and interference with traffic. Do not enter private property outside the construction limits without permission from the OWNER of the property.

B. On Private Property:

1. General limits of easements are shown on Drawings.

C. Within Highway and Railroad Right-of-Way: Permits will be obtained by OWNER, other work permits to be obtained by CONTRACTOR. All work performed and all operations of CONTRACTOR and Subcontractors within the limits of railroad and highway rights-of-ways shall conform to requirements of railroad or highway authority owner and applicable work permits, or authority having jurisdiction over right-of-way.

1.10 NOTICES TO OWNERS AND AUTHORITIES OF PROPERTIES ADJACENT TO OR SIGNIFICANTLY IMPACTED BY THE WORK

A. Notify owners of adjacent property and utilities when prosecution of the Work may affect their property, facilities, or use of property.

B. When it is necessary to temporarily obstruct access to property, or when utility service connection will be interrupted, provide notices sufficiently in advance to enable affected persons to provide their needs. Conform notices to applicable local ordinance and, whether delivered orally or in writing, include appropriate information concerning the interruption and instructions on how to limit inconvenience caused thereby.

C. Utilities and other concerned agencies shall be notified at least 48 hours prior to cutting or closing streets or other traffic areas or excavating near underground utilities or pole lines.

END OF SECTION

SECTION 01 26 57

CHANGE ORDER PROCEDURES

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Promptly implement change order procedures.
 - 1. Provide full written data required to evaluate changes.
 - 2. Maintain detailed records of work done on a timer-and-material/force account basis.
 - 3. Provide full documentation to ENGINEER on request.
- B. Designate in writing the member of CONTRACTOR's organization:
 - 1. Who is authorized to accept changes in the Work.
 - 2. Who is responsible for informing others in the CONTRACTOR's employ of the authorization of changes in the Work.
- C. OWNER will designate in writing the person who is authorized to execute Change Orders.

1.2 RELATED REQUIREMENTS

- A. Standard General Conditions of the Construction Contract are included in Section 00 70 00.
 - 1. Methods of determining cost of credit to OWNER resulting from changes in Work made on a time and material basis.
 - 2. CONTRACTOR's claims for additional costs.
- B. Applications for Payment are included in Section 01 29 76.
- C. Schedule of Values are included in Section 01 29 73.

1.3 DEFINITIONS

- A. Change Order: See Contract for Construction.
- B. Construction Change Authorization: A written order to the CONTRACTOR, signed by OWNER and ENGINEER, which amends the Contract Documents as described and authorized CONTRACTOR to proceed with a change which affects the Contract Sum or the Contract Time, for inclusion in a subsequent Change Order.

- C. Field Order: A written order to the CONTRACTOR, signed by the ENGINEER and the CONTRACTOR, which is issued to interpret/clarify the Contract Documents, order minor changes in the work and/or memorialize trade-off agreements. The work described by a Field Order is to be accomplished without change to the Contract Sum, Contract Time, and/or claims for other costs.

1.4 PRELIMINARY PROCEDURES

- A. OWNER or ENGINEER may initiate changes by submitting a Request for Proposal (RFP) to CONTRACTOR. Request will include:
 - 1. Detailed description of the Change, Products and location of the change in the project.
 - 2. Supplementary or revised Drawings and Specifications.
 - 3. The projected time span for making the change and a specific statement as to whether overtime work is, or is not, authorized.
 - 4. A specific period of time during which the requested price will be considered valid.
 - 5. Such request is for information only and is not an instruction to execute the changes, nor to stop work in progress.
- B. CONTRACTOR may initiate changes by submitting a written notice to ENGINEER, containing:
 - 1. Description of the proposed changes.
 - 2. Statement of the reason for making the changes.
 - 3. Statement of the effect on the Contract Sum and the Contract Time.
 - 4. Statement of the effect on the work of separate CONTRACTORS.
 - 5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.5 WORK DIRECTIVE CHANGE AUTHORIZATION

- A. In lieu of a Request for Proposal (RFP), ENGINEER may issue a work directive authorization for CONTRACTOR to proceed with a change for subsequent inclusion in a Change Order.
- B. Authorization will describe changes in the work, both additions and deletions, with attachments of revised Contract Documents to define details of the change and will designate the method of determining any change in the Contract Sum and any change in Contract Time.
- C. OWNER and ENGINEER will sign and date the Work Directive Change Authorization as authorization for the CONTRACTOR to proceed with the changes.
- D. CONTRACTOR may sign and date the Construction Change Authorization to indicate agreement with the terms therein.

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1.6 DOCUMENTATION OF PROPOSALS AND CLAIMS

- A. Support each quotation for a lump-sum proposal and for each unit price which has not previously been established, with sufficient substantiating data to allow ENGINEER to evaluate the quotation.
- B. On request, provide additional data to support time and cost computations
 - 1. Labor required.
 - 2. Equipment required.
 - 3. Products required.
 - a. Recommended source of purchase and unit cost.
 - b. Quantities required.
 - 4. Taxes, insurance and bonds.
 - 5. Credit for work deleted from Contract, similarly documented.
 - 6. Overhead and profit.
 - 7. Justification for any change in Contract Time.
- C. Support each claim for additional costs and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal, plus additional information.
 - 1. Name of the OWNER's authorized agent who ordered the work and date of the order.
 - 2. Dates and times work was performed and by whom.
 - 3. Time record, summary of hours worked and hourly rates paid.
 - 4. Receipts and invoices for:
 - a. Equipment used, listing dates and times of use.
 - b. Products used, listing of quantities.
 - c. Subcontracts.

1.7 PREPARATION OF CHANGE ORDERS AND FIELD ORDERS

- A. ENGINEER will prepare each Change Order and Field Order.
- B. Change Order will describe changes in the work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
- C. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

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- D. Field Order will describe interpretations or clarifications of Contract Documents, order minor changes in the work, and/or memorialize trade-off agreements.
- E. Field Order work will be accomplished without change in the Contract Sum, Contract Time, and/or claims for other costs.

1.8 LUMP-SUM/FIXED PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
 - 1. ENGINEER's Proposal Request and CONTRACTOR's responsive Proposal as mutually agreed between OWNER and CONTRACTOR.
 - 2. CONTRACTOR's Proposal for a change, as recommended by ENGINEER.
- B. OWNER and ENGINEER will sign and date the Change Order as authorization for the CONTRACTOR to proceed with the changes.
- C. CONTRACTOR will sign and date the Change Order to indicate agreement with the terms therein.

1.9 UNIT PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
 - 1. ENGINEER's definition of the scope of the required changes.
 - 2. CONTRACTOR's Proposal for a change, as recommended by ENGINEER.
 - 3. Survey of completed work.
- B. The amounts of the unit prices to be:
 - 1. Those stated in the Agreement.
 - 2. Those mutually agreed upon between OWNER and CONTRACTOR
- C. When quantities of each of the items affected by the Change Order can be determined prior to start of the work:
 - 1. OWNER and ENGINEER will sign and date the Change Order as authorization for CONTRACTOR to proceed with the changes.
 - 2. CONTRACTOR will sign and date the Change Order to indicate agreement with the terms therein.

- D. When quantities of the items cannot be determined prior to start of the work:
 - 1. ENGINEER or OWNER will issue a construction change authorization directing CONTRACTOR to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.
 - 2. At completion of the change, ENGINEER will determine the cost of such work based on the unit prices and quantities used.
 - a. CONTRACTOR shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
 - 3. ENGINEER will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
 - 4. OWNER and CONTRACTOR will sign and date the Change Order to indicate their agreement with the terms therein.

1.10 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/WORK DIRECTIVE CHANGE AUTHORIZATION

- A. ENGINEER and OWNER will issue a Work Directive Change Authorization directing CONTRACTOR to proceed with the changes.
- B. At completion of the change, submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this Section.
- C. ENGINEER will determine the allowable cost of such work, as provided in General Conditions and Supplementary Conditions.
- D. ENGINEER will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
- E. OWNER and CONTRACTOR will sign and date the Change Order to indicate their agreement therewith.

1.11 CORRELATION WITH CONTRACTOR'S SUBMITTALS

- A. Periodically revise Schedule of Values and Request for Payment forms to record each change as a separate item of work, and to record the adjusted Contract Sum.
- B. Periodically revise the Construction Schedule to reflect each change in Contract Time.
 - 1. Revise subschedules to show changes for other items of work affected by the changes.
- C. Upon completion of work under a Change Order, enter pertinent changes in Record

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Documents.

PART 2 – PRODCUS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

Contract Number: _____

Change Order Number: _____

Original Contract Price \$ _____

Net Increase/Decrease in Contract Price (this change order) \$ _____

Total Adjusted Contract Price (including this change order) \$ _____

This change order increases/decreases the time to complete the work by _____ Calendar days.

The extended completion date is _____.

This change order checked by _____
(Chief) Resident Engineer Date

This change order is requested by _____.

This change order is recommended by:

Consultant Engineer P.E. # Date

The undersigned agree to the terms of the change order.

Contractor Date

Owner Date

Approval as to appropriation:

Certification Officer Date

Name of City/District etc. _____

Contract Number _____

Contract Title _____ Change Order Number _____

OWNER's Name: _____

OWNER's Address: _____

CONTRACTOR's Name: _____

CONTRACTOR's Address: _____

Description of Change

Reason for Change

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FIELD ORDER

PROJECT:

FIELD ORDER NO:

DATE:

CONTRACT:

OWNER:

OWNER PROJECT NO.

TO:

CONTRACT DATE:

This Field Order is issued to interpret/clarify the Contract Documents, order minor changes in the work and/or memorialize trade off agreements. Both parties hereby agree that the work described by this Field Order is to be accomplished without change in Contract Sum, Contract Time, and/or claims for other costs.

DESCRIPTION: (Here insert a written description of the interpretation, change or agreement.)

SECTION 01 29 76

PROGRESS PAYMENT PROCEDURES

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Submit Applications for Payment to the ENGINEER in accordance with the schedule established by Conditions of the Contract and Agreement between OWNER and CONTRACTOR.
- B. The accepted Schedule of Values shall be used as the basis for the CONTRACTOR's Application for Payment.

1.2 RELATED WORK

- A. Agreement between OWNER and CONTRACTOR is included in Section 00 40 00.
- B. Standard General Conditions of the Construction Contract are included in Section 00 70 00.
- C. Contract Closeout is included in Section 01 77 00.

1.3 SUBMITTALS

- A. Submit to the OWNER with itemized data typed on 8-1/2-in by 11-in or 8-1/2-in by 14-in white paper continuation sheets.
- B. Provide itemized data on continuation sheet.
 - 1. Format, schedules, line items and values: Those of the Schedule of Values accepted by the ENGINEER.

1.4 PEREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT

- A. Application Form
 - 1. Fill in required information, including that for Change Orders executed prior to date of submittal of application.
 - 2. Fill in summary of dollar values to agree with respective totals indicated on continuation sheets.
 - 3. Execute certification with signature of a responsible officer of Contract firm.

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B. Continuation Sheets

1. Fill in total list of all scheduled component items of Work, with item number and scheduled dollar value for each item.
2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored.
 - a. Round off values to nearest dollar, or as specified for Schedule of Values.
3. List each Change Order executed prior to date of submission, at the end of the continuation sheets.
 - a. List by Change Order Number and description, as for an original component item of work.
4. To receive approval for payment on component material stored on site, submit copies of the original paid invoices with the application for payment.

1.5 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the OWNER or the ENGINEER requires substantiating data, submit suitable information, with a cover letter identifying.
1. Project.
 2. Application number and date.
 3. Detailed list of enclosures.
 4. For stored products:
 - a. Item number and identification as shown on application.
 - b. Description of specific material.
- B. Submit one copy of data and cover letter for each copy of application.
- C. As a prerequisite for payment, submit a "Surety Acknowledgement of Payment Request" letter showing amount of progress payment which the CONTRACTOR is requesting.
- D. Maintain an updated set of drawings to be used as record drawings in accordance with Section 01 77 00. As a prerequisite for monthly progress payments, exhibit the updated record drawings for review by the OWNER and ENGINEER.

1.6 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Fill in Application form as specified for progress payments.
- B. Use continuation sheet for presenting the final statement of accounting as specified in Section 01700 - Contract Closeout.

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- C. Submit all Project Record Documents in accordance with Section 01 77 00.

1.7 SUBMITTAL PROCEDURE

- A. Submit Applications for Payment to the ENGINEER at the times stipulated in the Agreement.
- B. Number: Five copies of each Application.
- C. When the ENGINEER finds Application properly completed and correct, he/she will transmit certificate for payment to OWNER, with copy to CONTRACTOR.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 19

PRECONSTRUCTION MEETINGS

PART 1 – GENERAL

1.1 DESCRIPTION

- A. A pre-construction meeting will be held for the Project. CONTRACTOR shall attend the conference prepared to discuss all items on the agenda. The representatives present for each party shall be authorized to act on their behalf.
- B. Purpose of the meeting is to designate responsible personnel, establish working relationships, and establish administrative provisions for the Project. Matters requiring coordination will be discussed and procedures for handling such matters will be established.
- C. Date, Time and Location: Meeting will be held after execution of the Contract and before Work starts at the Site. ENGINEER/OWNER will determine the date, time, and location of the meeting and advise the interested and involved parties.
- D. ENGINEER/OWNER will distribute an agenda, preside at the meeting, and prepare and distribute meeting minutes to all meeting participants and others as requested.
- E. CONTRACTOR shall provide data required and contribute appropriate items for discussion. Unless previously submitted to ENGINEER, CONTRACTOR shall bring to the meeting a draft of each of the following:
 - 1. Progress Schedule.
 - 2. List of required Shop Drawings and submittals
 - 3. Schedule of Values.
 - 4. CONTRACTOR'S Site-specific health and safety plan.
 - 5. List of emergency contact information.

1.2 REQUIRED ATTENDANCE

- A. Meeting shall be attended by CONTRACTOR'S project manager, Site superintendent, and major Subcontractors and major equipment Suppliers, as CONTRACTOR deems appropriate.
- B. Other attendees will be representatives of:
 - 1. OWNER.
 - 2. ENGINEER
 - 3. Governmental agencies having control or responsibility, if available.
 - 4. Utility companies.
 - 5. Others as requested by OWNER, CONTRACTOR, or ENGINEER.

1.3 AGENDA

A. Agenda: A complete agenda will be furnished to CONTRACTOR prior to the conference. However, CONTRACTOR shall be prepared to discuss the following:

1. Designation of responsible personnel.
2. Communications and correspondence.
3. Coordination with other contractors.
4. Emergency contact information.
5. Review of scope of Work.
6. Review of Contract Times, Milestones, and completion dates.
7. Subcontractors.
8. Progress Schedule.
9. Schedule of Values.
10. Project coordination and coordination with OWNER'S operations.
11. Progress meetings.
12. Submittals and Shop Drawings: processing and schedule of submittals.
13. Substitutions.
14. OWNER'S tax-exempt status.
15. Payments, retainage, payrolls, and Substantial Completion.
16. Processing of Field Orders and Change Order.
17. Use of premises, security, housekeeping, safety, CONTRACTOR'S Responsibility for safety and first aid procedures, Site access.
18. Field offices, trailers, and temporary facilities.
19. Storage of materials.
20. Construction photographs.
21. Record drawings.
22. Clarifications.
23. Requirements for copies of Contract Documents and availability.
24. CONTRACTOR correction period.
25. Layouts and surveys.
26. Hours of Work and overtime.
27. Restoration.
28. Permits.
29. Insurance in force.
30. Financing.
31. Disposal of demolition materials.
32. Next meeting.
33. General discussion and questions.
34. Site visit if required.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

- A. This Section specifies the general methods and requirements of submissions applicable to Shop Drawings, Product Data, Samples, Mock Ups, Construction Photographs, and Construction or Submittal Schedules. Additional general submission requirements are contained in Paragraphs 6.24 and 6.25 of the General Conditions. Detailed submittal requirements are specified in the technical Sections.
- B. All submittals shall be clearly identified by reference to Section Number, Paragraph, Drawing Number or Detail as applicable. Submittals shall be clear and legible and of sufficient size for presentation of data.

1.2 SHOP DRAWINGS, PRODUCT DATA, SAMPLES

- A. Shop Drawings
 - 1. CONTRACTOR shall submit one complete submittal by section. A complete submittal shall include all items listed under the Shop Drawing heading for each section.
 - 2. The General Contractor shall be responsible for the coordination of all submittals for all contracts. This shall include a submittal schedule of Shop Drawings as required, as well as receiving and forwarding submittals from other contractors and the ENGINEER. The General Construction Contractor shall not be responsible for stamping submittals “Approved” from other contractors (unless a Combined Bid has been accepted by the Owner).
 - 3. Shop drawings as specified in individual Sections include custom-prepared data such as fabrication and erection/installation (working) drawings, scheduled information, setting diagrams, actual shop work manufacturing instructions, custom templates, special wiring diagrams, coordination drawings, individual system or equipment inspection and test reports, including performance curves and certifications, as applicable to the work.
 - 4. All shop drawings submitted by Prime Contractors and respective subcontractors shall be sent directly to the General Contractor for checking. The Prime Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
 - 5. Check all shop drawings regarding measurements, size of members, materials and details to make sure that they conform to the intent of the

Drawings and related Sections. Return shop drawings found to be inaccurate or otherwise in error to the subcontractors for correction before submission thereof.

6. All details on shop drawings shall show clearly the relation of the various parts to the main members and lines of the structure and where correct fabrication of the work depends upon field measurements, such measurements shall be made and noted on the drawings before being submitted.
7. Submittals for equipment specified under Division 33 shall include a listing of all installations where identical or similar equipment has been installed and been in operation for a period of at least one year.
8. All Shop Drawings shall be in English.

B. Product Data

1. Product data as specified in individual Sections include, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing-in diagrams and templates, catalog cuts, product photographs, standard wiring diagrams, printed performance curves and operational-range diagrams, production or quality control inspection and test reports and certifications, mill reports, product operating and maintenance instructions and recommended spare-parts listing and printed product warranties, as applicable to the work.

C. Samples

1. Samples specified in individual Sections include, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols and units of work to be used by the ENGINEER or OWNER for independent inspection and testing, as applicable to the work.

1.3 CONTRACTOR'S RESPONSIBILITIES

A. Review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:

1. Field measurements
2. Field construction criteria
3. Catalog numbers and similar data
4. Conformance with related Sections

- B. Each shop drawing, sample and product data submitted by the CONTRACTOR shall have affixed to it the following Certification Statement including the Contractor's Company name and signed by the CONTRACTOR: "Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements." Shop drawings and product data sheets 11-in x 17-in and smaller shall be bound together in an orderly fashion and bear the above Certification Statement on the cover sheet. The cover sheet shall fully describe the packaged data and include a listing of all items within the package. Provide to the Resident Project Representative a copy of each transmittal sheet for shop drawings, product data and samples at the time of submittal to the ENGINEER. Shop Drawings that are not stamped will not be reviewed.
- C. The CONTRACTOR shall utilize a 10-character submittal identification numbering system in the following manner:
1. The first character shall be a D, S, P, M, or R, which represents Shop/Working Drawing and other Product Data (D), Sample (S), Preliminary Submittal (P), Operating/ Maintenance Manual (M), or Request for Information (R).
 2. The next five digits shall be the applicable Section Number.
 3. The next three digits shall be the numbers 001 to 999 to sequentially number each initial separate item or drawing submitted under each specific Section Number.
 4. The last character shall be a letter, A to Z, indicating the submission, or resubmission of the same Drawing, i.e., "A=1st submission, B=2nd submission, C=3rd submission, etc. A typical submittal number would be as follows:
- | | | | |
|---------------|---|--|--|
| D 03300 008 B | | | |
| D | = | Shop Drawing | |
| 03300 | = | Section for Concrete | |
| 008 | = | The eighth initial submittal under this section | |
| B | = | The second submission (first resubmission) of that | |
- D. Notify the ENGINEER in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.
- E. The review and approval of shop drawings, samples or product data by the ENGINEER shall not relieve the CONTRACTOR from the responsibility for the fulfillment of the terms of the Contract. All risks of error and omission are assumed by the CONTRACTOR and the ENGINEER will have no responsibility

therefore.

- F. No portion of the work requiring a shop drawing, sample, or product data shall be started nor shall any materials be fabricated or installed prior to the approval or qualified approval of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data shall be at the CONTRACTOR's risk. The OWNER will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
- G. Project work, materials, fabrication, and installation shall conform with approved shop drawings, applicable samples, and product data.
- H. Contractor to use green ink for all submittals.

1.4 SUBMISSION REQUIREMENTS

- A. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the Work or in the work of any other CONTRACTOR.
- B. Each submittal, appropriately coded, will be returned within 30 working days following receipt of submittal by the ENGINEER.
- C. Number of submittals required:
 - 1. Shop Drawings: The number of copies for distribution is the minimum required for coordination of specific items of the Work. Additional shop drawings are required for coordination between prime contractors for certain items of the Work. A minimum of six copies for distribution as follows:
 - a. ENGINEER – one
 - b. Resident Project Representative – one
 - c. OWNER – one
 - d. Prime Contractor – three
 - e. Other Prime Contractors - as required.
 - 2. Product Data: Six copies for same distribution as shop drawings.
 - 3. Samples: Submit the number stated in the respective Sections.
- D. Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The Project title and number.
 - 3. Contractor identification.
 - 4. The names of:
 - a. Contractor

- b. Supplier
- c. Manufacturer
- 5. Identification of the product, with the section number, page and paragraph(s).
- 6. Field dimensions, clearly identified as such.
- 7. Relation to adjacent or critical features of the work or materials.
- 8. Applicable standards, such as ASTM or Federal Standards numbers.
- 9. Identification of deviations from Contract Documents.
- 10. Identification of revisions on resubmittals.
- 11. An 8-in by 4-in blank space suitably sized to fit both the Contractor and ENGINEER stamps.

1.5 REVIEW OF SHOP DRAWINGS, PRODUCT DATA, WORKING DRAWINGS AND SAMPLES

- A. The review of shop drawings, data and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
 - 1. as permitting any departure from the Contract requirements;
 - 2. as relieving the CONTRACTOR of responsibility for any errors, including details, dimensions, and materials;
 - 3. as approving departures from details furnished by the ENGINEER, except as otherwise provided herein.
- B. The CONTRACTOR remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner. CONTRACTOR shall provide additional copies of shop drawings for distribution to related prime contractors.
- C. If the shop drawings, data or samples as submitted describe variations and show a departure from the Contract requirements which ENGINEER finds to be in the interest of the OWNER and to be so minor as not to involve a change in Contract Price or Contract Time, the ENGINEER may return the reviewed drawings without noting an exception.
- D. Submittals will be returned to the Contractor under one of the following codes.
 - 1. Code 1 - "APPROVED" is assigned when there are no notations or comments on the submittal. When returned under this code the CONTRACTOR may release the equipment and/or material for manufacture.
 - 2. Code 2 - "APPROVED WITH CHANGES NOTED". This code is assigned when a confirmation of the notations and comments IS NOT required by the CONTRACTOR. The CONTRACTOR may release the equipment or material for manufacture; however, all notations and

- comments must be incorporated into the final product.
3. Code 3 - "REVISE AND RESUBMIT". This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the ENGINEER within 15 calendar days of the date of the ENGINEER's transmittal requiring the resubmittal.
 4. Code 4 - "REJECTED" is assigned when the submittal does not meet the intent of the Contract Documents. The CONTRACTOR must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.
- E. Resubmittals will be handled in the same manner as first submittals. On resubmittals the CONTRACTOR shall direct specific attention, in writing on the letter of transmittal and on resubmitted shop drawings by use of revision triangles or other similar methods, to revisions other than the corrections requested by the ENGINEER, on previous submissions. Any such revisions which are not clearly identified shall be made at the risk of the CONTRACTOR. The CONTRACTOR shall make corrections to any work done because of this type revision that is not in accordance to the Contract Documents as may be required by the ENGINEER.
- F. Partial submittals may not be reviewed. The ENGINEER will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the CONTRACTOR and will be considered "Not Approved" until resubmitted. The ENGINEER may at his option provide a list or mark the submittal directing the CONTRACTOR to the areas that are incomplete.
- G. Repetitive Review
1. Shop drawings and other submittals will be reviewed no more than twice at the Owner's expense. All subsequent reviews will be performed at times convenient to the ENGINEER and at the CONTRACTOR's expense, based on the ENGINEER's then prevailing rates. The CONTRACTOR shall reimburse the Owner for all such fees invoiced to the Owner by the ENGINEER. Submittals are required until approved.
 2. Any need for more than one resubmission, or any other delay in obtaining ENGINEER's review of submittals, will not entitle CONTRACTOR to extension of the Contract Time.
- H. If the CONTRACTOR considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the CONTRACTOR shall give written notice thereof to the ENGINEER at least 7 working days prior to release for manufacture.
- I. When the shop drawings have been completed to the satisfaction of the

ENGINEER, the CONTRACTOR shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the ENGINEER.

1.6 DISTRIBUTION

- A. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the ENGINEER. Number of copies shall be as directed by the ENGINEER but shall not exceed seven unless otherwise approved for specific items of work.

1.7 MOCK UPS

- A. Mock Up units as specified in individual Sections include, but are not necessarily limited to, complete units of the standard of acceptance for that type of work to be used on the project. Remove at the completion of the work or when directed.

1.8 CONSTRUCTION SCHEDULE

- A. In lieu of the progress schedules specified in Article 2.06, 2.09 and 14.01 of the General Conditions, the General CONTRACTOR shall, within 10 days after the Effective Date of the Agreement, provide and submit to the Engineer for approval, the Schedule he plans to maintain in order to successfully construct the work within the time allotted. This Schedule shall include a Critical Path Network and a Computer generated print-out. The Schedule shall account for all Contracts in addition to the work of the General CONTRACTOR. In addition to all reasonably important construction activities, the Schedule shall provide for the proper sequence of construction considering the various crafts, purchasing time, submittal approval, material delivery, equipment fabrication, and similar time consuming factors.
- B. The Schedule shall include as a minimum, the earliest starting and finish dates, latest starting and finish dates, and the total float for each task or item. The General CONTRACTOR shall update (monitor) and rerun the Schedule at least monthly and shall submit to the Engineer both the Network and Computer print-out at the same time the pay estimate is prepared. The Schedule shall contain all of the items of the Periodic Estimate and Pay Schedule.
- C. Following receipt and preliminary approval by the ENGINEER of the General CONTRACTOR's CPM Schedule, copies will be sent to the other CONTRACTORS for their comments. A preconstruction conference will then be held between the OWNER, ENGINEER and all involved CONTRACTORS to review and, if necessary, revise the Schedule to afford all CONTRACTORS ample time to perform their work in the proper sequence of construction operations. In case of disputes between CONTRACTORS over allotted time for

various items of work, the ENGINEER shall decide and his decision shall be final and binding on all. The ENGINEER shall give final approval to the CPM Schedule before any construction is begun.

- D. The monthly Schedule update (monitoring) shall include the following items:
 - 1. Network
 - a. Identify activities that are completed or in process by contrasting heavy lines. Each activity worked on should be proportional to the percentage of progress achieved to date.
 - b. Identify restraints imposed by material deliveries, precedent activity durations or schedule adjustments on the monthly update of the Network.
 - 2. Computer Print-out
 - a. Show the percentage progress status of each activity. The percentage progress status will be used to support each CONTRACTOR's periodic pay estimate.
 - b. Show actual start and completion dates.
 - c. Flag all activities started and in progress.

- E. Supplemental to the Critical Path Schedule, each CONTRACTOR shall provide a detailed work schedule, projected at least a month in advance. The implementation of the work schedule and the coordination required will constitute the basic agenda of the coordination and planning meetings.

1.9 PROFESSIONAL ENGINEER (P.E.) CERTIFICATION FORM

- A. If specifically required in other related Sections, submit a P.E. Certification for each item required, in the form attached to this Section, completely filled in and stamped.

1.10 GENERAL PROCEDURES FOR SUBMITTALS

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

END OF SECTION

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P.E. CERTIFICATION FORM

The undersigned hereby certifies that he/she is a professional engineer registered in the State of Ohio and that he/she has been employed by

_____ to design
(Name of Contractor)

(Insert P.E. Responsibilities)

in accordance with Section _____ for the
Waynesville Sewer Collection System Improvements – Phase I.

The undersigned further certifies that he/she has performed the design of the:
_____, that said

design is in conformance with all applicable local, state and federal codes, rules, and regulations, and that his/her signature and P.E. stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to Greene County or OWNER's representative with seven days following written request therefor by the OWNER.

P.E. Name

Contractor's Name

Signature

Signature

Address Title

Address

SECTION 01 55 00

VEHICULAR ACCESS AND PARKING

PART 1 – GENERAL

1.1 GENERAL

- A. All Streets and bike trails shall be kept open for the passage of traffic during the construction period.
 - 1. CONTRACTOR shall obtain all permits required by State or local authorities.
 - 2. CONTRACTOR shall maintain access for emergency vehicles at all times.
- B. CONTRACTOR shall be responsible to contact all local authorities and utilities at least two (2) weeks prior to commencement of work. Local authorities include but are not limited to police, fire, gas, electric, telephone, TV cable, water, sewer, traffic and street department. CONTRACTOR shall be responsible to keep all above apprised of Work schedule, actual progress, etc.
- C. CONTRACTOR shall give reasonable notice to owners or tenants of private property and commercial or industrial facilities who may be affected by CONTRACTOR'S operations.
- D. CONTRACTOR shall take all means necessary to prevent accidents. CONTRACTOR shall provide signs, signals, barricades, flares, lights, and all other equipment, service, and personnel required to regulate and protect all traffic, and warn of hazards. All such work shall conform to requirements of the Warren County Engineer's Office, Ohio Department of Natural Resources or authority having jurisdiction and be provided in accordance with ODOT Manual of Uniform Traffic Control Devices, Construction and Maintenance Operations. Remove temporary equipment and facilities when no longer required, restore grounds to original, or to specified conditions. Traffic Control plan to be reviewed and approved by Warren County Water & Sewer Department.
- E. CONTRACTOR shall maintain work hours of 8:00AM-5:00PM.
- F. CONTRACTOR shall provide dust control in accordance with Section 01 57 00.

1.2 TRAFFIC SIGNALS AND SIGNS

- A. Provide and operate traffic control and directional signals required to direct and maintain orderly flow of traffic in all areas under CONTRACTOR'S control or affected by CONTRACTOR'S operations.

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- B. Provide traffic control and directional signs, mounted on barricades or standard posts:
 - 1. At each change of direction of a trail and at each crossroad.
 - 2. At detours and hazardous areas.
 - 3. At parking areas.
 - 4. As required by approved permit or authority having jurisdiction.

1.3 FLAGMEN

- A. Provide qualified and suitably equipped flagmen, including STOP/SLOW paddles, when construction operations encroach on traffic lanes or prevent adequate sight distance, as required for regulation of traffic and in accordance with the requirements of the authority having jurisdiction.

1.4 FLARES AND LIGHTS

- A. Provide flares and lights during periods of low visibility:
 - 1. To clearly delineate traffic lanes, to guide traffic and to warn of hazardous areas.
 - 2. For use by flagmen in directing traffic.
- B. Provide illumination of critical traffic and parking areas.

1.5 PARKING CONTROL

- A. Control all construction related vehicular parking within the limits of Work to preclude interference with public traffic or parking, access by emergency vehicles, OWNER'S operations, or construction operations. Provide temporary parking facilities for the public as may be required because of construction or operations.
- B. Monitor parking of all construction and private vehicles:
 - 1. Maintain free vehicular access to and through parking areas.
 - 2. Prohibit parking on or adjacent to access roads or in non-designated areas.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 57 00

TEMPORARY CONTROLS

PART 1 – GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

- A. CONTRACTOR shall provide and maintain methods, equipment, and temporary construction, as required to provide controls over environmental conditions at the construction site and adjacent areas. Remove physical evidence of temporary facilities at completion of the Work.
- B. CONTRACTOR shall obtain all City, County and State permits required for the construction of all Work, including Hazardous Material Management, Earth Moving/Dust Control and Stormwater Pollution Prevention Permits.

1.2 NOISE CONTROL

- A. CONTRACTOR'S vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA standards and in no case will noise levels be permitted which interfere with the Work of the OWNER or others.

1.3 DUST CONTROL

- A. CONTRACTOR shall be responsible for controlling objectionable dust caused by CONTRACTOR'S operation of vehicles and equipment, clearing or for any reason whatever. CONTRACTOR shall apply water or use other methods subject to the ENGINEER'S approval, which will keep dust in the air to a minimum.

1.4 PEST AND RODENT CONTROL

- A. Provide rodent and pest control as required to prevent infestation of construction or storage areas.
 - 1. Employ methods and use materials that will not adversely affect conditions at the Site or on adjoining properties.

1.5 WATER CONTROL

- A. Provide methods to control surface water and water from excavations and structures to prevent damage to the Work, the Site, or adjoining properties.
 - 1. Control fill, grading and ditching to direct water away from excavations, pits, tunnels and other construction areas and to direct drainage to proper runoff courses so as to prevent any erosion, damage or nuisance.
- B. Provide, operate and maintain equipment and facilities of adequate size to control surface water.

- C. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the Site or to adjoining areas and in conformance with all environmental requirements.

1.6 POLLUTION CONTROL

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillages, and to remove contaminated soils or liquids.
 - 1. Excavate and dispose of any contaminated earth offsite, and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
 - 1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
- D. Provide systems for control of atmospheric pollutants.
 - 1. Prevent toxic concentrations of chemicals.
 - 2. Prevent harmful dispersal of pollutants into the atmosphere.
- E. All CONTRACTOR'S equipment used during construction shall conform to all current federal, state and local laws and regulations.

1.7 EROSION CONTROL

- A. Plan and execute construction and earth work by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
 - 1. Hold the areas of bare soil exposed at one time to a minimum.
 - 2. Provide temporary control measures such as berms, dikes and drains.
- B. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
- C. Periodically inspect earthwork to detect any evidence of the start of erosion; apply corrective measures as required to control erosion.
- D. Coordinate erosion control requirements with the requirements of Article 1.05, above.

END OF SECTION

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Closeout procedures.
 - 2. Final cleaning.
 - 3. Adjusting.
 - 4. Project record documents.
 - 5. Spare parts and maintenance materials.

1.2 RELATED WORK

- A. Warranties and Bonds are included in Section 01 78 00.

1.3 RECORD DOCUMENTS

- A. Maintain on site, one set of the following documents; actual revisions to the work shall be recorded in these documents:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
- B. Store Record Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and Modifications.
- E. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

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2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the work.
3. Field changes of dimension and detail.
4. Details not on original Contract Drawings.

F. Submit documents to Engineer with Application for Final Payment.

1.4 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, work has been inspected and that work is complete in accordance with Contract Documents and ready for Engineer's inspection.
- B. Provide submittals to Engineer that are required by governing or other authorities.
- C. Submit Application for Final Payment identifying total adjusted Contract Sum, previous payments and sum remaining due.

1.5 FINAL CLEANING

- A. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
 1. Remove labels that are not permanent labels.
 2. The installing Prime Contractor shall clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
 3. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Leave concrete floors broom clean.
 4. The installing Prime Contractor shall wipe surface of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean light fixtures.
 5. Clean the site of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

1.6 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

END OF SECTION

SECTION 01 78 00

WARRANTIES AND BONDS

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.

1.2 RELATED WORK

- A. Refer to Conditions of Contract for the general requirements relating to warranties and bonds.
- B. General closeout requirements are included in Section 01 77 00 Closeout Procedures.
- C. Specific requirements for warranties for the work and products and installations that are specified to be warranted are included in the individual Sections of Division 2 through 33.

1.3 SUBMITTALS

- A. Submit written warranties to the OWNER prior to the date fixed by the ENGINEER for Substantial Completion. If the Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the work, or a designated portion of the work, submit written warranties upon request of the OWNER.
- B. When a designated portion of the work is completed and occupied or used by the OWNER, by separate agreement with the CONTRACTOR during the construction period, submit properly executed warranties to the OWNER within 15 days of completion of that designated portion of the Work.
- C. When a special warranty is required to be executed by the CONTRACTOR, or the CONTRACTOR and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the ENGINEER for approval prior to final execution.
- D. Refer to individual Sections of Divisions 2 through 33 for specific content requirements, and particular requirements for submittal of special warranties.

- E. At Final Completion compile two copies of each required warranty and bond properly executed by the CONTRACTOR, or by the CONTRACTOR, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- F. Bond warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents and sized to receive 8-1/2-in by 11-in paper.
- G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the Section in which specified and the name of the product or work item.
- H. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address and telephone number of the installer, supplier and manufacturer.
- I. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the project title or name and the name, address and telephone number of the CONTRACTOR.
- J. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

1.4 WARRANTY REQUIREMENT

- A. Related Damages and Losses: When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work
- B. Reinstatement of Warranty: When work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that work covered by a warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of Contract Documents. The CONTRACTOR is responsible for the cost of replacing or rebuilding defective work regardless of whether the OWNER has benefited from use of the work through a portion of its anticipated useful service life.

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- D. OWNER's Recourse: Written warranties made to the OWNER are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the OWNER can enforce such other duties, obligations, rights, or remedies.
- E. Rejection of Warranties: The OWNER reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the contract Documents.
- F. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the CONTRACTOR of the warranty on the work that incorporates the products, nor does it relieve suppliers, manufacturers and subcontractors required to countersign special warranties with the CONTRACTOR.
- G. Separate Prime Contracts: Each Prime CONTRACTOR is responsible for warranties related to its own Contract.

1.5 DEFINITIONS

- A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the OWNER.
- B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the OWNER.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-01 GENERAL REQUIREMENTS

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PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition) apply to this section.

1.2 DESCRIPTION OF WORK

- A. Description.** Warren County is proceeding with a Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5,500 feet), two segments of 18-inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes along High and Main Streets in Waynesville, OH. The work for the Cured-in-Place Pipe rehabilitation is described in Supplemental Specification SS-07 included with this project. The work for the Manhole Rehabilitation is described in Supplemental Specification SS-13, SS-14, and SS-15 included with this project.
- B.** A portion of the sewer to be lined had been videoed. The videos are provided with the bid documents.

1.3 QUALITY ASSURANCE

- A. **Codes and Standards.** Perform all work in compliance with current applicable requirements of governing agencies having jurisdiction.

- B. **Testing Requirements.** The Contractor shall provide samples for testing to the Engineer upon request. Testing laboratory services for the various items of the Contract and the requirements of the Supplemental Specifications included as part of this project shall be performed in accordance with the various requirements included in the project.

1.4 SUBMITTALS

- A. **General.** Furnish samples, manufacturer's product data, test reports, and material certifications as required for materials and mix design when required. In addition, submittals shall be made in accordance with individual supplemental specifications.

1.5 PROJECT CONDITIONS

A. Safety

1. **General.** Safety requirements shall be in accordance with the Provisions of the Occupational Safety and Health Act (OSHA) of 1970, U.S. Department of Labor, and the Ohio Department of Transportation construction and Material Specifications (ODOT CMS). Open excavations, open manholes, or similar hazards shall not be left unattended, Excavations shall be secured at night and all equipment and supplies moved to a secured area.

2. **Confined Spaces.** The Contractor shall follow OSHA requirements for "confined space entry" Title 29 of the Code of Federal Regulations, Part 1910.146 while performing work inside any manhole, sewer, or other permit required confined space. At least 10 working days prior to the start of work, the Contractor shall submit a Site Safety Plan which describes the Contractor's permit required confined space program for review by the County. This program shall include a written entry permitting system, designated rescue service, entry and retrieval procedures and equipment, atmospheric testing procedures, employee training certifications for working in permit spaces, and provisions for meeting any other regulatory requirement relating to the entry of confined spaces. Contractor is hereby notified that it will also provide confined space entry and retrieval personnel and equipment for certified confined space entry personnel of the County and County's representatives during project construction. The County and County's representatives will provide its personnel with personal protective devices including a full

body harness. Contractor will provide these services for two County representatives throughout all times that the Contractor is working within confined spaces. Compliance shall be included in the unit price bid for the various items of the Contract.

- B. Subsurface Investigations.** Subsurface investigations were not completed for this project. Prior to any subsurface investigations or on-site examination of the project, all Bidders shall obtain approval for Warren County.
- C. Water.** Water shall be potable. The Contractor must coordinate with the Village of Waynesville for access to a fire hydrant for a water supply prior to drawing water on the site. Hydrant shall be designated by the Village of Waynesville. All equipment, fittings, and valves shall be provided by the Contractor. All equipment shall be in accordance with local and state standards. Backflow prevention shall be in accordance with Village of Waynesville standards.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. General.** Delivery, storage, and handling of materials shall be in accordance with manufacturer's recommendations and all applicable codes, standards, and specifications.

1.7 SPECIAL WARRANTY

Not Used

PART 2-PRODUCTS

Not applicable

PART 3-EXECUTION

3.1 MAINTENANCE OF TRAFFIC

The Contractor shall comply with the maintenance of traffic requirements as outlined in the general notes of the construction plans and all special considerations required by Warren County or the Ohio Department of Natural Resources.

All traffic control devices, including lights, signs, and barricades, shall be constructed, erected and maintained in accordance with the "Ohio Manual of Inform Traffic Control Devices" Part 06, Temporary Traffic Control.

The cost of all lights, signs, barricades, Police Patrolmen and Flagmen necessary to maintain the aforementioned conditions shall be included in the lump price bid Item 614, Maintaining Traffic, Complete.

3.2 FLOW MAINTANCE AND BYPASS PUMPING

The Contractor shall bypass sewage, as required, around the sections of the sewer that are to be reconstructed or rehabilitated. Refer to Supplemental Specification SS-05, Bypass Pumping, for additional requirements for performing this task. All costs associated with maintaining sanitary service during construction shall be included in the bid price for Item SS-05 "Bypass Pumping, Complete". No additional payments will be made.

3.3 ACTIVE SEWER LATERALS.

It is the intent of this contract to reconnect or reestablish all lateral sewers. The location of all lateral sewers are indicated on the CCTV recordings and shown on the Plans. If the Contractor discovers any undocumented laterals they will be brought immediately to the attention of Warren County before rehabilitation prior to the installation of CIPP Linear.

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-02 SEWER CLEANING

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PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION OF WORK

- A. **Description.** The Contractor shall provide all labor, materials, and Equipment necessary to clean the sewer and manholes a specified herein or as designated by the Engineer.

1.3 QUALITY ASSURANCE

- A. **Codes.** Perform all work in accordance with the most recent federal, state, and local codes.
- B. **Standards.** All work shall meet or exceed the requirements of the National Association of Sewer Service Companies (NASSCO) Recommended Specifications for Sewer Collection System Rehabilitation (latest edition, except as otherwise specified herein).

- C. **Contractor's Qualifications.** The sewer cleaning Contractor shall be a firm having a minimum of 5 years continuous successful experience in sewer cleaning similar to that required for this Project.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

3.1 COORDINATION

- A. All sewers to be cleaned, televised, and/or rehabilitated shall first be cleaned by the Contractor.

3.2 GENERAL

- A. The sewer shall be cleaned of manhole covers, balls, bricks, concrete, sand, dirt, roots, grease, oils and any other solid or semisolid material using hydraulic, high velocity hydraulic, mechanical sewer cleaning equipment, or physical means without damage to the existing sewer. Selection of the equipment used shall be based on the condition of the sewer at the time the work commences.
- B. During sewer cleaning operation, precautions shall be taken to protect the sewer from damage that might be inflicted by the improper use of cleaning equipment. Whenever hydraulically propelled cleaning tools or any tools which retard the flow of water in the sewer are used, precautions shall be taken to ensure that the water pressure created does not cause any damage or flooding to property. Contractor shall be responsible for restoration or repair of any facility, public or private, which is damaged by Contractor actions.

3.3 CLEANING PROCESSES

- A. **Man-Entry. Confined Spaces.** The Contractor shall follow OSHA requirements for “confined space entry,” Title 29 of the Code of Federal Regulations, Part 1910.146 while performing work inside any manhole, sewer, or other permit required confined space. At least 10 working days prior to the start of work, the Contractor shall submit a Site Safety Plan which described the contractor’s permit required confined space program for review by the County. This program shall include a written entry permitting system, designated rescue service, entry and retrieval procedures and equipment, atmospheric tested procedures, employee training certifications for working in permit spaces, and provisions for meeting any other regulatory requirements relating to the entry of confined spaces. Contractor is hereby notified that it will also provide confined space entry and retrieval personnel and equipment, for certified confined space entry personnel of the County and County’s representatives during project construction. The County

and County's representatives will provide its personnel with personal protective devices including a full body harness. Contractor will provide these services for two County representatives throughout all times that the Contractor is working within confined spaces. Compliance shall be included in the unit price bid for the various items of the contract.

- B. Hydraulic.** Hydraulic cleaning equipment shall be of a movable dam type and constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the sewer. The moveable dam shall be equal in diameter to the sewer being cleaned, and shall provide a flexible scraper around the outer periphery to ensure removal of foreign material.
- C. High Velocity Hydraulic.** High velocity hydraulic sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a minimum of 600 feet of $\frac{3}{4}$ inch inside diameter high pressure hose with a selection of two or more high velocity nozzles. The nozzles shall have a minimum capacity of 30 gallons per minute (gpm) at a working pressure of 1,000 to 1,500 pounds per square inch (psi). The nozzles shall be capable of producing a scouting action from 15 degrees to 45 degrees in all site sewers. Equipment shall also include a high velocity gun for washing and scouring manhole walls and floor. The gun capacity shall be capable of producing flows from a fine spray to a long distance solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel. All controls shall be located so that the equipment can be operated above ground.
- D. Mechanical.** Bucket machines shall be operated in pairs with sufficient power to perform the work in an efficient manner. Each machine shall be powered by a minimum 16 horsepower (hp) engine. Each machine shall be equipped with a two speed transmission and shall be able to pull at a rate of 175 feet per minute (fpm) in high speed. Machines shall be belt operated or have an overload device. Machines with direct drive will not be allowed. The power rodding machine shall be either a sectional or continuous positive rod drive and produce a minimum 2,000 pound rod pull. To ensure safe operation, the machine shall have a fully-enclosed body and an automatic safety throw-out clutch or relief valve.

3.4 ROOT REMOVAL

All roots shall be removed from the interior of the sewer by the following processes:

- A. Mechanical.** Root removal may include the use of mechanical devices, such as rodding machines, expanding root cutters and porcupines, and hydraulic cleaning equipment.

3.5 MATERIAL REMOVAL AND DISPOSAL

- A. All material resulting from the cleaning operation shall be removed at the downstream manhole of the sewer section being cleaned. Passing material from sewer section to sewer section will not be permitted. All solids or semisolids resulting from the cleaning operations shall be removed from the site and disposed of in accordance with Federal, State, and local regulations. All materials shall become the property of the Contactor and removed from the site at the end of each workday. The Contractor will not be allowed to accumulate material on the site of work.

- B. Waste material cleaned from the sewer can be delivered to the Waynesville Wastewater Treatment Plant by the Contractor for disposal at no charge.

3.6 MEASUREMENT AND PAYMENT

- **Pre CIPP installation cleaning**
The cost of sewer cleaning associated with CIPP installation shall be on a per linear foot basis.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
4	L.F.	Sewer Cleaning

END OF SECTION

WARREN COUNTY. OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-03 CCTV RECORDING AND INSPECTION

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION OF WORK

- A. Scope of Work.** The Contractor shall provide all labor, materials, and equipment necessary to digitally record and inspect the sewer in accordance with the plans and as specified within, and/or as designated by the Engineer. Digital recording and inspection shall be performed before and after sewer rehabilitation and as part of the 12 month warranty inspection. Digital recording performed prior to sewer rehabilitation shall be reviewed and approved by the Engineer before rehabilitation work begins. Digital recording performed after rehabilitation shall be completed within three months, but no sooner than 30 days after completion of the rehabilitation, to document the installed condition of the sewer. Digital recording for the 12 month warranty inspection shall be performed as directed by the County. The Digital recording shall be performed in the same direction for all inspections. Digital recording work must be reviewed and approved by the Engineer for the completed project to be accepted by the County.

1.3 QUALITY ASSURANCE

- A. **Standards.** All work shall meet or exceed the requirements of the National Association of Sewer Service Companies (NASSCO) Recommended Specifications for Sewer Collection System Rehabilitation (latest edition), except as otherwise specified herein.
- B. **Contractor's Qualifications.** The sewer inspection Contractor shall be a firm having a minimum of 3 years continuous successful experience in the inspection of sewers similar to that required for this project.

1.4 SUBMITTALS

- A. **Inspection Forms.** Inspection forms shall be kept by the Contractor showing the location, in relation to adjacent manholes of: each infiltration point, laterals, services, joints, voids, unusual conditions, roots, deposit, scale, corrosion, changes of pipe (material, size, shape, slope), and other discernible features. Each inspection form submitted shall contain header information and an inspection details section. A separate inspection form shall be provided for each complete sewer length between manholes, unless directed otherwise by the Engineer. The inspection forms will be put into a final report. Two copies of the final report shall be submitted to the Engineer.
- B. **Digital Recordings.** The Contractor shall furnish the Owner with two digital recordings of all internal inspections. Additionally, the Contractor shall furnish Warren County with one digital recording of all internal inspections at the end of the project. Acceptable media for the recordings are digital video disc (DVD).

All digital recordings shall be identified by project number, location, date of inspection, upstream and downstream MH number of the sewer contained on the disk, project names, and Contractor's name in a manner acceptable to the Engineer. All media shall be premium grade and previously unrecorded. All digital recordings shall have a continuous on-screen display indicating sewer section identification and distance from the entering manhole, as well as on screen display identifying laterals and any pipe defects which shall be coordinated with the inspection forms. The digital recording shall be organized so that line sections are in order from upstream to downstream unless approved otherwise by the Engineer.

A voice narrative of observations made during the television inspection shall be recorded on the audio portion of the recording. Voice descriptions shall be made at points of pipe failure or weakness, infiltration service connections, and at points where unusual conditions occur. Voice narrative must be audible in the recording. If the recording is rejected due to an inaudible narrative, the inspection recordings will be edited and a narrative shall be dubbed in.

1.5 JOB CONDITIONS

- A. Coordination.** The Contractor performing digital recording and inspection will be required to coordinate his work with other trades.

PART 2 PRODUCTS

2.1 GENERAL

Not Used

2.2 MATERIALS

Not Used

2.3 EQUIPMENT

- A.** The television camera shall be specifically designed and constructed for sewer inspection with a capacity for radial viewing (360°) to allow proper inspection of service lateral connections. The radial view camera must be sled state color and have remote control of the rotational lens. The camera shall be capable of viewing the complete circumference of the pipe. Cameras incorporating mirrors for viewing sides or using exposed rotating heads are not acceptable. The camera lens shall be an auto-iris type with remote controlled manual override. The camera light head shall include a high-intensity side viewing lighting system to allow illumination of internal sections of lateral sewer connections. Lighting for the camera shall illuminate the entire periphery of the sewer for a distance of 15 feet ahead of the camera. The camera shall have a minimum resolution of 600 lines and shall be operable in 100% humidity conditions. Picture quality and definition shall be to the satisfaction of the Engineer. Communications shall be provided for controlling the winches, pumping unit, and monitor control.

PART 3 EXECUTION

3.1 TELEVISION INSPECTION

A. General

1. Digital Recording shall be performed after sewer cleaning for all sewers, then after installation of the CIPP liner, and again 12 months after CIPP liner installation in all lined sections as part of the 12 month guarantee. Refer to Supplemental Specification SS-07, Cured-in-Place Pipe for detail on these submittals. In addition, any sections of pipe being replaced shall be televised within three mounts, but not sooner than 30 days, to document the installed condition of the sewer.

2. The entire length of sewer to be rehabilitated shall be televised for a visual and audio record of the sewer.
3. The entire sewer perimeter shall be visible during sewer Digital Recording and inspection.

B. Digital Recording

1. The digital recording shall include both audio and digital information that accurately reproduces the original picture and sound of the digital inspection. The digital portion of the digital recording shall be free of electrical interference and shall produce a clear and stable image.

C. Televising

1. The inspection will be done one sewer section at a time and the section being inspected will be isolated from the remainder of the sewer system.
2. The camera shall be moved through the sewer with the direction of flow at a uniform slow rate. In no case will the digital camera record while moving at a speed greater than 30 feet per minute. In the event that access to some manholes is restricted, permission may be granted to TV inspect against the flow. In all cases the pre-TV and final TV recordings must be performed in the same direction.
3. Measurement for location of laterals, defects, and other features shall be at the ground level by means of a metering device. Measurement will be accurate to one tenth (0.1) per 100 feet of inspected pipe. The importance of accurate distance measurements is emphasized. Marking on the cable or the like which would require interpolation for depth of manhole, will not be allowed. Accuracy of the distance meter shall be checked by use of a kevlar tape. A measuring target or sealing packer in front of the television camera shall be used as the measurement reference point, and the meter reading shall show the location of the measurement reference point.
4. When sewer conditions prevent forward movement of the camera, the Contractor shall withdraw the camera and televise the line from the opposite direction. In all cases the pre-TV and final TV recordings must be performed in the same direction.
5. The Contractor shall record the measurement of each sanitary lateral to the center of the connection to the main sewer. The Contractor, in the post-lining CCTV inspection video, shall provide a full 360 degree view for video coverage of the lateral connection to the sewer to ensure proper and complete reinstatement of the lateral to the sewer.

- 6. Throughout the duration of the project, should the Engineer discover inaccuracies in the recordings or if the specifications and/or requirements of the project are not met, the Contractor shall re-video those segments at no additional cost to the Project.

3.2 MEASUREMENT AND PAYMENT

- A. Pre-lining** – Payment of CCTV Recording and Inspection of pre-lining conditions and complete cured-in-place liner design calculations shall be paid for under the various Item No. 7, Cured in Place Pipe Items. No separate payment shall be made.
- B. Post-Lining** – Payment of CCTV Recording and Inspection of post-lining work and for the 12 month guarantee shall be paid for under the various Item No. 7, Cured-in-Place Pipe Items. No separate payment shall be made.
- C. Open Cut Point Repair** – Payment for CCTV Recording and Inspection if open cut repair is requires, shall be included in the unit price bid for SS-04 Open Cut Point Repair. No separate payment shall be made.
- D. Required by Plan** – Payment for CCTV Recording and Inspection as required by the plan set will be paid for per the unit price bid for Item No. 5 CCTV video Inspection.

<u>ITEM</u>	<u>UNIT</u>	<u>DISCRIPTION</u>
5	L.F.	CCTV Video Inspection

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-04 OPEN CUT POINT REPAIRS

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION OF WORK

- A. **Scope of Work.** The Contractor shall make an Open Cut Point Repair excavation to uncover and remove or repair an obstruction, and/or replace pipe, if it cannot be repaired or removed by trenchless means from within the sewer. It shall be the responsibility of the Contractor to clear the sewer of obstructions, solids, protruding services, or collapsed pipe that will prevent the proper installation of the liner.
- B. **Open Cut Point Repair required by the Contractor’s Means and Methods.** If point repairs are required due to the Contractor’s means and methods, The Contractor shall notify the County of the damage, obtain written authorization from the County and make the repair as soon as possible. The Contractor shall then re-televiser the sewer at his own cost. Bypass pumping may be required during an open cut repair. Please refer to the general notes pertaining to bypass pumping contained on this plan. The cost for all open cut repair work completed

as a result of the Contractor's means and methods will not be measured for payment, are considered incidental to the contract and will be at the Contractor's own expense.

1.3 SUBMITTALS

- A. **Prior to Bid.** If during the bidding process the Contractor identifies locations where point repairs will be required, these locations must be brought to the attention of the Engineer/Owner for consideration of compensation. The Contractor's failure to comply may result in denial of additional compensation.
- B. **Contractor's Means and Methods.** Prior to commencement of any Open Cut Repair, the Contractor shall submit the request for the Open Cut Point Repair in writing to the County. This request shall include the exact location(s) of the proposed Open Cut Point Repair, its length, utilities conflicts, method of connections to the existing line/structure, and proposed cost (if applicable). If the pipe is damaged during cleaning, the request shall be submitted prior to the liner thickness calculation submittal as required by SS-07. If the pipe is damaged after cleaning and prior to or during the lining process, the request shall be submitted within one day of the damage occurrence. The Contractor shall mark the proposed location in the field for the Engineer to review.

The Contractor is not allowed to proceed with any Open Cut Point Repair until the Contractor has obtained written approval from Warren County.

1.4 JOB CONDITIONS

- A. **Safety.** All work shall be in conformance with all applicable safety standards.

1.5 GUARANTEE

- A. When any work is accepted by the County there shall be a guarantee period for one year from the date of acceptance of the work. At any time during the guarantee period, the County may notify the Contractor and his Surety that certain repairs are necessary. Within 10 days after being notified, the Contractor shall make such repairs as are declared necessary to restore the work to a good and serviceable condition. In the event that the Contractor fails to comply with the order to repair as provided, said repairs may be made by the County and it is hereby agreed by the Contractor that reimbursement shall be made to the County for said expense so incurred within ten days following the receipt of a statement rendered to the Contractor by the County for said expense. Specifications for the work performed under this Contract shall govern in the making of repairs under this section.

PART 2 PRODUCTS

2.1 MATERIALS

- A. **General.** All materials shall be in accordance with Warren County Standard Details and the details contained within the plan set. Point Repair shall be SDR-26 with Fernco 1002 Series Couplings.

PART 3 EXECUTION

3.1 PREPARATION

- A. **Utilities Notification.** The Contractor shall investigate and notify utilities at least 48 hours prior to work in the vicinity, It is the Contractor's responsibility to support, protect, and restore all existing utilities whether shown on the plans or not.
- B. **Dewatering.** The Contractor shall furnish and operate suitable equipment to sufficiently dewater the trench, so the placement of bedding and laying and joining of the pipe is made on firm, dry materials..

3.2 INSTALLATION

- A. **General.** All Open Cut Point Repair installation shall be in accordance with Warren County' Standard Details and in conjunction with the details provided within the plan documents.

3.3 RESTORATION

- A. **General.** The Contractor shall be aware of the conditions at each Open Cut Point Repair. Pavement should be repaired with like materials. Standard Detail S-7 and S-8 in the Warren County Water and Sewer Standard Details shall apply. This shall include but not be limited to trees, shrubbery, landscaping, structures, fences, mail boxes, driveways, curbs, sidewalks, pavements, etc. The Contractor shall digitally record all Right-of Entry areas prior to use and provide a copy to the County Engineer.

3.3 MEASUREMENT AND PAYMENT

- A. **General.** The retrieval of any Contractor's equipment that is lost, broken, wedged, or stuck in the sewer pipe shall be at the Contractor's expense.
- B. **Open Cut Point Repair required by the Contractor's Means and Methods.** The Open Cut Point Repair will not be measured for payment and will be considered incidental to the Contract.

- C. **Open Cut Point Repair required by Unforeseen Conditions.** Will be completed as part of this contract if approved in writing by Warren County. No additional payment will be made for televising of the completed repair.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
15	LF	Open Cut Point Repair, 8" Pipe

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-05 BYPASS PUMPING

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION OF WORK

Scope of Work. When applicable, the Contractor shall provide all labor, materials and equipment necessary to install a leak free, temporary bypass of sanitary flows around:

- A. The sections of pipe that are to be rehabilitated.
- B. Any portion of the host pipe that will require repair that will impact sewer flow.
- C. Manholes that require manhole base and/or channel modification.

1.3 SUBMITTALS

- A. At the preconstruction meeting, the Contractor shall provide, for approval by Warren County, a plan describing the methods of bypassing the sanitary flow that will include but not be limited to:
 - 1. A recommended sequence of operations.

2. Drawings and/or legible sketches showing locations of the bypass sewer and construction procedures for crossing streets, excavations, for benching along with support methods. Locations of manholes from which sewage is to be pumped, locations of receiving manholes, and new manholes shall also be shown.
 3. A list of all required permit information, applications, fees, ect., to obtain access to the streets when required by the bypass method selected by the Contractor.
 4. A contingency plan to prevent damage during high flows.
 5. Method of handing traffic where streets are to be crossed and/or excavated.
- B. At the preconstruction meeting, the Contractor shall submit a copy of all property owner/resident notifications to Warren County for approval prior to distribution of the notification.

PART 2 MATERIALS

2.1 Pumps, Generators, and Equipment

- A. The Contractor shall provide pumps of adequate capacity and size to handle the peak flow and any necessary dewatering and shall not overwhelm the downstream sewer (i.e. no water in basement complaints either upstream or downstream of the bypass pumping locations). The Contractor shall be responsible for responding to, repairing, and cleaning up for all water in basement complaints caused by the bypass pumping.
- B. The Contractor shall be required to monitor and ensure that power is provided to all bypass pumping equipment during the entire time of bypass pumping operations.

2.2 Pipe for Temporary Bypass Pumping

- A. The Contractor shall use pipe for the temporary bypass pumping that is leak free and of adequate capacity and size to handle the peak flow and any necessary dewatering. Use of butt fused HDPE or Bauer fittings are the required pipe material.

PART 3 EXECUTION

3.1 BYPASS PUMPING

- A. The Contractor shall provide a bypass pumping plan to Warren County at the preconstruction conference. Any bypass system shall be established prior to sewer videotaping and inspection; and as necessary to maintain sanitary service and storm drainage during rehabilitation. The Contractor shall be responsible to provide adequate capacity in the bypass system. Warren County will not be responsible for any damages due to high flows.
- B. The bypass shall be made by plugging an existing upstream manhole, if necessary, and pumping the sewage into a downstream manhole approved by Warren County. The pump and the temporary bypass sewer shall be of adequate capacity and size to handle the peak flow and any necessary dewatering. The bypass sewer shall be buried where crossing private access drives or public streets that are opened to traffic and shall either have temporary pavement or be securely plated (if approved by Warren County) or the bypass sewer may be laid over ground with proper plates, ramps and/or coverings to allow vehicular travel over the pipe without damage to the pipe or interruption of the pumping within the established traffic control or easement if outside roadway. Check valves shall be placed ahead of all pumping connections.
- C. The Contractor may suggest alternate methods of bypassing the sewage but, in any event, the method used shall be approved by Warren County.
- D. Under no circumstances will the dumping of raw sewage on private property, streets, waterways and roads be allowed, nor will surcharging of the sewers be allowed due to insufficient pumping.

3.2 PROPERTY OWNER AND/OR RESIDENT NOTIFICATION

- A. The Contractor shall provide 48-hour prior written notification to Warren County, all property owners, and residents that may be affected by the diversion of flow in the sewer, explaining work that is to take place and its time frame. The notification shall include the approximate time when sewage cannot be received during sewer work as well as when the sewer will be available again for receiving sewage. All commercial establishments shall be provided with temporary sewer service. The means and methods shall be coordinated with the managers and the affected residents.
- B. A door hanger reminder shall be placed 24 hours prior to restricting the sanitary service.

3.3 MEASUREMENT AND PAYMENT

- A. Payments for this item shall be paid at the price bid for lump sum of bypass pumping and shall include the cost of all labor, materials and equipment necessary for completion of the project.
- B. Bypass pumping for the sewer shall include all costs necessary for the completion of the rehabilitation of the sewer.
- C. Bypass pumping for the sewer shall include all costs necessary for the completion of the rehabilitation of the sewer and all additional costs of any additional options chosen by the contractor such as an additional manhole, the placement of additional sanitary sewer pipe, construction of a sump, dividing wall, force main extension, or pumping into tanks.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
6	Lump Sum	Bypass Pumping, Complete

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-07 CURDED-IN-PLACE PIPE

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PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The Plans, general provisions of the contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (Current Edition) apply to this section.

1.2 DESCRIPTION OF WORK

- A. **Scope of Work.** Furnish and install the cured-in-place resin impregnated flexible tube pipe liner in accordance with the plans and as specified herein. When installed, cured, and complete, the liner shall extend from on manhole to the downstream point of connection in a continuous tight-fitting, watertight, pipe-within-a-pipe manner with a uniformly smooth interior providing hydraulic flow equal to or greater than the existing sewer in original condition

1.3 QUALITY ASSURANCE

A. **Standards.** All work and materials used shall be in compliance with the following standards that are made part of this specification:

1. American Society for Testing and Materials (ASTM) (latest edition):
 - a. ASTM D-543, Practices for Evaluating the Resistance of Plastics to Chemical Reagents.
 - b. ASTM D-638, Test Method for Tensile Properties of Plastics.
 - c. ASTM D-790, Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - d. ASTM D-5813, "Standard Specification for Cured-in-Place thermosetting Resin Pipe"
 - e. ASTM F-1216, Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin Impregnated Tube.
 - f. ASTM F-1743, Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place thermosetting resin Pipe (CIPP) (if given approval on a case-by-case basis).
2. National Association of Sewer Service Companies (NASSCO).

B. **Contractor's Qualifications.** Installation of the sewer pipe lining system shall be performed by an experienced Contractor fully licensed and approved by the lining process manufacturer. The contractor shall have a minimum of five (5) years of experience in such work and shall have satisfactorily completed ten (10) similar regional projects for at least three (3) different utilities of agencies. If the Contractor anticipates utilizing steam curing, three (3) of these ten (10) regional projects must be a steam cured application.

1.4 SUBMITTALS

The following submittal (A) shall be made with the Bid:

A. **Contractor's Qualifications.** Submit copy of manufacturer's licensee certificate. Submit list of ten (10) similar regional jobs within the past three (3) years as well. Provide project information such as length of project, pipe diameter, and date complete. Project cost, owner contact information, and installation/curing method.

In addition, three (3) of the ten (10) regional jobs must indicate the successful use of steam curing if this method is to be utilized by the Contractor.

The following submittals (B-J) shall be made at the pre-construction meeting:

- B. **Product Date.** Furnish manufacturer's general product date.
- C. **Material Certifications.** Written certifications is required from the manufacturer that all liner and resin used in the work are manufactured and tested in accordance with the ASTM Standards specified herein, and are being used or installed in conformance with the manufacture's recommendations.
- D. **Resident Notifications.** The Contractor shall submit a copy of the resident notifications as described in Section 3.2.A.
- E. **Storage and Delivery Procedures.** The Contractor shall provide the resin and liner manufacturer's recommended storage and delivery procedures. This shall include storage and delivery temperatures, maximum time from wet-out to installation, and other pertinent information.
- F. **Material Safety Data Sheets.** The Contractor shall submit Material Safety Data Sheets (MSDS) for each component of the CIPP system.
- G. **Test Results.** Prior to the use of any materials, the Contractor shall furnish, at its expense, the results of testing of the proposed materials by an independent laboratory in conformance with these specifications. All submitted test data shall have been performed on field installed samples within the last twelve (12) months. Any material not meeting the requirements of these specifications shall be completely removed from the project. Material acceptable to the Engineer shall be substituted for rejected items at the Contactor's expense.

The Contractor shall submit the following:

1. Testing by an independent laboratory to verify that the products to be used meet all minimum strength standards as set forth in ASTM F-1216, Table 1.
2. Testing by an independent laboratory to verify that the products used meet the Creep Factor specified within. The submittal shall include the long-term Flexural and Tensile Modulus of Elasticity measured in accordance with SSTM D2290.
3. Testing by an independent laboratory to verify that any product to be used on the project meets the minimum chemical resistance requirements as established in ASTM F-1216, Table 2, where the testing is in accordance with Appendix X2 of ASTM F1216.

- H. **Installation Procedures.** The Contractor shall submit the CIPP liner manufacture's detailed installation procedures for the installation method(s) to be utilized on this project.
- I. **Curing Cycle and Cooling Rate.** The Contractor shall submit the resin manufacture's recommended curing cycle as well as the recommended cooling rate. The Contractor shall submit inversion pressure (desired and maximum), curing pressure (desired and maximum) and times (part of the curing cycle) for air inversion/steam curing.
- J. **Wet-Out Report.** The Contractor shall submit a report of the wet-out process identifying each liner by manhole to manhole structure numbers and shall contain the wet-out length, diameter, liner thickness, wet-out date, wet-out manager, type of resin, and rein and catalyst volumes or weights with supporting calculations for each liner.

The following submittals (K-L) shall be made a minimum of ten (10) working days prior to lining:

- K. **Pre-rehabilitation video recordings and logs.** The Contractor shall submit two (2) copies of the pre-rehabilitation video recordings and logs to the Engineer that document existing conditions after the Contractor has cleaned the sewer line. Also submitted shall be thickness calculations for the lining according to the most recent findings. See Supplemental Specification SS-03 for requirements.
- L. **Bypass Pumping Plan.** The Contractor shall submit a bypass pumping plan for each manhole to manhole section to be lined for approval by the Engineer. See Supplemental Specification Section SS-05 for additional details on this submittal.

The following submittals (M-N) shall be within one week after lining:

- M. **Cure Logs.** The contractor shall submit a copy of the cure logs for each manhole to manhole installation. The cure logs shall contain records of the curing cycle and the cooling cycle. Each cure log shall clearly indicate the project name, project number, and the manhole section that was lined.
- N. **Post-rehabilitation video recordings and logs.** The contractor shall submit two (2) copies of the final television inspection that show the rehabilitated sewer along with reinstated service connections. See Supplemental Specification SS-03 for requirements.

1.5 JOB CONDITIONS

A. Environmental Requirements

1. Contractor may be required to monitor styrene odors as necessary in business and residences to ensure that concentration levels are under recommended limits.
2. Contractor shall use caution when working in project sewers. During rain events, project sewers may reach capacity and/or head up.

B. Safety. All work completed in conformance with all applicable safety standards in particular OSHA Standard 29CFR 1910.146. Permit Required Confined Space Entry. See Supplemental Specification Section SS-01, General Requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery

1. CIPP material shall be delivered to the job site in a covered refrigerated truck to minimize exposure to sunlight and to maintain temperature of the product within manufacturer's recommendations to avoid premature curing.
2. Delivery of material shall be coordinated with other trades to avoid delays.
3. Pipe preparations and field inspections shall be completed prior to delivery of liner to site.

B. Storage of Materials

1. Material shall be stored in the delivery truck in order to minimize exposure to sunlight and to maintain the temperature of the product to within manufacturer's recommendation to avoid premature curing.
2. No material shall be stored in the open or in contact with the ground.
3. **Temperature logs of liner from time of wet-out to installation shall be given to the County representative on site at the time of installation.** These logs shall contain the calculated volume of resin required and the actual volume of resin provided. The County representative shall verify that the volume resin provided is 5 to 10 percent greater than the calculated volume of resin required per ASRM F-1216, 7.2

C. Handling

1. Handle all products with care. Only sound, undamaged products shall be accepted.

1.7 GUARANTEE

- A. When any work is accepted by the County there shall be a guarantee period extending for one year from the date of acceptance of the work. At any time during the guarantee period, the County may notify the Contractor and his Surety that certain repairs are necessary, including, but not limited to, any damage or active infiltration or inflow. Within 10 days after being so notified, the Contractor shall make such repairs as are declared necessary to restore the work to a good serviceable condition. In the event that the contractor fails to comply with the order to repair as provided, said repairs may be made by the County and it is hereby agreed by the Contractor that reimbursement shall be made by the County for 2.5 times said expense so incurred within ten days following the receipt of a statement rendered to the Contractor by the County for said expense. Specifications for the work performed under this Contract shall govern in the making of repairs under this section. The Contractor shall perform and provide CCTV recording of the rehabilitated sewers as part of the 12 month warranty as directed by the County.

PART 2- PRODUCTS

2.1 GENERAL

Not Used

2.2 MATERIALS

Only products and materials approved by Warren County may be used for this project.

- A. **Products.** The product shall meet requirements within these specifications.
- B. **Design Parameters and Mechanical Properties.** The following values are to be used to verify that the liner thickness equals or exceeds that shown in the plans and, where indicated by and ASTM standard, shall serve as the minimum acceptable strength requirements for the final cured liner.

Flexural Strength (ASTM-D-790)	4,500 psi
Short-term Flexural Modulus of Elasticity (ASTM D-790)	250,000 psi
Creep Factor	50%
Factor of Safety	2
Ovality	5%
Soul Modulus	1000

The design thickness shall be per ASTM F1216. Each tube shall be designed to withstand internal and/or external pressures as dictated by site and pipe conditions as well as the installation process used by the Contractor.

The CIPP liner thickness has been calculated to withstand the soil loading as the deepest point (the maximum difference between the surface evaluation and the pipe evaluation) between manholes. Unless noted otherwise on the Contract Drawings or job-specific data is available, assume the water table to be four (4) feet below the **average** surface evaluation. For **partially deteriorated** liner design, the water depth shall be taken from the pipe invert. For **fully deteriorated** liner design, the water depth shall be taken from the top of the pipe.

- C. Fabric Tube.** The flexible fabric tube shall consist of one or more layers of flexible needled felt or an equivalent woven and/or non-woven material capable of carrying resin, withstanding installation pressures and curing temperatures, and compatible with the resin system used. The tube shall be sized to accommodate the forces of installation, host pipe configuration, and any other pertinent factors to assure a tight fitting final product with a smooth finish.
- D. Resin System.** The resin system shall be a polyester, epoxy, or vinyl ester resin and catalyst system compatible with the insertion process. The resin system shall not contain filler or additive, except those required for viscosity control, fire retardant, modulus enhancement, chemical resistance, or life extension. The following additives may not interfere with the visual inspection of the cured-in-place liner pipe or its required properties: thixotropic agents added for viscosity control, the opacity of the plastic coating, and resins that may contain pigments, dyes, or colors. Resin selected shall be reflected in the CIPP liner thickness calculations.

The tube shall be vacuum impregnated with resin (wet-out) under controlled conditions. The volume of resin used shall be sufficient to fill all voids in the tube material at nominal thickness and diameter and an allowance for migration of resin into the cracks and joints in the host pipe. A roller system shall be used to uniformly distribute the resin throughout the tube.

PET or recycled resins will not be permitted.

- E. Inverting/Curing Medium.** The inverting/curing medium shall be heated potable water or steam. In no instance will sewage be used to invert or cure liners or calibration tubes. If a private water source is proposed for use, a written agreement shall be obtained from the owner of the private water source and a copy of said agreement given to the County.

2.3 EQUIPMENT.

- A. All equipment required for the installation and curing of the resin impregnated flexible fabric tube, including cables, sleeves, rollers, compressors, generators, pumps, valves, gauges, water heaters and accessories required for complete installation shall be in the accordance with the manufacturer's recommendations.

PART 3- EXECUTION

3.1 EXAMINATION

- A. **General.** Examine areas and conditions within the sewer system in which materials and products are to be installed.
- B. **Material.** All sewer pipe liner materials shall be carefully inspected for defects prior to installation. The liner shall be homogeneous throughout, uniform in color, free of tears, holes, foreign materials, blisters, or other deleterious faults. Any material found during the progress of the work to have flaws or defects shall be rejected. All defective materials furnished by the Contractor shall be promptly removed by the Contractor from the project site.
- C. **Responsibility.** The Contractor shall be responsible for all material furnished and shall replace at its own expense all such materials found defective in manufacture or damaged in handling after delivery by the manufacturer. This shall include the furnishing of all material and labor required for the replacement of installed material discovered defective prior to the final acceptance of the work.

3.2 PREPARATION

- A. **Notification.** The Contractor shall be responsible for notification which shall include three (3) separate notices. The initial notification shall contain general information about the project and the cut-in-place pipe process using graphics as necessary to illustrate the procedure. Other information to be included shall be project number, project name, description of work to be performed, time frames for the work, and precautions to take during the course of the project (keeping water in the trap, keeping toilet lids down, etc.) A caution statement shall be included with the initial and second notifications and shall read as follows: "CAUTION- A very small part of the population may be susceptible to adverse reactions from the odor that may accompany the sewer rehabilitation work. If a person should start to experience dizziness or nausea, remove the person from the area and get them to a well ventilated area or to the outside. Please call the Contractor at the contact numbers below on the notification for help or assistance" The Contractor shall list the superintendent on the job along with its mobile telephone number as a primary contact. Secondary contact information shall be submitted **at the pre-construction meeting** for approval by the Engineer. Upon approval, the Contractor shall immediately distribute this information to all properties affected by the work.

The second notification shall alert residents and business owners at any utility disruptions and to advise minimal water usage. This notification shall provide the beginning date and time of the disruptions, the length of the disruption, and the ending date and time of the disruption. The second notification shall be distributed by the Contractor two (2) working days prior to commencement of the work.

The third notification shall inform property owners and residents that work on their portion of the sewer is complete and they may resume normal water usage. The Contractor shall distribute this notice immediately upon completion of the work.

- B. **Cleansing.** All sewers to be lined shall be cleaned as required prior to lining with CIPP. The term “cleansing” shall mean the removal of all sand, dirt, roots, grease, and all other solids or semisolid materials from the interior face of the sewer lines. Refer to specific recommendations Supplemental Specification Sections SS-01, General Requirements, and SS-02, Sewer Cleansing.
- C. **Sewer Digital Recording and Inspection.** The Contractor shall televise the sewer to provide a detailed record of existing conditions and lateral connections as described in Supplemental Specification Section SS-03. Two (2) copies of the pre-rehabilitation inspection shall be submitted to the Engineer. The Contractor shall be responsible for having a copy of the pre-rehabilitation inspections in the field as well. Immediately prior to CIPP liner insertion, the camera shall traverse the sewer to inspect for debris which may have entered the sewer line after the existing condition recording. **Warren County must sign off on this reconnaissance inspection for the CIPP lining work to proceed.**
- D. **Laterals.** Lateral sewer pipes protruding into the main sewer shall be trimmed flush with the inside of the main sewer wall prior to lining. Trimming must be done in a neat, workmanlike manner, causing no damage to the lateral pipe beyond the inside face of the main sewer. Point repairs shall be made as needed around laterals to ensure a smooth, watertight opening following lining of the main and reestablishment of the lateral. Payment for trimming of the protruding taps and all other necessary work to meet project requirements shall be included in the unit price bid for the CIPP.
- E. **Bypassing Sewage.** The Contractor shall bypass the sewage around the sections of the sewer that are to be lined as required. The bypass shall be made in accordance with Supplemental Specification Sections SS-01, General Requirements, and SS-05, Bypass Pumping.
- F. **Line Obstruction.** It shall be the responsibility of the Contractor to clear the sewer of obstructions, solids, protruding services, or collapsed pipes that will prevent the proper installation of the liner.

If the pre-rehabilitation video recording and inspection reveals an obstruction that cannot be removed by trenchless means from within the sewer, the Contractor shall notify the County. The Contractor shall complete the repair work at the rates on the contract within a reasonable amount of time not to exceed 15 days. The Contractor shall re-televising the sewer. Re-televising the sewer shall be performed and paid for in accordance with the Supplemental Specification SS-03, CCTV Recording and Inspection.

If the pre-rehabilitation video recording and inspection reveals a sag in the sewer that has a vertical displacement greater than one-half pipe diameter, the Contractor shall notify the County. The Contractor shall complete the repair work at the rates of the contract within a reasonable amount of time not to exceed 15 days. The Contractor shall then re-televising the sewer. Re-televising the sewer shall be performed and paid for in accordance with Supplemental Specification SS-03, CCTV Recording and Inspection.

In addition, any equipment that is lost, broken, wedged, or struck in the line section shall be removed by the Contractor at the Contractor's expense.

- G. **Protective Measures.** To prevent burnt grass, the Contractor shall provide protective measure, (E.g. felt, blocks of wood) to create a barrier between boiler hoses and the grass for each installation.

For steam curing, the Contractor shall take appropriate measures to ensure that non-water residuals/byproducts of steam curing do not enter nearby steams, storm sewers, etc. Contractor shall also provide barriers to prevent steam from burning grass.

3.3 INSTALLATION PROCEDURE

- A. **General.** Installation shall be by inversion (ASTM F-1216). Pulled-in-place installation (ASTM F-1743) may be allowed on case-by-case basis, if approved by the Engineer. The Contractor shall deliver the liner to the site and provide all equipment required to insert the liner into the sewer and cure it in place. The Contractor shall designate the locations where the tube will be vacuum impregnated prior to installation. The Contractor shall allow the Owner to inspect the materials and the "wet-out" procedure upon request. All procedures to prepare the liner for installation will be in strict compliance with the manufacturer's recommendation. Any material not properly prepared shall be rejected and replaced with acceptable materials at the Contractor's expense. Contractor shall not proceed with work until satisfactory conditions are present in the sewer.
- B. **Installation.** A scaffold, elevated platform, or other means of providing required pressure shall be provided at the access point. The resin-impregnated tube shall be pulled and/or inverted into the host pipe by methods approved by the manufacturer and proven through previous successful installations. The Insertion

method used shall not cause abrasion or scuffing of the tube. Hydrostatic or air pressure shall be used to inflate the tube, molding it against the walls of the host pipe. Tube installation pressures shall be limited so as not to stretch the tube longitudinally by more than five (5) percent of the original length.

C. Curing.

1. **Using Circulated Heated Water:** After the installation is complete, the Contractor shall supply a suitable heat source, water recirculation equipment, and a curing medium as approved by the Engineer. The equipment shall be capable of uniformly raising the water temperature to a level required to effectively cure the resin.
2. **Using Steam:** After the installation is complete, the Contractor shall supply suitable heat steam-generation equipment as approved by the Engineer. The equipment shall be capable of delivering steam throughout the section to uniformly raising the temperature within the pipe to a level required to effectively cure the resin.
3. **General.** The equipment shall be muffled to reduce excess noise during the curing process.

The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply. Another such gauge shall be placed between the tube and the host pipe in the downstream manhole at or near the bottom to determine the temperatures during cure. Water temperature in the pipe during the cure period shall be as recommended by the resin manufacturer.

Initial cure shall be deemed complete when the exposed portions of the tube appear to be hard and sound and the temperature sensor indicates the recommended temperature of the manufacturer. The cure period shall be of a duration recommended by the resin manufacturer and may require continuous recirculation of the water to maintain temperature.

D. Cool Down.

1. **After Heated Water Cure.** The Contractor shall cool the hardened pipe to a temperature below 100 degrees Fahrenheit before relieving the hydrostatic head. Cool-down shall be accomplished by introducing cool water into the inversion standpipe to replace water being drained from a small hole made in the downstream end. Rate of cooling shall not exceed resin manufacturers recommendations. Water shall be cooled to 50 degree Celsius (122 Degree F) prior to being released into the sewer.

2. **After Steam Cure.** The Contractor shall cool the hardened pipe to a temperature below 113 degrees Fahrenheit before relieving the internal pressure within the section. Cool-Down may be accomplished by introducing cool water into the section to replace the mixture of air and steam being drained from a small hole made in the downstream end. Rate of cooling shall not exceed resin manufacturer's recommendations. Water shall be cooled to 50 degrees Celsius (122 Degree F) prior to being released into the sewer.

- E. **Finish.** The new pipe shall be cut off in the manhole at a suitable location. Excavation will not be allowed at cleanouts unless approved by the Engineer. The finished product shall be continuous over the length of the pipe reconstructed and be free from dry spots, delamination, lifts, and debris under the liner. If any unsatisfactory condition is present in the lined pipe, the County reserves the right to require a suitable repair.

- F. **Invert through Manholes.** The invert shall be continuous and smooth through all manholes. If a liner is installed through a manhole, the bottom portion of the liner shall remain and the bench of the manhole shall be grouted with a resin mixture compatible with the CIPP and shaped as necessary to support the liner. If the liner terminates on either side of the manhole, the invert shall be built up to remove any flow restrictions and to form a continuous invert through the manhole. The cost of this work shall be included in the unit price bid for CIPP.

- G. **Sealing Pipe in Manholes.** Form a tight seal between the CIPP and the manhole wall at the pipe penetration. Do not leave any annular gaps. Seal any annular space greater than ½-inch with manhole wall repair material. Finish off the seal and seal any annular spaces less than 1-2-inch with chemical grouting per SS-11 placed around the pipe opening from inside the manhole in a band at least 4-inches wide.

- H. **Service Connections.** There are known service laterals in the pipe section being lined as part of this project. The exact location and number of service connections shall be verified during the initial television inspection. It shall be the Contractor's responsibility to accurately field locate all existing active service connections. If any lateral connections are discovered during the pre-lining CCTV the contractor shall notify Warren County when the pre-lining CCTV videos are submitted as described above.

The Contractor shall reconnect all active service connections to the liner pipe as indicated in Supplemental Specifications SS-01. Reinstatement of the active laterals on the cured liner shall begin immediately after curing operations are complete and continue uninterrupted until all active laterals have been reopened.

The Contractor shall be responsible for restoring/correcting all missed or faulty reconnections within 12 hours of being notified by the County. The Contractor

shall be responsible for any damage caused to property owners for not reinstating the services soon enough or for not giving notice to the owners.

All existing active service connections shall be reinstated by a remote controlled cutting device directed internally by a television camera or by internal manual cutting. They shall be made by experienced operators so that no blind attempts or holes are made in the liner pipe. Location shall be verified carefully to match earlier tapes for accurate locations especially where dimples are not well defined or clearly ascertained. The Engineers reserve the right to require service connection by excavation at the Contractor's cost at any location, if the quality or workmanship for the cut is not satisfactory.

The cut shall be smooth and circular in nature as seen by a television inspection camera. Lateral cuts shall be brushed as necessary to ensure smooth openings. It shall be properly aligned, invert to invert, to the existing connection with no obstructions to the flow. Resin slugs shall be removed from the reinstated service connections. Any miscuts shall be repaired at no cost of the Owner, and to the full satisfaction of the Engineer. All coupons cut from the liner for reopening of lateral connections shall be retrieved from the sewer, accounted for by the Contractor, and turned over to Warren County.

- I. **Final Television Inspection** The Contractor shall televise the rehabilitated sewer to provide a detailed record of finished conditions and lateral connections. Lateral connections shall be observed while the camera is stopped and viewing the connection squarely. The Contractor shall provide video of a full 360 degree sweep of each reinstated lateral to show the lateral connection in its entirety. When complete, the Contractor shall submit two (2) copies of the rehabilitated sewer inspection, along with the accompanying logs, which shall be printed clearly or typed as requested in Supplemental Specification Section SS-03.

3.4 RESTORATION

- A. **Where portions of the site**, either inside or outside the contract limits, not designated for change or new work become damaged during the course of construction by the Contractor's operations, the Contractor shall repair or replace at no addition cost to the Owner such damage to original or better condition in conformance with the Contract Documents. This shall include, but not be limited to, reseeding, replacing shrubbery in kind, replacing damaged fence, etc.

3.5 FIELD QUALITY CONTROL

- A. **General.** The rehabilitated pipe shall be continuous (without joints) over the entire length of an insertion run between two manholes. The liner shall be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes, and delamination. The liner surface shall be free of leaks, cracks, and crazing with a smooth finish. Some minor waviness that, in the Engineer's opinion, will not appreciably decrease the flow cross section or affect the flow characteristics shall be permissible.

Any defects in the product shall be repaired at the Contractor's expense in a manner mutually agreed upon the Owner and Contractor. The Contractor shall reinspect these repairs before the one (1) year guarantee period expires. During the one (1) year guarantee period, any defects that are discovered that will affect the integrity or strength of the product shall be repaired at the Contractor's expense in a manner mutually agreed upon by the owner and the Contractor. These repairs shall be granted a three (3) year extended guarantee period by the Contractor from the date of repair. The Contractor shall reinspect these repairs prior to the expiration of the three (3) year extended guarantee period.

- B. **Testing.** The following tests shall be performed for each length of CIPP length installed per ASTM F-1216 and/or F-1743 (when approved):

1. Short-term Flexural (Bending) Properties- The initial tangent flexural modulus of elasticity and flexural yield strength shall be measured in accordance with ASTM D790.

The Contractor is to provide test samples to the Engineer upon request in accordance with ASTM F-1216, Item 8.1. Note that this item requires two CIPP samples, one from each of the following two methods:

2. The sample should be cut from a section of cured CIPP at an intermediate manhole or at the termination point that has been inverted through a like diameter pipe which has been held in place by suitable heat sink, such as sandbags.
3. The sample should be fabricated from material taken from the tube and the resin/catalyst system used and cured in a clamped mold placed in the downtube when circulating heated water is used and in the silencer when steam is used as the curing medium.

The Owner retains the right to test coupons retrieved from the sewer and turned over to the Engineer. If the Contractor performs independent tests for their purposes, additional sample shall be provided by the Contractor for that use.

- C. **Final installed Liner Thickness.** The final installed their thickness shall not be less than the thickness specified in the Contract Documents or approved shop

drawings. The final installed liner thickness shall not be more the 10% greater than the specified or approved thickness. The final installed liner thickness measurement shall be determined from pipe samples, coupons retrieved from the sewer, or as deemed necessary by the Engineer. It shall be the Contractor's responsibility to consider site conditions and their installation process to determine the liner thickness to install.

- D. **Non-Compliance.** In the event the flat plate samples do not meet the required thickness or Flexural Strength of 4,500 psi and Flexural Modulus of Elasticity of 250,000 psi as outlined in Section 2.2 C; actual installed samples must be taken. The installed samples shall be taken as directed by the Engineer and in accordance with all applicable ASTM requirements. From these samples, the installed Thickness shall be determined by taking an average of at least 10 thickness measurements. Installed samples shall then be prepared for re-testing in accordance with Section 2.2 C of these specifications.

In the event that any liner installation does not meet specified strengths and/or thicknesses, the conformity of the work with the plans and specifications shall be in accordance with ODOT CMS Section 105.3.

3.6 MEASUREMENT AND PAYMENT

- A. **Liner.** This item of work shall include all necessary television observation, protruding lateral removal and repair, sewer cleaning, pipe preparations, liner resins, grouting, water, equipment, labor, testing, clean up, manhole reconstruction required by construction means and methods of CIPP installation, and all other expenses whether specifically mentioned or not to install the cured-in-place pipe. Payment will be made at the unit price bid lineal foot as measured from center of manhole to center of manhole along the horizontal centerline of the rehabilitated sewer, complete, tested, and ready for service.
- B. **Lateral Sewers Reestablished for CIPP.** This item of work shall include all necessary equipment, materials, and labor to reestablish lateral sewers in cured in place pipe.
- C. **Payment.** Payment will be made at the unit price bid per actual linear foot of CIPP lining installed for each size of pipe and each thickness of liner.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
7	Lin. Ft	8" Cured in Place Pipe
8	Lin. Ft	18" Cured in Place Pipe

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-10 CEMENTITIOUS GROUTING

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The plans, general provisions of the Contract, and the Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this session.

1.2 DESCRIPTION OF WORK

- A. The Contractor shall provide all labor, materials, and equipment necessary to fill voids outside the walls of the sewer and manholes as specified within and as directed by the County.

1.3 QUALITY ASSURANCE

- A. **Codes.** Perform all work in compliance with the most recent federal, state, and local codes.
- B. **Standards.** All work shall be in compliance with the National Association of Sewer Service Companies (NASSCO).

- C. **Contractor's Qualifications.** The pressure grouting Contractor shall be a firm having a minimum of 3 years continuous successful experience in pressure grouting similar to that required for this Project.

1.4 SUBMITTALS

- A. At the preconstruction meeting, the Contractor shall furnish the grout manufacturer's product data, test reports, installation instructions, and materials certification.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Cement shall be stored in weather tight enclosures to protect against moisture and contamination.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Portland cement shall conform to OFOT CMS 701.01.
- B. Sand shall conform to ODOT CMS 703.03.
- C. Water shall be potable

2.2 EQUIPMENT

- A. The grout pump shall be of the positive displacement type and shall be capable of producing adequate pressure to penetrate the area and the depth required. The Contractor shall furnish gauges to monitor working pressure.

PART 3 EXECUTION

3.1 COORDINATION

- A. Pressure grout injection shall be performed after inspections.

3.2 GENERAL

- A. The Contractor shall pressure grout voids between the outside wall of the sewer/manhole and the surrounding soil along the section of the sewer/manhole to be rehabilitated as specified by the Engineer. Grouting shall be performed in areas where voids are visible from inside the sewer/manhole, where there is evidence of the flow leaking through the bricks beneath and surrounding connections, where there is evidence of calcium buildup on the inside face of the brick sewer/manhole and at any other locations agreed upon by the Contractor and the Engineer (or his

representative). Grouting operations shall be performed under low pressure conditions and the pavement above the grouting operations monitored to verify grout is not heaving the pavement or surfacing through the joints in the pavement.

3.3 BATCHING AND MIXING

- A. The grout mixture shall be proportioned generally in the ratio of 1 bag of Portland cement to 7.5 gallons (1 cubic foot) of water. This mix can be adjusted by varying the water-cement ration as grouting proceeds to ensure adequate penetration behind the sewer/manhole wall, but at no time shall the water-cement ration of the grout mixture exceed 0.80. All changes in grout mix designs must be approved by the Engineer prior to use. Grout yield shall be 1.48 cf/bag unless otherwise noted.

3.4 PLACEMENT

- A. **Preparatory Work.** The existing sewers/manholes may have missing or deteriorating mortar within the makeup of the walls. The Contractor may need to parge or chink these mortar joints prior to grouting to prevent the grout from seeping back into the pipe.
- B. **Grout Holes.** Grout holes shall be drilled through the sewer/manhole wall at select locations to best fill void areas. Hole shall be no larger than necessary to accommodate the injection nozzle of the pumping equipment. Care shall be taken not to damage the surrounding sewer or manhole. When pressure grouting is complete, the drilled hole shall be completely filled with a fast set non-shrink grout.
- C. **Quantity.** In order to control the quantity of material placed, pressure grouting shall be accomplished in multiple stages. Grout placed in each stage must not exceed 10 bags of cement per void detected. A 12 hour minimum time interval shall elapse between successive stages. Voids shall be resounded and probed after each stage. Only those areas still indicating void spaces behind the sewer or manhole wall will be regouted.
- D. **Adjacent Facilities.** The Contractor shall take precautions to prevent grout from entering lateral sewers, duct banks, conduits, or other adjacent structures, and shall monitor working pressures to avoid damage or displacement of the sewer/manhole, adjacent structures, or the ground surface. The Contractor shall be responsible for the costs of replacement, repair, or cleanup of utilities of structures adversely affected by grouting procedures.
- E. **Grouting Pressure.** The machine used for grouting shall be capable of providing a pressure up to 75 pounds per square inch (psi) in excess of any external water pressure. The Contractor shall provide gauges to monitor the working pressures during grouting operations, with a gauge recommended at the injection site on the sewer or manhole wall. The pressure shall not exceed that which would distort the

sewer or manhole wall, damage or fill adjacent utilities, lift or displace the overburden.

- F. **Pavement Upheaval.** The Contractor shall replace any pavement in like and kind that is upheaved by pressure grout injection.

3.5 CLEAN UP

- A. The Contractor is responsible for containing and removing all excess grout from the sewer and project area. In no case will the Contractor be allowed to flush excess grout from his equipment into the sewer or downstream to adjacent facilities.

3.6 MEASUREMENT AND PAYMENT

- A. **General.** This item of work shall include all grout, drilling, cleanup, and appurtenant work necessary to complete Cementations as indicated on the drawings and specified herein.
- B. **Payment.** A contingency quantity of 5 cubic feet of cementations grouting is included in base bid. The Contractor shall be paid for the actual amount of cementations grouting used in the rehabilitation of the manhole which may be more or less than the quantity provided on the plan. Payment for cementations grouting and all other necessary work to meet project requirements shall be included in the unit price bid for the Contingency Item Cementations Grouting, As Directed by the County.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
8	CF	Cementitious Grouting, As Directed by the County

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-10 CHEMICAL GROUTING

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. **General.** The plans, general provisions of the Contract, and the Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this session.

1.2 DESCRIPTION OF WORK

- A. The Contractor shall provide all labor, materials, and equipment necessary to clean and prepare the affected area of the manholes, place the chemical grout and clean the area within the manhole of residual grout as specified herein or as designated by the Engineer. The Contractor shall provide a written report to the Engineer identifying the locations by the manhole number and where within the manhole the Chemical Grout will be needed. The use of Chemical Grout shall be used only as directed by the County.

1.3 SUBMITTALS

- A. At the preconstruction meeting, the Contractor shall furnish the chemical manufacturer's product data, test reports, installation instructions, and materials certifications for approval by the County.

PART 2 PRODUCTS

2.1 MATERIALS

Not used.

2.2 EQUIPMENT

- A. Urethane base gel chemical sealing material or other chemical sealing material approved by the Engineer. The material must be able to react in the presence of water and withstand continuous submergence without degradation. The resultant sealant formation must prevent the passage of water through the structure wall, it must be flexible, withstand freeze/thaw and wet/dry cycled without affecting the seal, it must not be biodegradable, and should be chemically stable and resistant to mild concentrations of acids, alkalis and organics normally found in wastewater and solid.

Urethane prepolymer (liquid)	Min, Solids Content 77%
Prepolymer viscosity	600-1200 centipoises at 70 F
Cure time	80 seconds at 40 F 55 seconds at 60 F 30 seconds at 80 F
Cure time with accelerators	10 seconds at 40-80 F
Recommended mix ration	1 part prepolymer to 8 parts water (11% prepolymer)

PART 3 EXECUTION

3.1 COORDINATION

- A. Chemical Grouting shall be performed only as needed and approved by the Engineer.

3.2 PLACEMENT

- A. The Contractor shall supply the equipment needed for performing the pressurized chemical grout injection. Basic equipment consists of chemical pumps, chemical containers, hoses, valves, pressure gauges, and other appurtenances required to seal structure walls. The chemical injection pumps shall be equipped with pressure gauges that will monitor pressures during the injection of the chemical sealants and when necessary, pressure-regulated bypass valve shall be incorporated into the pumping system.
- B. At each point or points of leakage within the structure a hole shall be carefully drilled from within the structure and shall extend through the entire structure wall. Chemical sealant injection devices shall be placed into the previously drilled

holes so that a seal will be obtained between the holes and the injection device. The chemical injection equipment shall then be connected and the specified chemical sealing materials pumped into the surrounding medium until material refusal is shown by the pressure gauges, a predetermined quantity of sealant has been injected or sealant is observed at an adjoining injection point. The above shall be repeated until all sources or infiltration into the structures has been sealed. Pumping operations shall be carefully monitored to prevent the occurrence of excessive pressure which could damage the structure. Upon completing, the injection devices shall be removed and the holes filled with fast set, non-shrinking mortar.

3.3 QUANTITY

- A. In order to control the quantity of material placed, pressure grouting shall be accomplished in two stages. Grout placed in the first stage must not exceed 10 gallons of liquid prepolymer per void detected. A 12 hour minimum time interval shall elapse between successive stages. Grout placed in the second stage shall not exceed 10 gallons of prepolymer per area. No additional pressure grouting will be performed beyond the second stage unless approved by the Owner's representative.

3.4 ADAJCENT FACILTIES

- A. The Contractor shall take precautions to prevent grout from entering lateral sewers, ductbanks, conduits, other adjacent structures, and shall monitor working pressure to avoid damage or displacement of the sewer, adjacent structures, or the ground surface. The Contractor shall be responsible for the cost of replacement, repair, or cleanup of utilities or structures adversely affected by grouting procedure.

3.5 MEASUREMENT AND PAYMENT

- A. A contingency quantity of 16 gallons of chemical grouting is included in the base bid. The Contractor shall be paid for the actual amount of chemical grouting used in the rehabilitations of the manhole which may be more or less than the quantity provided on the plan. Payment for chemical grouting and all other necessary work to meet projects requirements shall be included in the unit price bid for the Contingency Item Chemical Grouting, As Directed by the County.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
8	Gal	Chemical Grouting, As Directed by the County

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-13 URETHANE/ EPOXY MANHOLE REHABILITATION

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PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION

- A.** This specification includes all work, materials, operation, and equipment necessary to rehabilitate manholes applying a urethane/ epoxy liner product to the walls, inverts, and benches of manholes resulting in a monolithic liner of a minimum 1/8 inch thickness or more, as determined by the manufacturer for the depth and water table in accordance with the plans, as specified within, or as designated by the Engineer. This item shall include all structural restoration;

elimination of inflow and/or infiltration; manhole step removal; base and channel repair; excavation; removal and disposal of all excess materials; restoration; backfill; permanent and temporary and disposal of all excess materials; restoration; backfill; permanent and temporary pavement replacement; clearing and grubbing; resetting, replacing, and/or raising casting to grade; and dewatering required for manhole rehabilitation. This specification also includes the inspection of manhole structures and the submittal of the unspecified items on the manhole rehabilitation tables included in the plan set. Pre-rehabilitation, post-rehabilitation, and 12 month warranty photographs shall be provided for all manholes.

1.3 QUALITY ASURANCE

- A.** Furnish materials of quality required by the American Society for the Testing and Materials (ASTM) standards or other approved standards and specifications.
- B.** Provide guarantee against defective materials and workmanship in accordance with the requirements of these specifications.

C. Contractor's Qualifications.

- 1.** The manhole rehabilitation Contractor shall be a firm having a minimum of 3 years continuous successful experience in the rehabilitation of manholes similar to that required for this project.
- 2.** The manhole lining Contractor shall be certified by the lining material manufacturer to install their manhole liner if the material requires a certified applicator. The County reserves the right to require an on-site manufacturer's representative, knowledgeable in the use and application of the material, for a minimum of two (2) working hours for each supplied material. The material representative shall direct and instruct the Contractor and inspector on the proper application procedure.

1.4 REFERENCES

- A.** Referenced ASTM Standards
- B.** NASSCO Specifications
- C.** Manufacturer's Specifications

1.5 SUBMITTALS

The following submittal (A) shall be made with the Bid:

- A. Contractor Qualifications.** The Contractor shall submit a copy of the manufacturer's licensee certificate. If the Contractor is not licensed by the manufacturer, then a manufacturer's representative will be on-site as explained in Section 1.3.E.2. Contractor shall also submit a list of ten (10) similar regional projects completed within the last three (3) years including information such as a number of manholes on a project, manhole construction type, date completed and project costs.

The following submittals (B-D) shall be made at the pre-construction meeting:

- B. Material Certifications.** The Contractor shall furnish the manufacturer's product data, installation instructions, applicable referenced work standards (American Society for Testing and Materials [ASTM], American Concrete Institute, [ACI], etc.), approved laboratory test reports that verify strength requirements of this specification, and materials certification for each product used prior to material installation.
- C. Material Safety Data Sheets.** The contractor shall submit Material Safety data Sheets (MSDS) for all materials used for urethane/ epoxy manhole rehabilitation.
- D. Application Methods and Equipment.** The Contractor shall submit a written description of the material application methods including the equipment that will be used.

The following submittal (E) shall be made two (2) days prior to manhole rehabilitation.

- E. Pre-rehabilitation photographs.** The Contractor shall submit post-photographs to the County immediately following completion of the manhole rehabilitation. The same areas of the manhole will be photographed at the same angles as submitted in the pre-photographs. Digital photos submitted on the CD are the required media.

The following submittal (F) shall be made immediately after manhole rehabilitation:

- F. Post-rehabilitation photographs.** The Contractor shall submit post-photographs to the County immediately following completion of the manhole rehabilitation. The same areas of the manhole will be photographed at the same angles as submitted in the pre-photographs. Digital photos submitted on CD are the required media.

1.6 PROJECT/SITE CONDITIONS

- A. Environmental Requirements.** Do not work in the presence of excessive amounts of water. Refer to supplemental Specification SS-05, Bypassing Pumping.

- B. Safety.** All works to be completed in conformance with all applicable safety standards in particular OSHA Standard 29CFR1910.146, Permit Required Confined Space Entry.

1.7 DELIVERY, STORAGE, AND HANDLING

- A.** Urethane/ Epoxy materials shall be stored in weather tight, original packaging to protect against moisture and contamination in accordance with the manufacturer's recommendations.

1.8 SEQUENCING

- A.** All required interruptions of flow through manholes, wet wells, pump stations or any other portion of the sanitary sewer system shall be coordinated with and approval received from the County Engineer prior to the interruption

1.9 GUARANTEE

- A.** When any work is accepted by the County there shall be a guarantee period extending for 12 months from the date of acceptance of the work. At any time during the guarantee period, the County may notify the Contractor and his Surety that certain repairs are necessary. Within 10 days after being so notified, the Contractor shall make such repairs as are declared necessary to restore the worked to a good and serviceable condition. In the event the Contractor fails to comply with the order to repaired as provided, said repairs may be made by the County and it is hereby agreed by the Contractor the reimbursement shall be made to the County for 2.5 times said expense so incurred within ten days following the receipt of a statement rendered to the Contractor by the County for said expense. Specifications for the work performed under this Contract shall govern in the making of repairs under this section. The Contractor shall take and provide photographs of the rehabilitated manholes as part of the 12 month warranty as directed by the County. The 12 month photographs shall be identical in the nature to the pre – and post- rehabilitation photographs described in Section 1.5 E & F of this specification. A minimum of 2 photographs shall be submitted at the end of the 12 month guarantee period taken at the same angles as submitted in the pre- & post-rehabilitation photographs, including photographs of additional pertinent features.

PART 2: PRODUCTS

2.1 MATERIALS

Materials shall meet the following standards, specifications, or minimum strength requirements:

- A. **Water Plug.** Rapid setting hand-mixed cementitious compound specifically formulated for use in stopping infiltration water.

Compressive Strength	2000 PSI @24 hrs.	ASTM C-109
Bond	80 PSI @24hrs.	ASTM C-321

- B. **Patching Mortar.** Rapid setting cementitious compound specifically formulated for use in filling voids and repairing inverts.

Compressive Strength	2000 PSI @24hrs.	ASTM C-109
Bond	140 PSI @7 days	ASTM C-321

- C. **Urethane / Epoxy Manhole Liner.** A proprietary urethane / epoxy-based material specifically designed for manhole applications shall be SprayWall as manufactured by Sprayroq, Inc., or Warren Environmental System M-301 and S-301 as manufactured by Warren Environmental Inc., or Raven 405 as manufactured by Raven Lining Systems or Engineer approved equal. The product shall be corrosion resistant to the ingredients of the sanitary sewer environment and shall be designed to bond to wet (not running_ surfaces. Liner mix shall be made with manufacture's recommendations. No material shall be used with or added to mixture without prior approval of the manufacture.

- D. **Grout.** Cementitious Grouting shall be installed and paid for per supplemental specifications SS-10 "Cementitious Grouting".

- E. **Brick.** Brick used in sanitary structures shall be clay or shale brick and conform to CMS 704.01

- F. **Mortar.** Mortar shall be in accordance with ODOT CMS 602-02.

- G. **Water.** Water shall be portable.

2.2 EQUIPMENT

- A. Equipment shall be as recommended by the manufacturer to ensure proper application and shall be clean and in good working order according to the recommendations for safe operation.

PART 3: EXECUTION

3.1 GENERAL

- A. **Debris Dam.** The Contractor shall place a device in the manhole to catch any debris which may be displaced into the manhole during the performance for the work. **Work shall not proceed until this device is in place.**

- B. Visual Documentation.** The Contractor shall provide photographs before and after rehabilitation. Refer to sections 1.5.E and 1.5.F of this specification for detailed information.
- C. Cleaning.** Prior to any repair work inside the manhole, all interior wall and invert surfaces shall be cleaned using equipment capable of producing a minimum of 3500 pounds per square inch (psi) water to remove all foreign matter, loose mortar, grease, oil residues, and to etch the surfaces. If the initial water blast cannot be utilized due to structural conditions in the manhole or it does not remove all deposits, then a solution of muriatic acid (hydrochloric acid) at a ratio of one part acid to ten parts water shall be applied by spraying from above the manhole. After the acid solution is applied it shall be washed off completely and the manhole allowed to dry. The mixing, application, and removal of the acid solution shall be done in strict accordance with the manufacturer's specification and safety procedures. All waste materials resulting from the cleaning operation shall be removed from the manhole being cleaned and properly disposed of by the Contractor.

3.2 REHABILITATION OF BRICK/PRECAST MANHOLE

- A. Stopping Infiltration.** The manhole walls shall be visually examined and sounded and/or probed for detection of infiltration and identification of void areas outside of the manhole created by the infiltration. If any voids are detected, they shall be filled with cementitious grout and paid per Item SS-10 "Cementitious Grouting". Any infiltration into the manhole should be stopped using an approved water plug material. If infiltration through the manhole walls is heavy, up to four 5/8-inch diameter holes may be drilled around the base of the manhole to act as relief ports, allowing the water to seep into the manhole flow channel. Once the leaking walls have been sealed, the drilled relief holes shall be plugged with the specified water plug material. The cost of drilling these relief holes shall be included in the cost of the manhole rehabilitation items.
- B. Patching.** Manhole walls shall be patched with an approved mortar in area where voids exist. (i.e. bricks missing in manhole walls, step removal damage, frames, pipes, and mortar joints). All loose or defective material shall be removed from the area to be patched, exposing a sound substrate. The patching mortar specified shall be applied to a dampened surface. The repairs shall be made smooth and flush with the face of the manhole wall. This work shall be performed in accordance with SS-10 "Cementitious Grouting". Price for patching mortar shall be included in the price bid for Item SS-13, no additional payment will be made.
- C. Steps.** All steps shall be removed completely from those manholes receiving urethane / epoxy rehabilitation. Care must be taken to minimize damage to the manhole wall during removal of the steps.

- D. Urethane/ Epoxy Manhole Lining.** The urethane / epoxy lining material shall offer a level of sulfide resistance compatible with the environment present in the existing sewer. Varying levels of protection are offered by manufacture's materials. The manhole wall surface shall be in a saturated, surface-dry condition immediately preceding application of the urethane / epoxy material, or in accordance with manufacturer's requirements.

The urethane/ epoxy lining may be applied with low pressure spray equipment or hand troweling methods (Requires approval of Owner). If hand troweling is to be utilized, consult manufacturer for special requirements. The application of the liner shall provide a monolithic liner of a minimum 1/8 inch thickness applied to insure that all voids are filled and crevices are filled and smoothed. The liner shall be applied to the invert, bench, and wall and shall all be equal in thickness as determined by the after table and product manufacturer. The manhole invert and bench shall be smooth and slipped in the direction of flow. The manhole bench shall have a gradual slope to invert. The invert transition of the pipe shall be smooth and shall not impair the flow.

The Contractor shall cure in accordance with the manufacturer's instructions following the application of the final layer. No application shall be made when ambient temperatures are less than 40 degrees Fahrenheit or when freezing is expected within 24 hours. A minimum of 30 minutes cure time or more as required by the product manufacture shall be allowed before returning to active flow. No more than 24-hours shall elapse between successive passes on each manhole. The second pas cannot be made until the first pass has achieved initial set.

3.3 REHABILITATION OF BENCH AND CHANNEL

- A.** The bench and channel shall be prepared for rehabilitation as previously described for other portions of the manhole structure. The entire bench and channel area shall be reconstructed using the specified rapid strength patching mortar as specified in section 2.1.B. The preparation work shall include all demolition of deteriorated concrete and removal of all deleterious material from the surfaces to be reconstructed and the removal of sound concrete such that the repair mortar shall not be less than 1-inch in thickness at any point.
- B.** If active infiltration is present in the bench and channel area of the manhole, dewatering exterior to the manhole with a WellPoint may be required in order to facilitate the reconstruction. The dewatering shall continue for 8 hours (or per the manufacturer's recommendations) following completion of the bench and channel repair work. Dewatering WellPoint, if anticipated, will be included in the price bid for Item SS-13 Urethane/ Epoxy Manhole Rehabilitation.

- C. Wastewater flow shall be maintained by methods which prevent contact with any of the repair work for 8 hours (or per the manufacturer's recommendations) following completion of the repair work.
- D. The work on the bench and channel shall also include the work necessary to obtain a watertight seal at all pipe connections and between the base and manhole walls. The flow line through the manhole shall be shaped to match the invert of the sewer liner to prevent any flow obstructions in the manhole.
- E. All work associated with bench and Channel Rehabilitation shall be for by item SS-13 "Urethane/Epoxy Manhole Rehabilitation".

3.4 CLEAN UP

- A. The Contractor shall be responsible for containing and removal of all rehabilitation material, rebound, and loose material caused by manhole rehabilitation.

3.5 FIELD QUALITY CONTROL

- A. **Visual Inspection.** Manhole sealing will be visually inspected for water tightness upon completion and at any time during warranty period. Any visible leaks or defects that appear shall be repaired to the Owner's satisfaction by the Contractor at no additional cost. The visual inspection upon completion of lining shall be photographed by the Contractor. These photographs shall serve as the post-rehabilitation photographs.
- B. **Testing Requirements.**
 - 1. Manhole liner shall be tested with a wet gauge as directed by the County's representative to verify prescribed thickness. Any area found with less than the prescribed thickness shall immediately receive the additional material needed.
 - 2. The Contractor shall provide two standard samples taken from each day's work with the date, location, and job recorded for each sample. The samples shall be sent to an established, local, and reputable commercial testing laboratory that has been approved by the Owner to determine if lining materials meet the minimum requirements specified herein. The County reserves the right to require Contractor to take cores sample and to patch the cored location at no additional cost.
 - 3. Each manhole shall be sounded by the Contractor at seven (7) days/ Inspector must witness these soundings performed by the Contractor. Defects will be corrected by the Contractor to the satisfaction of the Engineer.

3.6 MEASUREMENT AND PAYMENT

- A. Payment for all manhole rehabilitation items described herein. (Excluding Cementations and Chemical Grouting of Voids behind the manhole wall) shall be included in the unit price bid per for the SS-13 Line item. Payment for all bench and channel rehabilitation items described in Section 3.3 shall be included in the unit price bid per SS-13 “Urethane/ Epoxy manhole Rehabilitation”. Payment for all urethane/ epoxy lining items described in Section 3.2 shall be included in the unit price bid for item SS-13 “urethane/ Epoxy Manhole Rehabilitation”.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
11	Ver. Feet	Urethane/ Epoxy Manhole Rehabilitation

END OF SECTION

WARREN COUNTY, OHIO
WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-14 MORTAR/EPOXY COMPOSITE MANHOLE REHABILITATION

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PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION

- A.** This specification includes all work, materials, operation, and equipment necessary to rehabilitate manholes applying a mortar/ epoxy composite liner product to the walls, inverts, and benches of manholes resulting in a monolithic liner at the thickness as recommended by the manufacturer for the depth and water table in accordance with the plans, as specified within, or as designated by the Engineer. This item shall include all structural restoration; elimination of inflow and/or infiltration; manhole step removal; base and channel repair/ excavation. Removal and disposal of all excess materials; restoration; backfill

permanent and temporary pavement replacement; clearing and grubbing; resetting, replacing, and/or raising casting to grade; and dewatering required for manhole rehabilitation. This specification also includes the inspection of manholes structures and the submittal of the unspecified items on the manhole rehabilitation tables include in the plan set. Pre-rehabilitation, post-rehabilitation, and 12 month warranty photographs shall be provided for all manholes.

1.3 QUALITY ASSURANCE

- A. Furnish materials of quality required by the American Society for Testing and Materials (ASTM) standards or other approved standards and specifications.
- B. Provide guarantee against defective materials and workmanship in accordance with the requirements of these specifications.
- C. The contractor installing the finished protective liner will be certified trained applicator of the specified process.
- D. **Contractor's Qualifications.**
 - 1. The manhole rehabilitation Contractor shall be a firm having a minimum of 3 years continuous successful experience in the rehabilitation of manholes similar to that required for this Project.
 - 2. The manhole lining Contractor shall be certified by the lining material manufacturer to install their manhole liner if the material requires a certified applicator. The County reserves the right to require an on-site manufacturer's representative, knowledgeable in the use and application of the material, for a minimum of two (2) working hours for each supplied material. The material representative shall direct and instruct the Contractor and inspector on the proper application Procedure.

1.4 REFERENCES

- A. Referenced ASTM Standards
- B. NASSCO Specifications
- C. Manufacturer's Specification

1.5 SUBMITTALS

The following submittals (A) shall be made with the Bid:

- A. **Contractor Qualifications.** The Contractor shall submit a copy of the manufacture's licensee certificate. If the Contractor is not licensed by the manufacture, then a manufacturer's representative will be on-site as explained in Section 1.3.E.2. Contractor shall also submit a list of ten (10) similar regional

projects completed within the last three (3) years including information such as number of manholes on project, manhole construction type, date completed, and a project cost.

The following submittals (B-D) shall be made at the pre-construction meeting:

- B. Material Certifications.** The Contractor shall furnish the manufacture's product data, installation instructions, applicable referenced work standards (American Society for Testing and Materials [ASTM], American Concrete institute [ACI], etc.), approved laboratory test reports that verify strength requirements of this specifications, and materials certification for each product used prior to material installation.
- C. Material Safety Data Sheet.** The Contractor shall submit Material Safety Data Sheets (MSDS) for all materials used for manhole rehabilitation.
- D. Application Methods and Equipment.** The Contractor shall submit a written description of the material application methods including the equipment that will be used.

The following submittal (E) shall be made two (2) days prior to manhole rehabilitation.

- E. Pre-rehabilitation photographs.** The Contractor shall submit a minimum of two (2) pre-photographs to the County before performing manhole rehabilitation work. One photograph shall be taken from the ground surface looking into the manhole and one shall be taken from the bottom of the manhole, as close to the invert as possible, looking upwards. Additional photographs of other pertinent features shall be taken if necessary. Digital photos submitted on CD are the required date.

The following submittal (F) shall be made immediately after manhole rehabilitation:

- F. Post-rehabilitation photographs.** The Contractor shall submit post-photographs to the County immediately following completion of the manhole rehabilitation. The same areas of the manholes will be photographed at the same angles as submitted in the pre-photographs. Digital photos submitted on CD are the required media.

1.6 PROJECT/SITE CONDITIONS

- A. Environmental Requirements.** Do not work in the presence of excessive amounts of water. Refer to Supplemental Specification SS-05, bypass Pumping.
- B. Safety.** All work to be completed in conformance with all applicable safety standards, in particular OSHA Standard 29CFR1910.146, Permit Required Confined Space Entry.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Cementitious materials shall be stored in weather tight, original packaging to protect against moisture and contamination.

1.8 SEQUENCING

- A. All required interruptions of flow through manholes, wet wells, pump stations or any other portion of the sanitary sewer system shall be coordinated with and approval received from the County Engineer prior to the interruption.

1.9 GUARANTEE

- A. When any work is accepted by the County there shall be a guarantee period extended for 12 months from the date of acceptance of the work. At any time during the guarantee period, the County may notify the Contractor and his Surety that certain repairs are necessary. Within 10 days after being so notified, the Contractor shall make such repairs as are declared necessary to comply with the order to repair as provided, said repairs may be made by the County and is hereby agreed by the Contractor that reimbursement shall be made to the County for 2.5 times said expense so incurred within the ten days following the receipt of the statement rendered to the Contractor by the County for said expense. Specifications for the work performed under this Contract shall govern in the making of repairs under this section. The Contractor shall take and provide photographs of the rehabilitated manholes as part of the 12 month warranty as directed by the County. The 12 month photographs shall be identical in nature to the pre- and post- rehabilitation photographs described in Section 1.5.E & F of this specification. A minimum of 2 photographs shall be submitted at the end of the 12 months guarantee period taken at the same angles as submitted in the pre- & post- rehabilitation photographs, including photographs of additional pertinent features.

PART 2: PRODUCTS

2.1 MATERIALS

Materials shall meet the following standards, specifications, or minimum strength requirements:

- A. **Water Plug.** Rapid setting hard mixed cementitious compound specifically formulated for use in stopping infiltration water.

Compressive Strength	2000PSI@24 hrs.	ASTM C-109
Bond	80PSI@24 hrs.	ASTM C-321

- B. **Cementitious Mortar Liner.** High strength corrosion resistant mortar specifically formulated for use in filling voids and repairing inverts which can be sprayed or troweled uniformly onto a vertical surface without sagging or excessive rebound.

Compressive Strength	9000 PSI @ 28 Days	ASTM C-109
Bond	2000 PSI @ 28 Days	ASTM C- 882
Shrinkage	0% @ 28 days at 90% R.H	ASTM C-157
Tensile Strength	800 PSI @28 days.	ASTM C-190
Flexural Strength	350 PSI @ 24 hrs.	ASTM C-293

- C. **Epoxy Corrosion Battier.** Corrosion resistant high build epoxy coating designed to be applied over cementitious mortar in brick, concrete, or metal structures. Product shall be from the Parsonpoxy line of products or approval equal. Must be designed to provide abrasion resistance in manholes. May be applied by brush or spray on methods in accordance with manufacturer’s recommendations.

Compressive Strength	195000 PSI	ASTM D-695
Tensile Strength	8000 PSI	ASTM D-638
Flexural Strength	130000 PSI	ASTM D-790
Flexural Modulus (long term)	375000 PSI	ASTM D- 638
Hardness	88 Shore D	ASTM D-2240

- D. **Grout.** Cementitious Grouting shall be installed and paid for per supplemental specifications SS-10 “Cementitious Groting”.

- E. **Water.** Water shall be portable.

2.2 EQUIPMENT

- A. Equipment shall be as recommended by the manufacturer to ensure proper application and shall be clean and in good working order according to the recommendations for safe operation.

PART 3: EXECUTION

3.1 GERNAL

- A. **Debris Dam.** The Contractor shall place a device in the manhole to catch any debris which may be displaced into the manhole during the performance of the work. **Work shall not proceed until this device is in place.**

- B. Visual Documentation.** The Contractor shall provide photographs before and after rehabilitation. Refer to sections 1.5.E and 1.5.F of this specification for detailed information.
- C. Cleaning.** Prior to any repair work inside the manhole, all interior wall and invert surfaces shall be cleaned using equipment capable of producing a minimum of 3500 pounds per square inch (psi) water to blast to remove all foreign matter, loose mortar, grease, oil residues, and to etch the surfaces. If the initial water blast cannot be utilized due to structural conditions in the manhole or it does not remove all deposits, then a solution of muriatic acid (hydrochloric acid) at a ratio of one part acid to ten parts water shall be applied, it shall be washed off completely and the manhole allowed to dry. The mixing, application, and removal of the acid solution shall be done in strict accordance with the manufacturer's specifications and safety procedures. All waste materials resulting from the cleaning operation shall be removed from the manhole being cleaned and properly disposed of by the Contractor.

3.2 REHABILITATION OF BRICK/ PRECAST MANHOLE

- A. Stopping infiltration.** The manhole walls shall be visually examined and sounded and/or probed for detection of the infiltration and identification of void areas outside of the manhole created by the infiltration. If any voids are detected, they shall be filled with cementitious grout and paid per Item SS-10 "Cementitious Grouting". Any infiltration in the manhole should be stopped using an approved water plug material. If infiltration through the manhole walls is heavy, up to four 5/8-inch diameter holes may be drilled around the base of the manhole to act as relief ports, allowing the water to seep into the manhole flow channel. Once the leaking walls have been sealed, the drilled relief holes shall be plugged with the specified water plug material. The cost of drilling these relief holes shall be included in the cost of the manhole rehabilitation items.
- B. Cementitious Mortar Lining.** The cementitious mortar lining may be applied with low pressure spray equipment or hand troweling methods. (requires approval of Owner). If hand troweling is to be utilized, consult manufacturer for special requirements (eg. scrubbing a bondcoat slurry onto the surface.) The cementitious material thickness application shall be a minimum of 1-inch from the inside face of the manhole wall. The Contractor shall cure in accordance with the manufacturer's instructions following the application of the final cementitious layer. The cementitious lining shall be applied in not more than two passes from bottom to top. No more than 6-hours shall elapse between successive passes on each manhole. The second pass cannot be made until the first pass has achieved initial set.
- C. Epoxy Corrosion Barrier.** The epoxy corrosion barrier shall offer a level of sulfide resistance compatible with the environment present in the existing sewer. Varying level of sulfide resistance compatible with the environment present in the

existing sewer. Varying levels of protection are offered by manufacturer's materials. The manhole wall surface shall be in a saturated, surface-dry condition immediately preceding application of the epoxy material, or in accordance with manufacturer's requirements.

The epoxy corrosion barrier shall be applied following inspection of the cementitious mortar lining application, within 24-hours of the final mortar application. The epoxy corrosion barrier shall be applied per the manufacturers recommendations using either spray equipment or hand troweling methods (requires approval of Owner). The application of the liner shall provide a monolithic liner of a minimum 80 mils thickness per coat applied to ensure that all voids are filled and crevices are filled and smoothed. The liner shall be applied to the invert, bench, and wall and shall all be equal in thickness as determined by the water table and product manufacturer. The manhole invert and bench shall be smooth and sloped in the direction of flow. The manhole bench shall have a gradual slope to the invert. The invert transition to the pipe shall be smooth and shall not impair the flow.

The Contractor shall sure in accordance with the manufacturer's instructions following the application of each layer. No application shall be made when ambient temperatures are less than 40 degrees Fahrenheit or when freezing is expected within 24 hours. A minimum of 30 minutes cure time or more as required by the product manufacturer shall be allowed before returning to active flow. No more than 24-hours shall elapse between successive passes on each manhole. The second pass cannot be made until the first pass has achieved initial set.

3.3 REHABILITATION BENCH AND CHANNEL

- A.** The bench and channel shall be prepared for rehabilitation as previously described for other portions of the manhole structure. The entire bench and channel area shall be reconstructed using the mortar as specified in section 2.1.B. The preparation work shall include all demolition of deteriorated concrete and removal of all deleterious material from the surfaces to be reconstructed and the removal of sound concrete such that the repair mortar shall not be less than 1-inch in thickness at any point as shown in the attached manhole rehabilitation drawings.
- B.** If active infiltration is present in the bench and channel area of the manhole, dewatering exterior to the manhole with a wellpoint may be required in order to facilitate the reconstruction. The dewatering shall continue for 8 hours (or per the manufactures recommendations) following completion of the bench and channel repair work. Dewatering wellpoint, if anticipated, will be included in the price bid for Item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation.

- C. Wastewater flow shall be maintained by methods which prevent contact with any of the repair work for 8 hours (or per the manufactures recommendations) following completion of the repair work.
- D. The work on the bench and channel shall also include the work necessary to obtain a watertight seal at all pipe connections, drop inlet connections and between the base and manhole walls. The flow line through the manhole shall be shaped to match the invert of the sewer liner to prevent any flow obstructions in the manhole.
- E. All work associated with Bench and Channel Rehabilitation shall be performed as directed by the County and paid for by item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation.

3.4 CLEAN UP

- A. The Contractor shall be responsible for containing and removal of all the rehabilitation material, rebound, and loose material caused by manhole rehabilitation.

3.5 FIELD QUALITY CONTROL

- A. **Visual Inspection.** Manhole sealing will be visually inspected for water tightness upon completion and at any time during warranty period. Any visible leaks or defects that appear shall be repaired to the Owner's satisfaction by the Contractor at no additional cost. The visual inspection upon completion of lining shall be photographed. These photographs shall serve as the post-rehabilitation photographs.
- B. **Testing Requirements.**
 - 1. Manhole liner shall be tested with a wet gauge as directed by the County's representative to verify prescribed thickness. Any area found with less than the prescribed thickness shall immediately receive the additional material needed.
 - 2. The Contractor shall provide two standard samples taken from each day's work with the date, location and job recorded for each sample. The samples shall be sent to an established, local, and reputable commercial testing laboratory that has been approved by the Owner to determine if lining materials meet the minimum requirements specified herein. The County reserves the right to require Contractor to take core samples and to patch the cored location at no additional cost.
 - 3. Each manhole shall be sounded by the Contractor at seven (7) days. Inspector must witness these soundings preformed by the Contractor.

Defects will be corrected by the Contractor to the Satisfaction of the Engineer.

3.6 MEASUREMENT AND PAYMENT

- A. Payment for all manhole rehabilitation item described herein (excluding Cementitious and Chemical Grouting of voids behind the manhole wall) shall be included in the unit price bid per for the SS-14 Line Item. Payment for all bench and channel rehabilitation items described in Section 3.3 shall be included in the unit price bid per Vertical Foot for the Item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation. Payment for all cementitious lining items described in Section 3.2 shall be included in the unit price bid for Item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation. Payment for all cementitious lining items described in Section 3.2 shall be included in the unit price bid for Item SS-14 Mortar/Epoxy Composite Manhole Rehabilitation.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
12	Ver. Feet	Mortar/Epoxy Composite Manhole Rehabilitation

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-15 REINFORCED EPOXY MANHOLE REHABILITATION

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PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The plans, general provisions of the Contract, Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section.

1.2 DESCRIPTION

- A.** This specification includes all work, material, operation, and equipment necessary to rehabilitate manholes applying a composite cured-in-place reinforced epoxy structural liner product to the walls, inverts, and benches of manholes resulting in a monolithic reinforced liner at a thickness as recommended by the manufacturer for the depth and water table in accordance with the plans, as specified within, or as designated by the Engineer, The reinforced epoxy structural liner project shall be Protective Liner

System's PerpetuWall project or approved equal. This item shall include all structural restoration; elimination of inflow and/or infiltration; manhole step removal; base and channel repair; excavation; removal and disposal of all excess materials; restoration; backfill; permanent and temporary pavement replacement ; clearing and grubbing; resetting, replacing, and/or raising casting to grade; and dewatering required for manhole rehabilitation. Pre-rehabilitation, post-rehabilitation, and 132 month warranty photographs shall be provided for all manholes.

1.3 QUALITY ASSURANCE

- A.** Furnish materials of quality required by the American Society for Testing and Materials ((ASTM) standards or other approved standards and specifications.
- B.** Provide guarantee against defective materials and workmanship in accordance with the requirements of these specifications.
- C.** The contractor installing the finished protective liner will be a certified trained applicator of the specified process.
- D.** Contractor's Qualifications
 - 1.** The manhole rehabilitation Contractor shall be a firm having a minimum of 3 years continuous successful experience in the rehabilitation of manholes similar to that required for this Project.
 - 2.** The manhole lining Contractor shall be certified by the lining material manufacture to install their manhole liner if the material requires a certified applicator. The county reserves the right to require an onsite manufacturer's representative, knowledgeable in the use and application of the material, for a minimum of two (2) working hours for each supplied material. The material representative shall direct and instruct the Contractor and inspector on the proper application procedure.

1.4 REFERENCES

- A.** Referenced ASTM Standards
- B.** NASSCO Specifications
- C.** Manufacturer's Specifications

1.5 SUBMITTALS

The following submittal (A) shall be mad with the Bid:

- A. Contractor Qualifications.** The Contractor shall submit a copy of the manufacturer's licensee certificate. If the Contractor is not licensed by the manufacturer then a manufacturer's representative will be on-site as explained in section 1.3.D.2. Contractor shall also submit a list of ten (10) similar regional projects completed within the last three (3) years including information such as number of manholes on project, manhole construction type, date completed, and project cost.

The following submittals (B-D) shall be made at the pre-construction meeting:

- B. Material Certifications.** The Contractor shall furnish the manufacturer's product data, installation instructions, applicable referenced work standards (American Society for Testing and Materials [ASTM], American Concrete Institute [ACI], etc.), approved laboratory test reports that verify strength requirements of this specification, and materials certification for each product used prior to material installation.
- C. Material Safety Data Sheet.** The Contractor shall submit Material Safety Data Sheets (MSDS) for all materials used for manhole rehabilitation.
- D. Application Methods and Equipment.** The Contractor shall submit a written description of the material application methods including the equipment that will be used.

The following submittal (E) shall be made two (2) days prior to manhole: rehabilitation.

- E. Pre-Rehabilitation photographs.** The Contractor shall submit a minimum of two (2) Pre-photographs to the County before performing manhole rehabilitation work. One photograph shall be taken from the ground surface looking into the manhole and one shall be taken from the bottom of the manhole, as close to the invert as possible, looking upwards. Additional photographs of other pertinent features shall be taken if necessary. Digital photos submitted on CD are the required media.

The following submittal (F) shall be made immediately after manhole rehabilitation:

- F. Post-rehabilitation photographs** The Contractor shall submit post-photographs to the County immediately following completion of the manhole rehabilitation. The same areas of the manhole will be photographed at the same angles as submitted the pre-photographs. Digital photos submitted on CD are the required media.

1.6 PROJECT SITE CONDITIONS

- A. **Environmental Requirements.** Do not work in the presence of excessive amounts of water. Refer to Supplemental Specifications SS-05, Bypass Pumping.
- B. **Safety.** All work to be completed in the conformance with all applicable safety standards, in particular OSHA Standard 29CFR1910.146, Permit Required Confined Space Entry.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Cementitious materials shall be stored in weather tight, original packaging to protect against moisture and contamination.

1.8 SEQUENCING

- A. All required interruptions of flow through manholes, wet wells, pump stations or any other portion of the sanitary sewer system shall be coordinated with and approval received from the County Engineer prior to the interruption.

1.9 GUARANTEE

- A. When any work is accepted by the County there shall be a guarantee periods extending for 12 months from the date of acceptance of the work. At any time during the guarantee period the County may notify the Contractor and his surety the certain repairs are necessary. Within 10 days after being so notified, the Contractor shall make such repairs as are declared necessary to restore the work to a good a serviceable condition. In the vents that the Contractor fails to comply with the order to repair as provided, said repairs may be made by the County for 2.5 times said expense to incurred within ten days following the receipt of a statement rendered to the Contractor by the County for said expense. Specifications for the work performed under the Contract shall govern in the making of repairs under this section. The Contractor shall take and provide photographs of the rehabilitated manholes as part of the 12 month warranty as directed by the County. The 12 month photographs shall be identical in nature to the pre- and post- rehabilitation photographs described in Section 1.5.E & F of this specification. A minimum of 2 photographs shall be submitted in the pre- & post- rehabilitation photographs, including photographs of additional pertinent features. Product shall also be protected by a (minimum) 5-year manufacturer's warranty.

PART 2: PRODUCTS

2.1 MATERIALS

Materials shall meet the following standards, specifications, or minimum strength requirements:

- A. Water Plug.** Rapid setting hand-mixed cementitious compound specifically formulated for the use in stopping infiltration water.

Compressive Strength	2000 PSI @ 24 hrs.	ASTM C-109
Bond	80 PSI @24 hrs.	ASTM-C-321

- B. Patching Mortar.** Rapid setting cementitious compound specifically formulated for use in filling voids and repairing inverts.

Compressive Strength	2000 PSI @24 hrs.	ASTM C-109
Bond	140 PSI @7 days	ASTM C-321
Shrinkage	0% @ 90% R.H	ASTM C-596

- C. Reinforced Epoxy Structural Manhole Liner.** Corrosion resistant, semi-structural epoxy lining system consisting of an 11-oz. fiberglass bonded fabric of Type E glass with stitch bonded construction, modified epoxy resin of Bisphenol A epoxy resin cross-linked with a modified polyamide curing agent (100% solids, emitting no toxic odors), and mastic. The installed product will meet the following minimum physical properties:

Hardness	72 Shore D	ASTM D-2240
Tensile Strength	29,200 PSI	ASTM D-638
Compressive Strength	16,800 PSI	ASTM D-695
Flexural Strength	343,000 PSI	ASTM D-790
Ultimate Elongation	4.50%	ASTM D-638
Bond (Concrete)	Substrate Failure	ASTM D-4541
Flexural Modulus	1,590,000 PSI	ASTM D -790
Shear Strength	4,060 PSI	ASTM D-2344

- D. Grout.** Cementitious Grouting shall be installed and paid for per supplemental specification SS-10 “Cementitious Grouting”

- E. Water.** Water shall be potable.

2.2 EQUIPMENT

- A. Equipment shall be as recommended by the manufacturer to ensure proper application and shall be clean and in good working order according to the recommendations for safe operation.

PART 3: EXECUTION

3.1 GENERAL

- A. **Debris Dam.** The Contractor shall place a device in the manhole to catch any debris which may be displaced into the manhole during the performance of the work. **Work shall not proceed until this device is in place.**
- B. **Visual Documentation.** The Contractor shall provide photographs before and after rehabilitation. Refer to sections 1.5E and 1.5F of this specification for detailed information.
- C. **Cleaning.** Prior to any repair work inside the manhole, all interior wall and invert surfaces shall be cleaned using equipment capable of producing a minimum of 3,500 pounds per square inch (psi) water to blast to remove all foreign matter, loose mortar, grease, oil residues, and to etch the surfaces. If the initial water blast cannot be utilized due to structural conditions in the manhole or it does not remove all deposits, then a solution of muriatic acid (hydrochloric acid) at a ratio of one part acid to ten parts water shall be applied by spraying from above manhole. After the acid solution is applied, it shall be washed off completely and the manhole allowed to dry. The mixing application and removal of the acid solution shall be done in strict accordance with the manufacturer's specifications and safety procedures. All waste materials resulting from the cleaning operation shall be removed from the manhole being cleaned and properly disposed of the Contractor.

3.2 REHABILITATION OF BRICK/PRECAST MANHOLE

- A. **Stopping Infiltration.** The manhole wall shall be visually examined and sounded and/or probed for detection of infiltration and identification of void areas outside of the manhole created by the infiltration. If any voids are detected, they shall be filled with cementitious grout and paid per Item SS-10 "Cementitious Grouting". Any infiltration into the manhole should be stopped using an approved water plug material. If infiltration through the manhole walls is heavy, up to four 5/8-inch diameter holes may be drilled around the base of the manhole to act as relief ports, allowing the water to seep into the manhole flow channel. Once the leaking walls have been sealed, the drilled relief holes shall be plugged with the specified water plug material. The cost of drilling these relief holes shall be included in the cost of the manhole rehabilitation items.

- B. Reinforced Epoxy Structural Manhole Liner.** The epoxy corrosion barrier shall offer a level of sulfide resistance compatible with the environment present in the existing sewer. Varying levels of protection are offered by manufacture's materials. The manhole wall surface shall be in a saturated, surface-dry condition immediately preceding application of the material, or in accordance with a manufacture's requirement.

The epoxy corrosion barrier shall be applied following inspection of the Cementitious Mortar Lining application, within 24-hours of the grouting. The product shall be installed in accordance with the manufacturer's recommendations. The product shall be applied monolithically to the invert, bench, and wall of the structure) prepared in accordance with these specifications.) The manhole invert and bench shall be smoothed and sloped in the direction of flow. The manhole bench shall have a gradual slope to the invert. The invert transition to the pipe shall be smooth and shall not impair the flow. Mastic is first applied at thickness of 100 mils. Fiberglass Fabric shall then be cut into the required dimensions and pressed, using a putty knife, into the mastic to achieve full wetting of the fabric. With subsequent application of fabric the edges shall be overlapped. Epoxy is applied between the overlapped edges to assure a monolithic construction. The fabric shall be tip-coated with the mastic to ensure complete saturation and encapsulation of the fabric. The finished lining system shall have a minimum thickness of 125 mils, ensuring that all voids and crevices are filled and smoothed. The epoxy shall cure to within 5% of its strength before the structure is returned to service. Epoxy shall cure to full strength in no more than 5 days. All manufacture's recommendations for curing shall be followed, considering the temperature of the manhole environment.

3.3 REHABILITATION OF BENCH AND CHANNEL

- A.** The bench and channel shall be prepared for rehabilitation as previously described for other portions of the manhole structure. The entire bench and channel area shall be reconstructed using the mortar as specified in section 2.1.B. The preparation work shall include all demolition of deteriorated concrete and removal of all deleterious material from the surfaces to be reconstructed and removal of sound concrete such that the repair mortar shall not be less than 1-inch in thickness at any point as shown in the attached manhole rehabilitation drawings.
- B.** If active infiltration is present in the bench and channel area of the manhole, dewatering exterior to the manhole with a wellpoint may be required in order to facilitate the reconstruction. The dewatering shall continue for 8 hours (or per the manufacturer's recommendations) following completion of the bench and channel repair work. Dewatering wellpoint, if anticipated, will be included in the price bid for Item SS-15 Reinforced Epoxy Structural Manhole Rehabilitation.

- C. Wastewater flow shall be maintained by methods which prevent contact with any of the repair work for 8 hours (or per the manufactures recommendations) following completion of the repair work.
- D. The work on the bench and channel shall also include the work necessary to obtain a watertight seal at all pipe connections, drop inlet connections and between the base and manhole walls. The flowline through the manhole shall be shaped to match the invert of the sewer liner t prevent any flow obstructions in the manhole.
- E. All work associated with Bench and Channel Rehabilitation shall be performed as directed by the County and paid for by Item SS-15 Reinforced Epoxy Structural Manhole Rehabilitation.

3.4 CLEAN UP

- A. The Contractor shall be responsible for containing and removal of all the rehabilitation material, rebound, and loose material caused by manhole rehabilitation.

3.5 FIELD QUALITY CONTROL

- A. **Visual Inspection.** Manhole sealing will visually inspected for water tightness upon completion and at any time during warranty period. Any visible leaks or defects that appear shall be repaired to the Owner's satisfaction by the Contractor at no additional cost. The visual inspection upon completion of lining shall be photographed. These photographs shall service as the post-rehabilitation photographs.
- B. **Testing Requirements**
 - 1. Manhole liner shall be tested with a wet gauge as directed by the County's representative to verify prescribed thickness. Any area found with less than the prescribed thickness shall immediately receive the additional material needed. Visual inspection shall be in accordance with ASTM F-1743 Section 8.6
 - 2. The Contractor shall provide two standard samples taken from each day's work with the date, location, and job recorded for each sample. The samples shall be sent to an established, local, and reputable commercial testing laboratory that has been approved by the Owner to determined if lining materials meet the minimum requirements specified in ASTM F1216 or ASTM F-1743, Section 8 (flexural properties, wall thickness). The County reserves the right to require Contractor to take core samples and to patch the cored location at no additional cost.

- 3. Each manhole shall be sounded by the Contractor at seven (7) days. Inspector must witness these soundings performed by the Contractor. Defects will be corrected by the Contractor to the satisfaction of the Engineer.

3.6 MEASUREMENT AND PAYMENT

- A. Payment for all manhole rehabilitation items described herein (excluding Cementitious and Chemical Grouting of voids behind the manhole wall) shall be included in the unit price bid per for the SS-15 Line Item. Payment for all bench and channel rehabilitation items described in Section 3.3 shall be included in the unit price bid per Vertical Foot for the Item Ss-15 Reinforced Epoxy Structural Manhole Rehabilitation. Payment for all reinforced epoxy lining items described in Section 3.2 shall be included in the unit price bid for Item SS-15 Reinforced Epoxy Structural Manhole Rehabilitation.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
13	Ver. Feet	Reinforced Epoxy Structural Manhole Rehabilitation

END OF SECTION

WARREN COUNTY, OHIO

WAYNESVILLE SEWER COLLECTION SYSTEM IMPROVEMENTS – PHASE I

SS-24 FLEXIBLE MANHOLE CHIMNEY SEAL

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PART 1: GENERAL

1.1 RELATED DOCUMENTS

- A. General.** The Plans, general provisions of the Contract, and The Ohio Department of Transportation Construction and Material Specifications (CMS) (current edition), apply to this section

1.2 DESCRIPTION

- A. Description.** This specification included all work, materials, and equipment require to seal the frame and chimney of the manholes to make them watertight in accordance with the plans, as specified within, or as designated by the engineer. The purpose is to eliminate infiltration, restore structural integrity and provide corrosion protection by the application of a flexible sealant coating to the frame

and chimney surface of brick/concrete structures include but are not limited to manholes, wet wells, lift stations and pump stations.

1.3 QUALITY ASSURANCE

- A.** Furnish materials of quality required by the American Society for Testing and Materials (ASTM) standards or other approved standards and specifications.
- B.** Provide guarantee against defective materials and workmanship in accordance with the requirements of these specifications.
- C.** The contractor installing the finished protective seal will be a verified trained applicator of the specified process.
- D.** The manhole sealing Contractor shall be certified by the sealing material manufacturer to install their manhole sealant. The County reserves the right to require an on-site manufacturer's representative, knowledgeable in the use and application of the material. The material representative shall direct and instruct the Contractor and inspector on the proper application procedure.

1.4 REFERENCES

American Society for Testing and Materials (ASTM) Annual Book of Standards:

- A.** ASTM-D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomer-Tension
- B.** ASTM-D903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
- C.** ASTM-D 1004 Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting

1.5 SUBMITTALS

The following submittals (A-F) shall be made with the Bid:

- A. Contractor Qualifications.** The Contractor shall submit a copy of the manufacturer's licensee certificate.
- B. Material Certification.** Technical data sheet on each product used, including ASTM test results indicating the product conforms to and is suitable for its intended use per these specifications.
- C. Material Safety Data Sheets.** The Contractor shall submit Material Safety Data Sheets (MSDS) for all materials used for manhole sealant coating.

- D. Manufacture's Certification.** The Contractor shall submit a Certification by the sealant coating manufacture that the equipment to be used for applying the product has been approved, and that the Contractor's applicator personnel have been trained and certified for the proper use of the equipment.
- E. Application Methods and Equipment.** The Contractor shall submit a written description of the material application methods, including the equipment that will be used.
- F. Design Details.** The Contractor shall submit design details for any additional ancillary systems and equipment to be used in site and surface preparation, application, and testing.

The following submittal (G) shall be made two (2) days prior to flexible manhole sealant coating

- G.** Pre-coating photographs. The Contractor shall submit a minimum of two (2) pre-photographs to the County prior to application of the Flexible Chimney Seal. One photograph shall be taken from the ground surface looking into the manhole and one shall be taken from the bottom of the manhole, as close to the invert as possible, looking upwards. Additional photographs of other pertinent features shall be taken if necessary. Digital photos submitted on CD are the required media.

The following submittal (G) shall be made two (2) days prior to flexible manhole sealant coating

- H.** Post-coating photographs. The Contractor shall submit post-photographs to the County immediately following completion of the application of the Flexible Chimney Seal. The same areas of the manhole will be photographed at the same angles as submitted in the pre-photographs. Digital photos submitted on CD are the required media.

1.6 CONDITIONS

- A.** Safety: All work to be completed in conformance with all applicable safety standards, in particular OSHA Standard 29CFR1910.146, Permit Required Confined Space Entry.

1.7 SEQUENCING

- A.** All required interruptions of flow through manholes, wet wells, pump stations or any other portion of the sanitary sewer system shall be coordinated with and approval received from the County Engineer prior to the interruption.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Materials. Are to be kept dry, protected from weather and store under cover.
- B. Protective coating materials are to be stored between 50 deg F and 90 deg F. Do not store near flame, heat or strong oxidants.
- C. Protective coating materials are to handled according o their material safety data sheets.

1.9 GUARANTEE

- A. The Manufacture shall provide a three (3) year warranty as defined under the Certification of Preliminary Approval of Trenchless Technology Products.

PART 2: PRODUCTS

2.1 GENERAL

- A. **Manhole wall** shall be examined and rehabilitated through the application of the carious manhole rehabilitation methods contained in the project specifications. This rehabilitation shall be completed on the entire manhole, including the tip 8-inchees of the manhole. This preparation will be completed and paid for under the specific items defined in SS-13, SS-14 and SS-15.

2.2 MATERIALS

- A. **Flexible Sealant Coating.** Subject to compliance with requirements, the Contractor shall provide the following at the specified locations per plan:
 - 1. FlexSeal Utility Sealant® - Manufactured by Sealing System Inc.
 - 2. Or approval equal.
- B. **Design Para meters and Mechanical Properties.** The following values are to be used where indicated by an ASTM standard and shall serve as the minimum acceptable strength requirements for all flexible sealant coating.
 - 1. FlexSeal

FlexSeal Primer

Tensile Strength (ASTM D412	3200psi
Tensile Elongation (ASTM-D412	400%
Adhesive Strength (ASTM-D903)	400ib/in
Tear Resistance (ASTM-D1004	200ib/in

FlexSeal Final Coat

Tensile Strength (ASTM-D412)	1150 psi
Tensile Elongation (ASTM-D412)	800%
Adhesive Strength (ASTM-D903)	175 ib/in
Tear Resistance (ASTM-D 1004)	155ib/in

2.3 EQUIPMENT

- A. Equipment shall be as recommended by the manufacturer to ensure proper mixing and pumping of mortar and shall be clean and in good working order according to the recommendations for safe operation.

PART 3: EXECUTION

3.1 GENERAL

- A. **Debris Dam.** The Contractor shall place a device in the manhole to catch any debris that may be displayed into the manhole during the performance of the work. Work shall not proceed until this device is in place.
- B. **Visual Documentation.** The Contractor shall provide photographs before and after rehabilitation. Refer to sections 1.4.G and 1.4.H of this specification for detailed information. The photographs are to be labeled and of good quality. Other methods may be acceptable as approved by the Engineer.

3.2 SURFACE PREPARATION

- A. **Surface Inspection.** Applicator shall inspect all surfaces specified to receive coating prior to surface preparation. Applicator shall notify Owner of any noticeable disparity in the surfaces, which may interfere with the proper preparation, or application of the repair mortar and protective coating.
- B. **Surface Removal.** All concrete that is not sound or has been damaged by chemical exposure shall be removed to a sound concrete surface.
- C. **Contaminants.** All contaminants included all oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts or other contaminants shall be removed.
- D. **Surface Repair.** All surfaces shall be repaired as required by the coating system in the intended service condition.
- E. **Surfaces.** All surfaces to receive coating shall be cleaned and abraded to produce a sound concrete surface with adequate profile and porosity to provide a strong

bond between the protective coating and the substrate. Generally, this can be achieved with high pressure water cleaning using equipment capable of 5,000 psi at 4 gpm. Mechanical methods such as high pressure water jetting (refer to NACE Standard No. 5/SSPC-SP 12), abrasive blasting, shotblasting, grinding, or scarifying may also be used. Detergent water cleaning and hot water blasting may be necessary to remove oils and grease from the concrete. Whichever method(s) are used, they shall be performed in a manner that provides a uniform, sound, clean surface, that is not excessively damaged.

- F. Wire brushing** of the surface to ensure a clean surface will be completed as required by the manufacturer.
- G. Chlorine Solution.** A mild chlorine solution may be used to neutralize the surface to diminish microbiological bacteria growth prior to final rinse and coating.
- H. Water Infiltration.** Active water infiltration shall be stopped by using a cementitious water plug or hydroactive grout, which is compatible with the specified repair mortar and is suitable for topcoating with the specified protective coating.
- I. Surface Testing.** Prepared surfaces should be tested after cleaning but prior to application of the epoxy coating.
- J. Surface Re-inspection.** All surfaces should be inspected by the Inspector during and after preparation and before the repair mortar is applied.

3.3 APPLICATION OF REPAIR MATERIALS

- A. Exposed Structural Steel.** Areas where structural steel has been exposed or removed shall be repaired in accordance with the Project Engineer according to Owner's requirements and manufacturer's recommendations.
- B. Repair materials** shall meet the specifications in the appropriate manhole rehabilitations specification. The materials shall be trowel or spray applied utilizing proper equipment on to specified surfaces. The material thickness shall be specified by the County Engineer according to Owner's requirements and manufacturer's recommendations.
- C. Trowel Application.** If using approved cementitious repair materials, such shall be trowelled to provide a smooth surface with an average profile equivalent to coarse sandpaper to optimally receive the protective coating. No bugholes or honeycomb surfaces should remain after the final trowel procedure of the repair mortar.

- D. **Curing.** The repair materials shall be permitted to cure according to manufacturer's recommendations. Curing compounds should not be used unless approved by the protective coating manufacturer for compatibility with the specified protective coating.
- E. Observation by Manufacturer's Representative. Application procedure of the repair materials, if not performed by the coating certified applicator, should be observed by the protective coating manufacturer's representative or certified applicator to ensure proper finishing for suitability to receive the specified coating.
- F. **Surface Inspection and Cleaning.** After abrasive blast and active leak repair is performed all surfaces shall be inspected for remaining laitance prior to coating application. Any evidence of remaining contamination or laitance shall be removed by additional abrasive blast, shotblast, or to the approved method. Areas to be coated must be prepared after receiving a cementitious repair mortar and prior to application of the epoxy coating. All surfaces should be inspected during and after preparation and before the protective coating is applied.

3.4 APPLICATION OF MANHOLE COATING

- A. **Application procedures** shall conform to the recommendations of the coating manufacturer, including material handling, mixing, and environmental controls during application, safety, and application equipment.
- B. **Adhesive primer** shall then be applied (if required by manufacturer) by a Certified applicator of the coating manufacturer. The primer shall be applied to the entire surface area that is to be coated with the flexible chimney sealant.
- C. **Flexible Sealant Coating** shall be applied by a Certified applicator at a minimum thickness of 220mils to 250 mils by brush or trowel from a minimum of three (3) inches above the bottom of the manhole frame to three (3) inches below the point where the circular chimney section begins its flare into a conical shape. The flexible sealant shall form a waterproof corrosion resistant seal for the ring-chimney section of the manhole.

3.5 TESTING AND INSPECTION

- A. **Thickness Gage.** During application a wet film thickness gage shall be used to ensure a monolithic coating and uniform thickness during application.
- B. **Final visual inspection** shall be made by the Inspector and manufacturer's representative. Any deficiencies in the finished coating shall be marked and repaired according to the procedures set forth herein by Applicator.

3.6 CLEANING

- A. Trash and loose debris shall not be permitted to accumulate at the project site. All items shall be regularly removed and disposed of at an approved site in accordance with applicable regulatory agencies.

3.7 MEASUREMENT AND PAYMENT

- A. The work specified under this item shall be paid for at the unit bid price per each. Payment will include all material, labor, equipment and sealant system accessories for preparation and installation of this item. All grouting, patching, or other miscellaneous rehabilitation for structural preparation of the chimney of the manhole shall be paid under the specific items defined under SS-10 Cementitious Grouting and Manhole Rehabilitation Items.

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
14	Each	Chimney Seal (Flex-Seal Product or Equal)

END OF SECTION

OPWC PROPOSAL NOTES – For insertion into Bid Documents (Rev 6/16)

1. STEEL PRODUCTS MADE IN THE UNITED STATES

Domestic steel use requirements as specified in Ohio Revised Code §153.011 apply to this project. Copies of §153.011 can be obtained from any of the offices of the department of administrative services or through <http://codes.ohio.gov/orc/153.011>.

2. PREVAILING WAGES ON STATE PROJECTS WITH NO FEDERAL-AID (Should this project contain Federal-aid funds then Federal Prevailing Wages must be paid. Contact the appropriate Federal funding agency for language.)

This contract is subject to Ohio Prevailing Wage Laws, Chapter 4115 of the Ohio Revised Code and the Contractor and all subcontractors shall comply with all provisions contained therein or as otherwise provided by this note. The Contractor guarantees that the prevailing wage scale to be paid to all laborers and mechanics employed on this contract shall be in accordance with the schedule of the prevailing hourly wage and fringe benefits as determined by the Ohio Department of Commerce for the county in which the work is being performed. The failure to pay prevailing wages to all laborers and mechanics employed on this project shall be considered a breach of contract. Such a failure may result in the revocation of the contractor's and/or subcontractor's certificate of qualification and debarment. A schedule of the most current prevailing wage rates may be accessed by logging in/registering with the Ohio Department of Commerce, Labor and Worker Safety Division, Wage and Hour Bureau at the following web address:

<http://198.234.41.198/w3/webwh.nsf/wrlogin/?openform>

The Contractor and all subcontractors shall compensate the employees on this contract at a pay rate not less than the hourly wage and fringe rate listed on the website noted above, for the applicable job classification or as may be modified by the Ohio Department of Commerce, Division of Labor and Worker Safety Wage and Hour Bureau, when new prevailing rates are established.

Overtime shall be paid at one and one-half times the basic hourly rate for any hours worked beyond forty hours during a pay week. The Contractor and all subcontractors shall pay all compensation by company check to the worker and fringe benefit program.

The wage and fringe rates determined for this project or as may be later modified, shall be posted by the Contractor in a prominent and accessible place on the project, field office, or equipment yard where they can be easily read by the workers or otherwise made available to the workers. On the first pay date of contract work the Contractor and all subcontractors shall furnish each employee covered by prevailing wage a completed form (WHPW-1512) in accordance with section 4115.05 of the Ohio Revised Code, showing the classification, hourly pay rate, and fringes, and identifying the public authority's Prevailing Wage Coordinator, if such employees are not covered by a collective bargaining agreement or understanding between employers and bona fide organizations of labor. These forms shall be signed by the Contractor or subcontractor and the employee and kept in the Contractor's or subcontractor's payroll files.

The Contractor and all subcontractors shall submit to the Prevailing Wage Coordinator, certified payrolls on form WHPW-1512 or equivalent, in accordance with sections 4115.07 and 4115.071 (C) of the Ohio Revised Code, three weeks after the start of work and every subsequent week until the completion of the contract. Additionally, a copy of the "Apprentice Certification" obtained from the Ohio State Apprenticeship Council, must accompany all certified payrolls submitted, for all apprentices working on this project. Upon completion of the contract and before the final payment, the Contractor shall submit to the Prevailing Wage Coordinator a final wage affidavit in accordance with section 4115.07 of the Ohio Revised Code stating that wages have been paid in conformance with the minimum rates set forth in the contract. Please be aware that it is ultimately the responsibility of the Contractor to ensure that all laws relating to prevailing wages in Chapter 4115 of the Ohio Revised Code are strictly adhered to by all subcontractors.

The Contractor and all subcontractors shall make all of its payroll records available for inspection, copying

or transcription by any authorized representative of the contracting agency. Additionally, the Contractor and all subcontractors shall permit such representatives to interview any employees during working hours while the employee is on the job.

3. UNRESOLVED FINDING FOR RECOVERY

The Contractor affirmatively represents to the local contracting authority that it is not subject to a finding for recovery under Ohio Revised Code §9.24, or that it has taken the appropriate remedial steps required under §9.24 or otherwise qualifies under that section. The Contractor agrees that if this representation is deemed to be false, the contract shall be void ab initio as between the parties to this contract, and any funds paid by the state hereunder shall be immediately repaid to the local contracting authority, or an action for recovery may be immediately commenced by the local government and/or for recovery of said funds.

4. OHIO WORKERS' COMPENSATION COVERAGE

The Contractor must secure and maintain valid Ohio workers' compensation coverage until the project has been finally accepted by the local contracting authority. A certificate of coverage evidencing valid workers' compensation coverage must be submitted to the local contracting authority before the contract is executed.

The Contractor must immediately notify the local contracting authority, in writing, if it or any subcontractor fails or refuses to renew their workers' compensation coverage. Furthermore, the Contractor must notify the local contracting authority, in writing, if its or any of its subcontractor's workers' compensation policies are canceled, terminated or lapse.

The failure to maintain valid workers' compensation coverage shall be considered a breach of contract which may result in the Contractor or subcontractor being removed from the project, withholding of pay estimates and/or termination of the contract.

5. DRUG-FREE WORKPLACE PROGRAM

In accordance with Ohio Revised Code §153.03 and during the life of this project, the Contractor and all its Subcontractors that provide labor on the Project site must be enrolled in and remain in good standing in the Ohio Bureau of Worker's Compensation ("OBWC") Drug-Free Workplace Program ("DFWP") or a comparable program approved by the OBWC.

6. OHIO PREFERENCE

In accordance with Ohio Revised Code §164.05 (A)(6), to the extent practicable, the Contractor and subcontractor shall use Ohio products, materials, services and labor in connection with this project.

7. BID GUARANTY

In accordance with Ohio Revised Code §153.54, the contractor shall file with the bid a bid guaranty in the form of either: 1) a bond for the full amount of the bid, or 2) a certified check, cashier's check, or letter of credit equal to 10% of the bid.

8. OHIO ETHICS LAW

Contractor agrees that it is currently in compliance and will continue to adhere to the requirements of Ohio Ethics law as provided by Section 102.03 and 102.04 of the Ohio Revised Code.

9. STATE OF OHIO EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

NOTICE TO CONTRACTORS:

The provisions of the Ohio Administrative Code (OAC) 123:2-3-02 through 124:2-9 regarding Equal Employment Opportunity on State Construction Contracts and State-assisted Construction Contracts, and OAC 123:2-3-02 through 123:2-9 regarding Equal Employment Opportunity and Female Utilization Goals are applicable to this project, and each contractor will be required to comply in all aspects of these provisions.

CERTIFICATE OF COMPLIANCE FOR EEO PURPOSES:

All prime contractors must secure a valid Certificate of Compliance from the Department of Administrative Services, Equal Opportunity Division, prior to execution of a construction contract.

See <http://www.das.ohio.gov/Divisions/EqualOpportunity/CertificateofCompliance/tabid/129/Default.aspx> for instructions for electronic filing.

>>> Does this bidder have a valid Certificate of Compliance? ___Yes ___No

>>> If "No" to the above, will this bidder be able to obtain a valid Certificate of Compliance prior to the execution of a contract? ___Yes ___No

Bidder must provide a "Yes" answer to one or the other of the above questions.

BIDDER'S AFFIRMATIVE ACTION REQUIREMENTS:

Each prime contract bidder must submit an affirmative action program regarding equal employment opportunity to and receive approval from the State Equal Employment Opportunity (EEO) Coordinator prior to the bid opening, **OR** the prime contract bidder must have evidence within its bid adoption of the minority and female utilization work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

>>> Has the prime contract bidder prepared and submitted an Affirmative Action Program to the State Equal Employment Opportunity Coordinator and that program has been approved by the State Equal Employment Opportunity Coordinator prior to the bid opening ? ___Yes ___No

>>>If "no", with this bid response, the prime contract bidder hereby adopts the minority and female work hour utilization goals and the specific affirmative action steps set forth in 123:2-3 through 123:2-9 of the Ohio Administrative Code.

BIDDER'S EEO COVENANTS:

Throughout its performance of any contract awarded to it on this State-assisted project, the prime contract bidder agrees to the following covenants:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry or sex. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, ancestry or sex. Such action shall include, but is not limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will in all solicitations or advertisements for employees placed by or on behalf of the prime contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry or sex.

(3) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the State Administering Agency advising the said labor union or workers' representatives of the contractor's commitments under this covenant and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of the Ohio Department of Administrative Services, Equal Opportunity Division and with the implementing rules, regulations and applicable orders of the State Equal Employment Opportunity Coordinator.

(5) The contractor agrees to fully cooperate with the State Administering Agency, the State Equal Employment Opportunity Coordinator and with any other official or agency, or the State or Federal government which seeks to eliminate unlawful employment discrimination, and with all other State and Federal efforts to assure equal employment practices under its contract and the contractor shall comply promptly with all requests and directions from the State Administering Agency, the State Equal Employment Opportunity Coordinator and any of the State of Ohio officials and agencies in this regard, both before and during construction.

(6) Full cooperation as expressed in clause (5), above, shall include, but not be limited to, being a witness and permitting employees to be witnesses and complainants in any proceeding involving questions of unlawful employment practices, furnishing all information and monthly utilization work hour reports required by the OAC 123: 2-9-01 and by the rules, regulations and orders of the State Equal Employment Opportunity Coordinator pursuant thereto, and permitting access to its books, records, and accounts by the State Administering Agency and the State Equal Employment Opportunity Coordinator for purposes of investigation to ascertain compliance with such rules, regulations and orders. Specifically, contractors will submit workforce utilization reports to the State Equal Opportunity Coordinator by the 10th of each month. The monthly reports must be electronically submitted through the following website: <http://das.ohio.gov/EOD/CCInputForm29.htm>

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of its contract or with any of the said rules, regulations, or orders, its contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further State Contracts or State-assisted Construction Contracts in accordance with procedures authorized in OAC 123:2-3 through 2-9 and such other sanctions may be instituted and remedies invoked, as provided in OAC 123:2-3 through 2-9 or by regulation, or order of the State Equal Employment Opportunity Coordinator, or as otherwise provided by law.

In the event that its contract is terminated for a material breach of OAC 123:2-3 through 2-9 the contractor shall become liable for any and all damages which shall accrue to the State Administering Agency and Applicant and the State of Ohio as a result of said breach.

(8) The contractor will require the inclusion of language reflecting these same eight covenants within every subcontract or purchase order it executes in the performance of its contract unless exempted by rules, regulations or orders of the State Equal Employment Opportunity Coordinator issued pursuant to O.A.C. 123:2-3-02 so that these provisions will be binding upon each subcontractor or vendor. The contractor will take such actions as the Administering Agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in any litigation with a subcontractor, vendor or other party as a result of such direction by the State Administering Agency, the contractor may be requested to protect the interests of the State.

>>>The prime contract bidder hereby adopts the foregoing covenants ? ___Yes ___No

BIDDER'S CERTIFICATION:

The undersigned, being a duly authorized officer of the prime contract bidder, does hereby certify to and agree with the foregoing statements and covenants regarding its subscription to the State's Equal Employment Opportunity Requirements for State-assisted Construction Contracts.

_____/_____/_____
Signature of Authorized Officer Date

Title

>>> PLEASE NOTE: Only a bidder possessing a valid certificate will be awarded a contract pursuant to Chapter 153 of the Revised Code by an owner referred to in section 153.01 of the Revised Code. Application shall be made at least ten working days prior to the date that the bidder expects to receive the certificate. The bidder's failure to elect one of the two Bidder's Affirmative Action Requirements, adopt the Bidder's EEO Covenants, and complete the foregoing certification may cause the bidder's proposal to be rejected as being non-responsive to the State's Equal Employment Opportunity Requirements and in non-compliance with the State Equal Employment Opportunity Bid Conditions. In addition, the bidder must, prior to the execution of a contract, submit to the local subdivision a valid Certificate of Compliance for Equal Employment Opportunity purposes.

"APPENDIX A" OF THE STATE EEO BID CONDITIONS

MINORITY MANPOWER UTILIZATION GOALS AND TIMETABLES

The following minority goals listed are expressed in terms of percentages of work hours for each trade to be used by the contractor in a designated area. Designated areas are defined as Ohio's Standard Metropolitan Statistical Areas (SMSA). They are: Akron, Cincinnati, Cleveland, Columbus, Dayton, Toledo and Youngstown-Warren. In cases where the project is not located in a designated area, the contractor may adopt minority utilization goals of the near/nearest designated area.

	AKRON		CINCINNATI		CLEVELAND	
			<u>Trade</u>		<u>Trade</u>	
All Trades	10%		Asbestos Workers	9%	Asbestos Workers	17%
			Boilermakers	9%	Boilermakers	10%
			Carpenters	10%	Carpenters	16%
			Elevator Constructors	11%	Electricians	20%
			Floor Layers	10%	Elevator Constructors	20%
			Glaziers	10%	Floor Layers	11%
			Lathers	10%	Glaziers	17%
			Marble, Tile, Terrazzo	8%	Ironworkers	13%
			Millwright	10%	Operating Engineers	17%
			Operating Engineers	11%	Painters	17%
			Painters	11%	Pipefitters	17%
			Pipefitters	11%	Plasterers	20%
			Plasterers	10%	Plumbers	17%
			Plumbers	11%	Roofers	17%
			Sheet Metal Workers	11%	Other Trades	17%
			Other Trades	11%		

"APPENDIX B" OF THE STATE EEO BID CONDITIONS

SPECIFIC AFFIRMATIVE ACTION STEPS

The following Affirmative Action steps are directed at increasing minority utilization:

(1) The contractor should maintain a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the contractor, and the reasons therefore. If such individual was sent to the union hiring hall for referral and not referred back by the union or if referred back by the union or if referred, not employed by the contractor, the file should document this and the reason therefore.

To Demonstrate Compliance: Maintain a file of the names, addresses, telephone numbers, and craft of each minority and female applicant showing (a) the date of contact and whether the person was hired; if not, the reason, (b) if the person was sent to a union for referral, and the results (c) follow-up contacts when the contractor was hiring.

(2) The contractor should promptly notify the State Contracting Agency when the Union or Unions with which the contractor has collective bargaining agreements does not refer to the contractor a minority or female worker referred (to the union) by the contractor, or when the contractor has information that the union referral process has impeded efforts to meet its goals.

To Demonstrate Compliance: Have a copy of letters sent, or do not claim the union is impeding the contractors' efforts to comply.

(3) The contractor should disseminate its Equal Employment Opportunity policy within its organization by including it in any company newsletters and annual reports; by advertising at reasonable intervals in union publications; by posting of the policy; by specific review of the policy with minority and female employees; and by conducting staff meetings to explain and discuss the policy.

To Demonstrate Compliance: Have a written EEO policy which includes the name and how to contact the contractor's EEO Officer and (a) include the policy in any company policy manuals, (b) post a copy of the Policy on all company bulletin boards (in the office and on all job sites), (c) records, such as reports or diaries, etc., that each minority and female employee is aware of the Policy and that it has been discussed with them, (d) that the policy has been discussed regularly at staff meetings and (3) copies of newsletters and annual reports which include the Policy.

(4) The contractor should continually monitor all personnel activities to ensure that its EEO policy is being carried out, including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.

To Demonstrate Compliance: Have records that the company EEO Officer reviews all: (a) monthly workforce reports, (b) hiring and terminations, (c) training provided on-the-job, (d) minority and female employees quarterly for promotion and encourages them to prepare for and seek promotion. The records should be the EEO Officer's job description, reports, memos, personnel files, etc., documenting the activities for possible discriminatory patterns.

(5) The contractor should disseminate its EEO policy externally by informing and discussing it with all recruiting sources; by advertising it in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.

To Demonstrate Compliance: Have copies of (a) letters sent, at least six months or at the start of each new major contract, to all recruiting sources (including labor unions) requiring compliance with the

Policy, (b) advertising, which has the EEO "tagline" on the bottom, and (c) purchase order and subcontract agreement forms will include or make reference to the State EEO Covenant, Appendix A or B of the Ohio Administrative Code 123:2-3-02.

(6) The contractor should make specific and reasonably recurrent oral and written recruitment efforts directed at minority and women's organizations, and training organizations with the contractor's recruitment area.

To Demonstrate Compliance: Have a record either in a follow-up file for each organization or on the reverse of the notification letter sent under Item 1, above, of the dates, individuals contacted and the results of the contract from telephone calls or personal meetings with the individuals or groups notified under Item 1.

(7) The contractor, where reasonable, should develop on-the-job training opportunities and participate and assist in all Department of Labor funded and/or approved training programs (including Apprenticeship) Programs relevant to the contractor's employee needs consistent with its obligations in the Bid Conditions.

To Demonstrate Compliance: Have records of contributions in cash, equipment supplied and/or contractor personnel provided as instructors for Bureau of Apprenticeship and Training approved or Department of Labor funded training programs and records of the hiring and training of minorities and females referred to Company by such programs.

(8) The contractor should solicit bids for subcontracts (and joint ventures) from available minority and female subcontractors engaged in the trades covered by the Bid Conditions, including circulation of minority and female contractors associations.

To Demonstrate Compliance: Have copies of letters or other direct solicitation of bids for subcontracts/joint ventures from minority/female contractors with a record of the specific response and any follow-up the contractor has done to obtain a price quotation or to assist a minority/female contractor in preparing or reducing a price quotation; have a list of all minority/female subcontracts awarded or joint ventures participated in with dollar amounts, etc.

EXPLANATION OF AN ACCEPTABLE AFFIRMATIVE ACTION PROGRAM:

An Affirmative Action Program is a set of specific and result-oriented procedures to which a Contractor shall apply every good faith effort. The objective of those procedures and efforts is to assure equal employment opportunity. An acceptable Affirmative Action Program will include an analysis of all trades employed by the Contractor within the last year with an explanation of whether Minorities are currently being under-utilized in any one or more trades. A necessary prerequisite to the development of a satisfactory Affirmative Action Program is the identification and analysis of problem areas inherent in Minority employment and an evaluation of opportunities for utilization of Minority group personnel.

Part I - Basic Contents of an Affirmative Action Program:

1. Development or reaffirmation of the contractor's EEO policy in all personnel actions.
2. Formal internal and external dissemination of contractor's EEO policy.
3. Establishment of responsibilities for implementation of the contractor's affirmative action program.
4. Identification of problem areas (deficiencies) by organizational units and job classification.

5. Establishment of goals and objectives by organizational units and job classification, including timetables for completion.
6. Development and execution of action oriented programs designed to eliminate problems and further designed to attain established goals and objectives.
7. Design and implementation of internal audit and reporting systems to measure effectiveness of the total programs.
8. Compliance of personnel policies and practices with Federal sex discrimination guidelines (41 CFR Part 60-20).
9. Active support of local and national community action programs and community service programs, designed to improve the employment opportunities of minorities.
10. Consideration of ethnic minorities and women not currently in the work force having requisite skills who can be recruited through affirmative action measures.
11. Summary data on applicant flow, hires, terminations and promotions, and training for the last twelve months or the last one hundred applicants, hires, etc., whichever is less.

Part II - Analysis of Individual Trades

1. The minority population of the labor area surrounding (contractor's) projects.
2. The size of the minority unemployment force in the labor area surrounding (the contractor's) projects.
3. The percentage of minority work force as compared with the total work force in the immediate labor area.
4. The general availability of minorities having requisite skills in the immediate labor area.
5. The availability of minorities having requisite skills in the area in which the contractor can reasonably recruit.
6. The availability of promotable minority employees within the contractor's organization.
7. The anticipated expansion, contraction, and turnover of an in the work force.
8. The existence of training institutions capable of training minorities in the requisite skills.
9. The degree of training which the contractor is reasonably able to undertake as a means of making all job classes available to minorities.

Goals, timetables and affirmative action commitments must be designed to correct any identifiable deficiencies. Where deficiencies exist and where numbers or percentages are relevant in developing corrective action, the contractor shall establish and set forth specific goals and timetables. Such goals and timetables, with supporting data and the analysis thereof shall be a part of the contractor's written affirmative action program. Where the contractor has not established a goal, its written affirmative action program must specifically analyze each of the factors listed above, and must detail its reason for a lack of a goal. The goals and timetables should be attainable in terms of the contractor's analysis of its deficiencies and its entire action. Thus, in establishing its goals and timetables, the contractor should consider the results which could be reasonably expected from its good faith efforts to make its overall affirmative action program work. If the contractor does not meet its goals and timetables, the

contractor's good faith efforts shall be judged as to whether the contractor is following its program and attempting to make the program work toward the attainment of its goals.

Support data for the above analysis and program shall be compiled and maintained as part of the contractor's affirmative action program. This data should include applicant flow data and applicant rejection ratios indicating minority status.

Compliance Status: No State Contractor's compliance status shall be judged alone by whether or not he reaches his goals and meets his timetables. Rather each Contractor's compliance posture shall be reviewed and determined by reviewing the contents of his program, the extent of his adherence to his program and his good faith efforts to make his program work toward the realization of the program's goals within the timetables set for completion.

“APPENDIX C” OF THE STATE EEO BID CONDITIONS

FEMALE UTILIZATION GOALS

OAC 123:2-3-05 Required utilization analysis and goals

(A) Each state-involved contractor shall include in his/her affirmative action program the information and analysis required pursuant to part IV 401-C of appendix A of rule 123:2-1-01 of the Administrative Code, in addition to female utilization requirements pursuant to the governor's "Executive Order 84-9" and this rule.

(B) As required by the governor's "Executive Order 84-9", the utilization of women shall be, at a minimum, that currently in use by the federal government as of February 15, 1984. This requirement stated at C.F.R. part 60-4 is 6.9 percent utilization of women. This requirement shall remain at 6.9 percent unless further amended by the governor in a subsequent order. This requirement shall be met by a determination of work hours utilized in the same manner as minority utilization hours are calculated.

WARREN COUNTY WATER AND SEWER DEPARTMENT

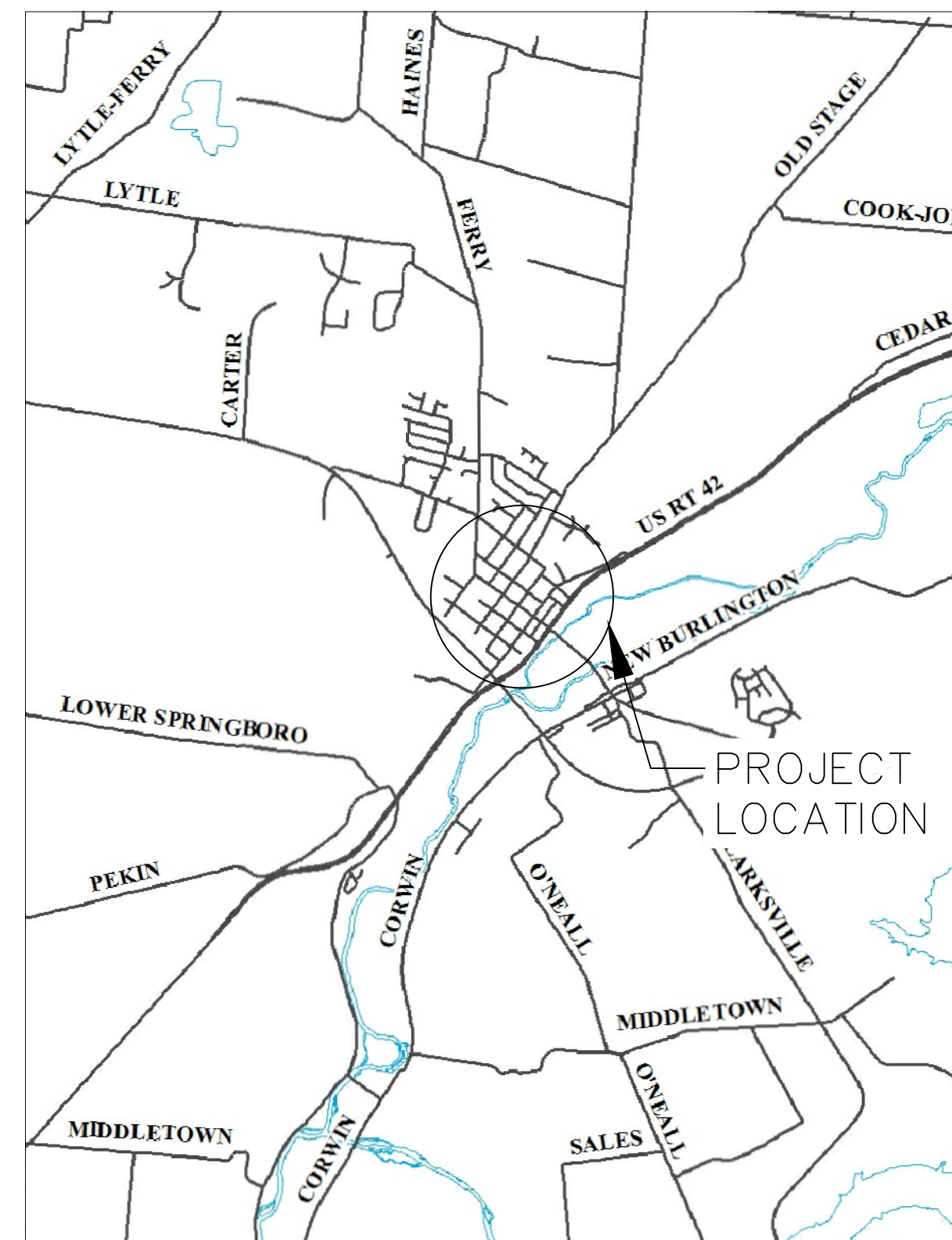


WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS - PHASE I

WARREN COUNTY, OHIO VILLAGE OF WAYNESVILLE

SHEET INDEX

- 01 TITLE SHEET
- 02 NOTES
- 03 DETAILS - MANHOLE REHAB
- 04 DETAILS - SANITARY
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- 06 PLAN VIEW
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VICINITY MAP
NTS



WAYNESVILLE COLLECTION SYSTEM
IMPROVEMENTS - PHASE I
VILLAGE OF WAYNESVILLE

Project	WAYNESVILLE	Sheet	01
Date	8/15/18		
Scale	NTS		
Designed By	K. GILBERT		
Reviewed By	C. WOJNICZ		

GENERAL NOTES

SPECIFICATIONS:

Any modification to the specifications or changes to the work as shown on the drawings must have prior written approval by the Project Owner. Approval of this plan is contingent upon all easements and rights-of-entry required for construction of the improvements work being secured by the County.

The County will not be responsible for means, methods, procedures, techniques, or sequences of construction that are not specified herein. The Contractor shall furnish all labor, materials, tools, equipment, services, and related accessories for a complete project as described in the plans and specifications. The price for items of work or materials shown on the plans or provided for in the specifications or special provisions for which no separate unit price or method of payment are given shall be distributed among the various bid items. Submission of a bid shall be considered evidence that the bidder is satisfied with the plans and conditions as shown. No additional compensation will be paid to the Contractor for compliance with the plans, specifications, or special provisions.

SAFETY REQUIREMENTS:

The Contractor and any and all Subcontractors shall be solely responsible for complying with all federal, state, and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also solely the responsibility of the Contractor and Subcontractor to initiate, maintain, and supervise all safety requirements, precautions, and programs in connection with the work.

CONFINED SPACE ENTRY:

The Contractor shall be solely responsible for following OSHA requirements for "Confined Space Entry" (CSE), Title #29 of the Federal Regulations Code, Part 1910.145, while performing work inside and manhole or other confined space requiring a permit. Copy of the CSE permits shall be given to the County upon project completion.

PERMITS:

The Contractor shall secure and pay for all permits and government fees, licenses, and inspections necessary for the proper execution and completion of the improvements shown on the plans.

NOTIFICATION:

The Contractor shall be responsible for Property Owner notifications which shall include three (3) separate notices. The initial notification will provide general project information and will be distributed shortly after the Notice to Proceed has been issued. The second notification shall alert property owners to any utility disruptions and to minimize water usage. The second notice shall be distributed two (2) working days prior to commencement of work. The third resident notification shall inform Property Owners that work on their portion of their sewer is complete and they may resume normal water usage. The third notice shall be distributed immediately upon completion of work. Please refer to SS-07 "Cured in Place Pipe" for further details. All costs for notifications shall be included in the bid price for the various cured-in-place pipe. No additional payment will be made.

INSPECTION:

Warren County will provide all construction inspection for this project. No work shall be commenced until arrangements have been made with the County for inspection services and a pre-construction meeting has taken place.

UTILITIES:

The Contractor shall notify the Ohio Utilities Protection Services (OUPS) at (1-800-362-2764) at least 48 HOURS, and no more than 10 DAYS PRIOR to excavating, with such time periods not including weekends or holidays. Contractors shall similarly contact all utility owners who are not subscribers to OUPS.

The Contractor is responsible for the investigation, location, support, protection, and restoration of all existing utilities and appurtenances whether shown on the plans or not. The Contractor shall proceed with the work and protect all underground utilities in a manner at least as cautious and protective of safety and underground utilities as those methods identified in Section 3781.25 through 3781.30 of the Ohio Revised Code. All private utility relocation (gas, electric, phone, etc.) will be the responsibility of the utility owners. The Contractor is responsible for coordinating the relocation and/or protection of any utilities as required by the plan with the owner of the affected utility.

RIGHTS-OF-WAY:

In addition to the direct requirements of the Contract Specifications, the Contractor shall observe and conform to the specific requirements of Right-of-ways, including easements, court entries, right-of-entry, or action filed in court in accordance with the code of the applicable governing agency. The cost of the operations necessary to fulfill such requirements shall be included in the bid price for the various items of the contract unless special provision is made in the contract specifications for such cost under specific items of the contract.

WORK LIMITS:

The Contractor is responsible for containing all performed work and all equipment, materials, vehicles, etc. used to complete the work within the the right-of-way of the streets, roadways, and permanent easements.

STORAGE OF EQUIPMENT AND MATERIALS:

No materials, including pipe, shall be stored within twenty (20) feet of any intersecting street or driveway. During non-working hours, storage of equipment shall comply with these same requirements. Compliance with these requirements shall not in any way relieve the Contractor of his legal responsibilities or liabilities for the safety of the public. The Contractor shall indicate his intent with regard to storage of material at the pre-construction meeting. CIPP material for Sanitary Lining shall be stored in accordance with manufacturers specifications in order to minimize exposure to sunlight and maintain the temperature of the product to within manufacturer's recommendation to avoid premature curing. No material shall be stored in the open or in contact with the ground.

CONVENIENCE FACILITIES:

The Contractor shall furnish and maintain sanitary convenience facilities for the workmen and inspectors for the duration of the work. Cost shall not

be included in the price bid for various items.

PRE-CONSTRUCTION MEETING:

No work shall start prior to a pre-construction meeting. The County will notify the Contractor to arrange a time and date for this meeting. The County shall authorize a start date.

NON-RUBBER Tired VEHICLES:

No non-rubber tired vehicles shall be moved on public streets.

SIGNS, MAILBOXES, FENCES, ETC.:

The Contractor shall be responsible for restoring all signs, mailboxes, fences, guardrail, shrubs, property, drainage structures, or other physical features disturbed or damaged during construction whether shown on the plans or not to their original location and condition and to the satisfaction of the property owner. Cost to be included in the price of bid for various items.

CONSTRUCTION DEBRIS:

The Contractor shall be responsible for the immediate cleanup of any debris, mud, or dirt tracked or spilled on public streets or private drives whether inside or outside the project area. The Contractor is responsible for the cost of any services contracted and/or completed by Warren County in the clean up of any tracking or spillage anytime during project construction. The Engineer may require the Contractor to perform weekly street cleaning if excessive amounts of dirt and mud are left along the street. This may include removal by sweeping, power cleaning, or manual methods. The cost of this work shall be included in the various contract items, unless otherwise specified.

CLEAN UP:

All debris, rubble, unusable materials, and items not salvaged by the Owner shall become the property of the Contractor and shall be removed from the site by the Contractor and disposed of properly.

DEPTH OF EXISTING SEWER:

The inverts shown for the existing sewers to be lined are based on record plan information and field investigation of manholes. Elevations are shown to give an indication as to the approximate depth of the work and any inaccuracies will not materially affect the work or price. No additional payment shall be made.

MANHOLE INVERTS:

When the cured-in-place pipe lining is complete, it is the Owner's intention to have a smooth flow channel from pipe to pipe through the manhole, with no discontinuity in grade. This may be accomplished by lining through the manhole and cutting out the top of the liner or terminating the pipe liner at the manhole wall and building up the base and channel of the manhole as required, matching the invert of the pipe liner. Base and channel work shall be in accordance with Supplemental Specification SS-12. The Contractor must correct manholes with flow line discontinuities prior to acceptance.

PROTRUDING TAPS:

All protruding lateral taps, whether shown on these plans or not, shall be removed flush with the wall of the main line sewer prior to installation of the CIPP liner. Core shall be taken to ensure that the lateral sewer is not damaged beyond the connection point to the main. Payment for trimming protruding taps shall be made under the Item SS-07, "Cured-in-Place Pipe".

SEWER CLEANING:

Heavy objects such as calcium deposits, roots, debris, stone, rock, construction materials, manhole covers, etc, found in the sewer shall be removed as part of the cleaning process with no separate payment. Sewer cleaning shall be performed in accordance with Supplemental Specification SS-02.

MAINTENANCE OF SANITARY SERVICE:

The contractor shall maintain existing sanitary sewers in service during all work on the project using bypass pumping or other method which does not result in sanitary sewer flows being discharged to the ground, streets, sidewalks, etc.

If bypass pumping is performed, the Contractor will be required to monitor with personnel and ensure power is available during all times that pumping is required.

Bypass pumps shall be sized to accommodate all flows and shall not overwhelm downstream sewers, i.e. no water-in-basement complaints either upstream or downstream of the bypass pumping location. Contractor shall be responsible to respond and make repairs and cleanup for all water-in-basement complaints caused by the bypass pumping. Refer to Supplemental Specification SS-05 Bypass Pumping. All costs associated with maintaining sanitary service during construction shall be included in the price bid for item SS-05 "Bypass Pumping, Complete". During the period of installation and curing of the CIPP liner and manhole rehabilitation, the Contractor shall comply with the requirements of Supplemental Specifications SS-07. In addition, the contractor shall either provide continuous service to the affected businesses, or shall schedule work at a time such that the businesses will be closed and not affected by sewer shut off. The Contractor shall be responsible for coordination with the businesses and residents. Cost of complying with this item to be included in the price bid for Item SS-05 "Bypass Pumping, Complete".

LINER THICKNESS:

The liner thickness shown on the plans is the minimum thickness that shall be installed. Prior to lining the Contractor shall submit liner thickness calculations based on ASTM-1216 Methodology to the Owner for review and approval in accordance with Supplemental Specification SS-07. The approved liner thickness shall govern the work, subject to the minimum thickness requirement.

CEMENTITIOUS GROUTING:

All manholes receiving repairs shall be physically inspected prior to the commencement of the repair to detect void spaces behind the manhole wall. Any voids detected shall be filled with grout. All areas where a significant thickness of mineral deposit (1" or more) has been removed from the manhole wall shall also be pressure grouted. Quantities of grout shall be limited as described in the Supplemental Specification SS-10. Cost of grouting work if approved by Warren County shall be covered under Contingency Item SS-10 Cementitious Grouting.

RESIDUAL GROUT:

Contractor shall not allow residual grout in the grouting hoses to be blown out onto the manhole floor, channel, or bench. All residual grout shall be removed and disposed of.

COUNTY WATER:

The Contractor can obtain water from local Warren County hydrants at the intersection of Corwin & Main, approximately 3/4 mile from site at no cost, or the contractor can contact the Village of Waynesville to obtain water under their conditions.

PROCESS WASTEWATER:

Process wastewater generated from operations shall be cooled to a maximum temperature of 100° F and then discharged to the County's sanitary sewer system or contained and disposed of offsite. Under no circumstances shall the process wastewater be discharged into the County stormwater system or stream, which would be a violation of Ohio Revised Code 6111 and as such, subject to "SEVERE PENALTIES" that would be incurred by the Contractor.

EROSION & SEDIMENTATION CONTROL:

Sediment and erosion control shall be provided per the requirements of Warren County and the Standards and Specifications of the "Rainwater and Land Development" manual of the ODNR. All land disturbing activities shall be subject to inspection and site investigation by Warren County and/or Ohio EPA. Sediment and erosion control measures shall be installed per NPDES permit regulations, and/or as directed by the County Engineer, and are to be maintained until such time that they are no longer required by the permit and/or County. Failure to comply with these regulations shall be subject to legal enforcement action. Primary sediment and erosion control practices are mandated by regulations to be in place prior to the beginning of the construction activity. The Contractor shall provide sediment and erosion control at all points where storm water runoff leaves the project including waterways, overland sheet flow, and before stormwater runoff enters the storm sewers. All cost for sediment and erosion control, including maintenance and cleaning, shall be included in various bid items.

MAINTANING TRAFFIC:

The Contractor shall provide all facilities and personnel required for maintaining local traffic and detouring through traffic during construction in accordance with CSMC Item 614 and Plans.

CLEAN WATER CONNECTIONS PROHIBITED:

Roof drains, foundations drains, and other clean water connections to the sanitary sewer are prohibited.

CONDITION OF EXISTING SANITARY SEWER:

The Contractor is advised that the existing sewers may be in a compromised condition. Collapse of the sewer may be possible prior to or during the lining process. The Contractor shall repair any damage or collapse prior to the lining operation. Cost for any repairs required by a changed condition from the bid tapes to the pre-existing tapes will be considered for additional compensation under the price bid for Contingency Item SS-04, Open Cut Point Repair as directed by the Engineer. If repairs are required by the Contractor due to Contractor's means and methods, these repairs will not be measured for payment and are considered incidental to the Contract.

MANHOLE REHABILITATION:

Sanitary manholes shall be rehabilitated in accordance with Supplemental Specification SS-13, SS-14, & SS-15. Rehabilitation may include cementitious lining, base, and channel rehabilitation, and installation of new frame and cover, etc. for each manhole rehabilitated. Manhole rehabilitation will take place after the cured-in-place lining operations are complete. Cost of surface preparation, rehabilitating bench and channel, flow maintenance, step removal and replacement, water plug, and patching mortar shall be included in the unit price bids of SS-12, SS-13, SS-14 & SS-15.

A table of manhole rehabilitation components is included on Sheet 5 of this plan set. The Contractor shall perform all the recommended rehabilitation components provided on the tables as part of the base bid for this project.

SITE ACCESS:

All Construction equipment must access the project via Simpson Trace Dr.

WORK HOURS:

Work hours permitted 8:00am to 5:00pm unless otherwise adjusted by Owner.

PUMP STATION OPERATION:

The Contractor shall be in contact with Jason Sorrell, Sewer Maintenance Superintendent (Cell # 513-260-7768), during any periods that sanitary sewer flow is being bypassed or periods when flow through the sewer and manholes is obstructed, to coordinate construction operations with the pump station operations.

CONSTRUCTION LIMITS:

Construction limits shall be within the existing public utility easement.

RESTORATION AND CLEANUP:

It is the intent of the County to keep inconvenience to the property Owners to an absolute minimum. All work prescribed and described in these Specifications is situated in improved areas. All work is to continue on a uniform basis and on schedule, particularly the restoration on clean up of disturbed areas after construction. Areas disturbed during construction shall be seeded and mulched within 48 hours of the sewer installation and immediate re-grading. A commercial fertilizer (12-12-12) shall be applied at a rate of 20 lbs. per 1000 s.f.

ESTIMATE OF QUANTITIES

NO.	QUANTITY	UNITS	DESCRIPTION
1	1	LS	Temporary Sediment and Erosion Control
2	1	LS	Maintenance of Traffic
3	178	SY	Seeding & Mulching
4	6,245	LF	Sewer Cleaning
5	6,245	LF	CCTV Video Inspection
6	1	LS	Bypass Pumping, Complete
7	5,825	LF	8" Cured-in-Place Pipe, Thickness per ASTM F1216, including Reinstatement of Laterals
8	420	LF	18" Cured-in-Place Pipe, Thickness per ASTM F1216, including Reinstatement of Laterals
9	5	CF	Cementitious Grouting, as Directed by County
10	10	Gal.	Chemical Grouting, as Directed by County
11	108	Ver. Ft	Urethane/Epoxy Composite Manhole Rehabilitation
12	107	Ver. Ft	Mortar/Epoxy Manhole Rehabilitation
13	60	Ver. Ft.	Reinforced Epoxy Structural Manhole Rehabilitation
14	30	EA	Chimney Seal (Flex Seal Product or Equal)
15	10	LF	Open Cut Point Repair (8" Pipe)
16	1	EA	Lateral Trimming (Protruding)
17	1	EA	OPWC Sign

General Notes

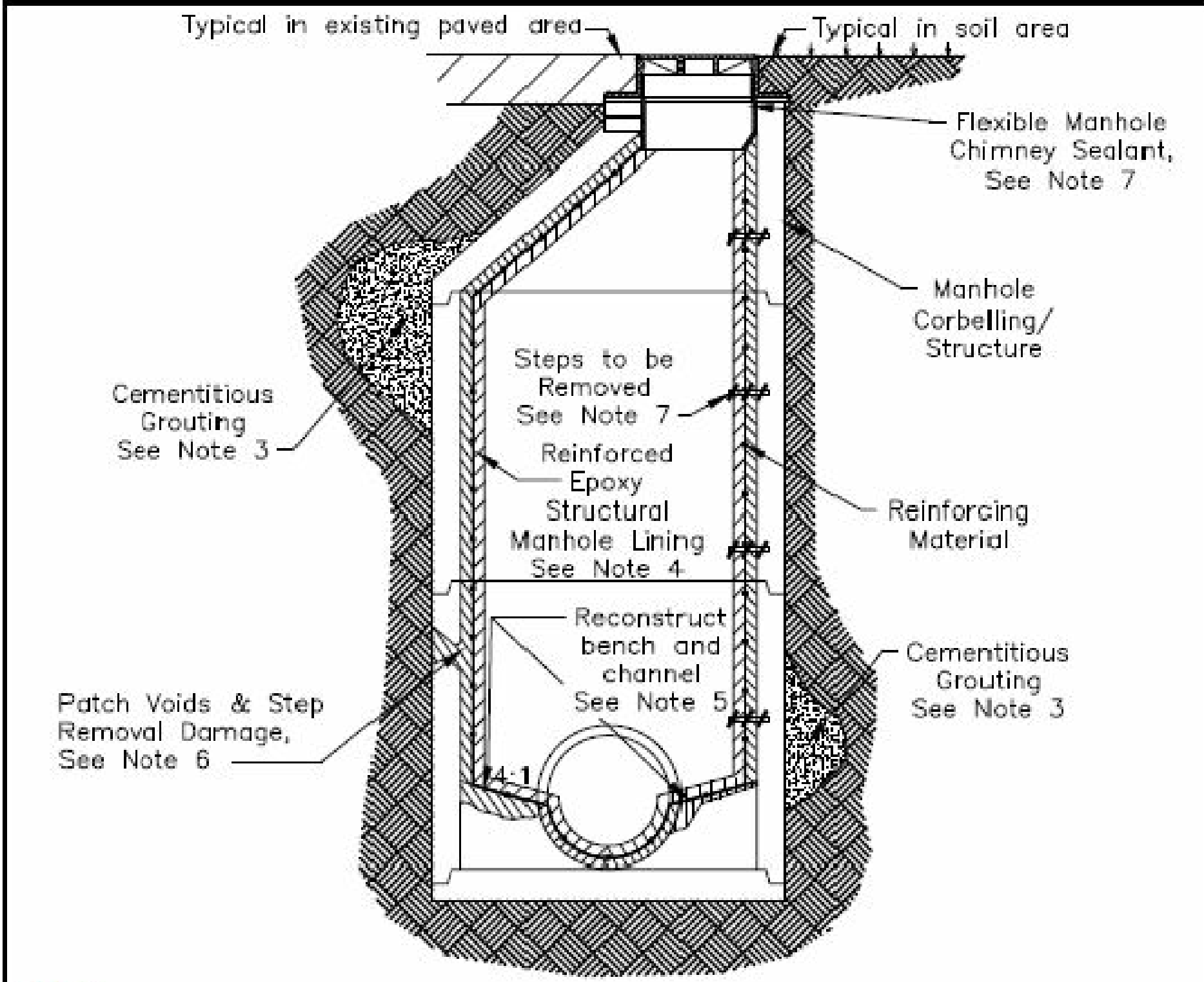
No.	Revision/Issue	Date

SEAL



WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS – PHASE I
NOTES & QUANTITIES

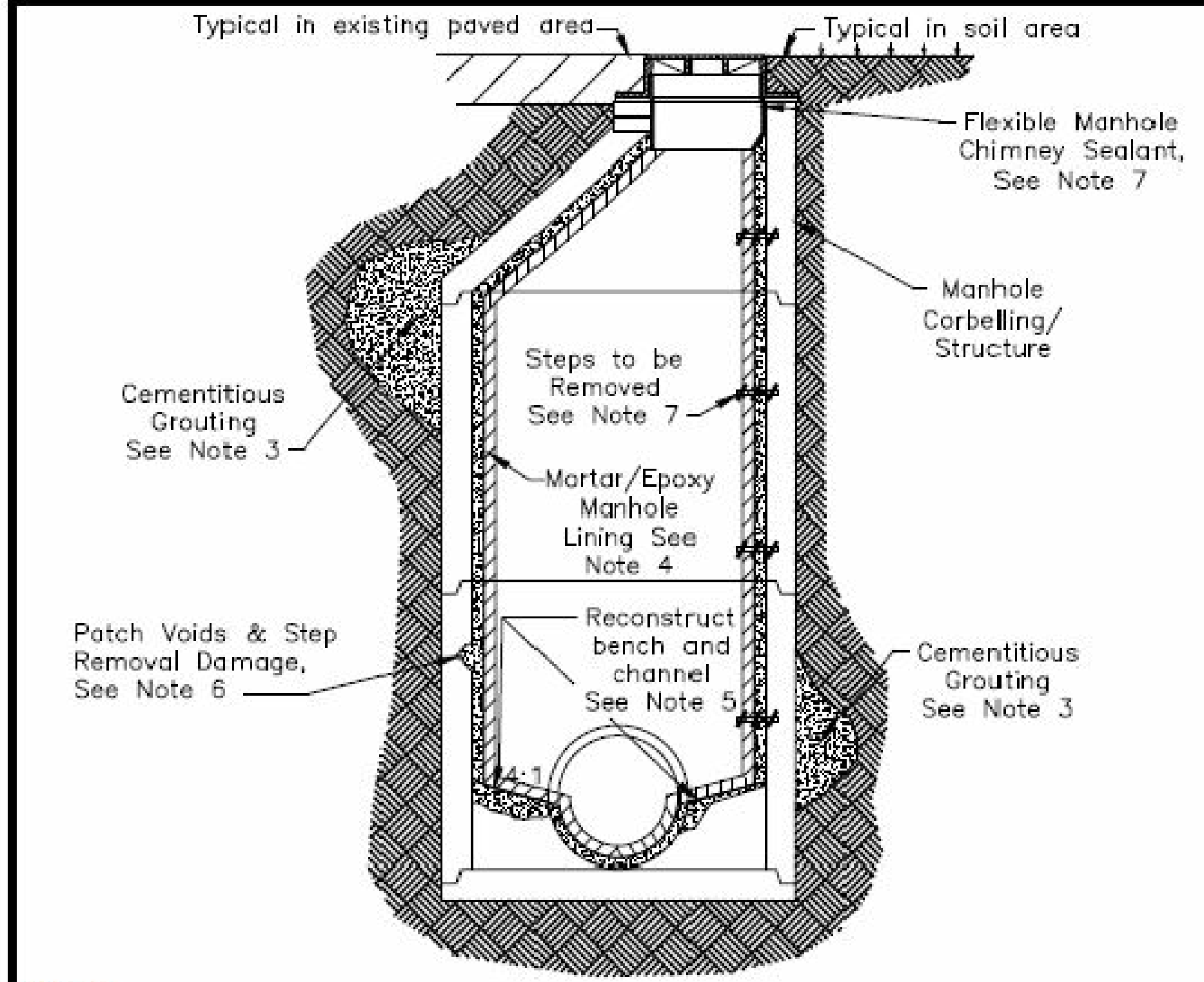
Project WAYNESVILLE	Sheet
Date 8/15/18	02
Scale NTS	
Designed By K. GILBERT	
Reviewed By C. WOUNICZ	



- NOTES:**
- Supplemental Specifications called out within this plan are to be provided in the contract documents for this project.
 - The Contractor shall place a device in the manhole to catch any debris which may fall into the manhole during performance of work. All materials resulting from the cleaning and/or repair of the manhole shall be removed and properly disposed of.
 - Manhole shall be visually inspected for leaks and/or voids. Manhole walls shall be sounded with a hammer and all voids shall be filled with grout as per Supplemental Specification SS-10 and paid under Contingency Item SS-10, Cementitious Grouting, as directed by the County.
 - Manhole walls to be cleaned, patched, and lined per Supplemental Specification SS-15 and paid under Item SS-15, Reinforced Epoxy Structural Manhole Rehabilitation.
 - The Contractor shall rehabilitate the bench and channel per Supplemental Specification SS-15 and paid under Item SS-15, Reinforced Epoxy Structural Manhole Rehabilitation.
 - The Contractor shall patch voids and Manhole Step removal damage smooth and flush with the face of the Manhole Wall per Supplemental Specifications SS-15 and paid under Item SS-15, Reinforced Epoxy Structural Manhole Rehabilitation.
 - All manhole steps shall be removed and paid under Item SS-15, Reinforced Epoxy Structural Manhole Rehabilitation.
 - Flexible Chimney Sealant shall be manufactured by Cretex, NPC, or approved equal and installed at all manholes per Supplemental Specifications SS-24. Cost shall be paid per manhole under Item, SS-24 Flexible Manhole Chimney Seal.

**REINFORCED EPOXY STRUCTURAL
MANHOLE REHABILITATION DETAIL (SS-15)**

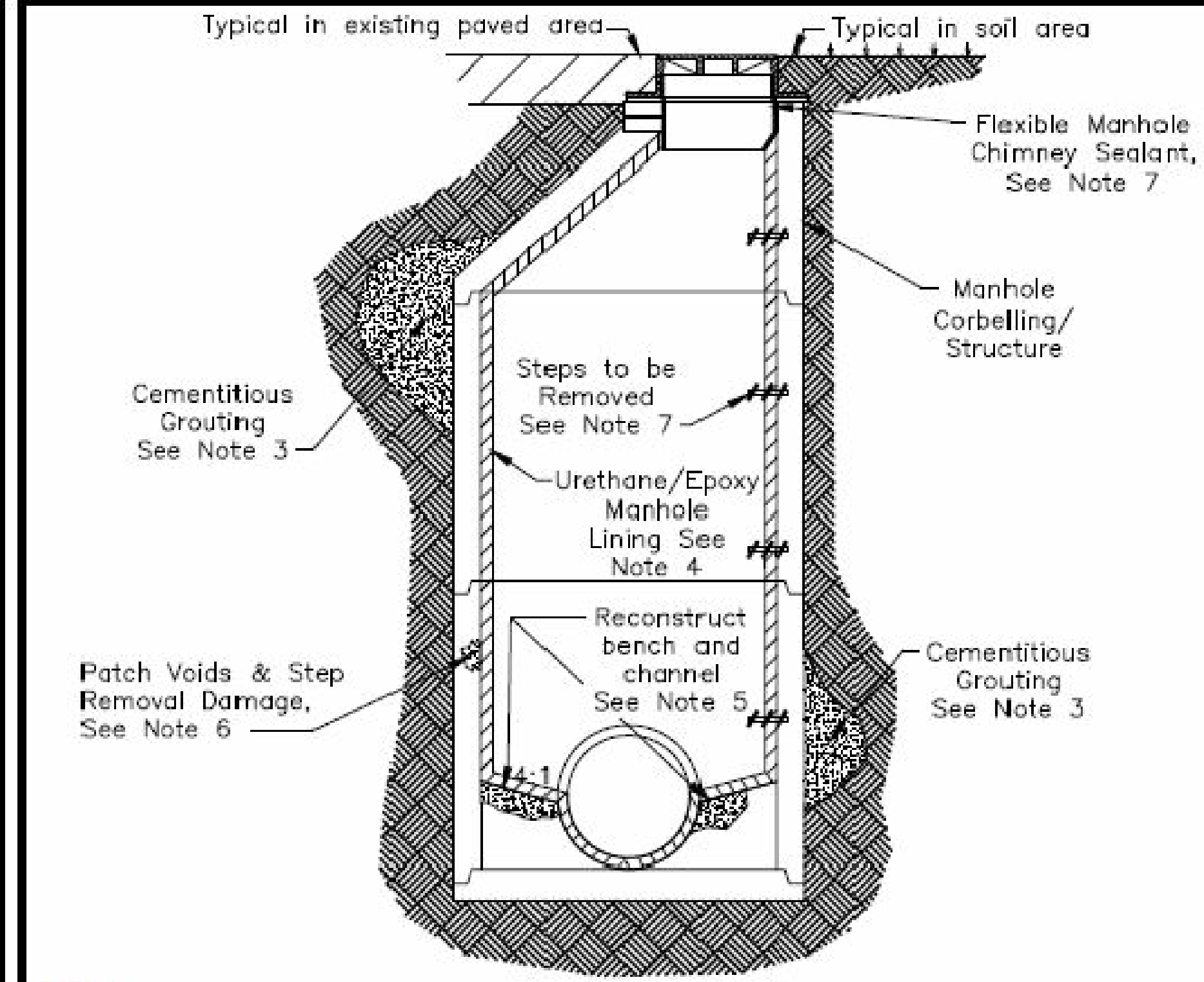
(Not To Scale)



- NOTES:**
- Supplemental Specifications called out within this plan are to be provided in the contract documents for this project.
 - The Contractor shall place a device in the manhole to catch any debris which may fall into the manhole during performance of work. All materials resulting from the cleaning and/or repair of the manhole shall be removed and properly disposed of.
 - Manhole shall be visually inspected for leaks and/or voids. Manhole walls shall be sounded with a hammer and all voids shall be filled with grout as per Supplemental Specification SS-10 and paid under Contingency Item SS-10, Cementitious Grouting as directed by the County.
 - Manhole walls to be cleaned, patched, and lined per Supplemental Specification SS-14 and paid under Item SS-14, Mortar/Epoxy Manhole Rehabilitation.
 - The Contractor shall rehabilitate the bench and channel per Supplemental Specification SS-14 and paid under Item SS-14, Mortar/Epoxy Manhole Rehabilitation.
 - The Contractor shall patch voids and Manhole Step removal damage smooth and flush with the face of the Manhole Wall per Supplemental Specifications SS-14 and paid under Item SS-14, Mortar/Epoxy Manhole Rehabilitation.
 - All manhole steps shall be removed and paid under Item SS-14, Mortar/Epoxy Manhole Rehabilitation.
 - Flexible Chimney Sealant shall be manufactured by Cretex, NPC, or approved equal and installed at all manholes per Supplemental Specifications SS-24. Cost shall be paid per manhole under Item, SS-24 Flexible Manhole Chimney Seal.

**MORTAR/EPOXY COMPOSITE
MANHOLE REHABILITATION DETAIL (SS-14)**

(Not To Scale)



- NOTES:**
- Supplemental Specifications called out within this plan are to be provided in the contract documents for this project.
 - The Contractor shall place a device in the manhole to catch any debris which may fall into the manhole during performance of work. All materials resulting from the cleaning and/or repair of the manhole shall be removed and properly disposed of.
 - Manhole shall be visually inspected for leaks and/or voids. Manhole walls shall be sounded with a hammer and all voids shall be filled with grout as per Supplemental Specification SS-10 and paid under Contingency Item SS-10, Cementitious Grouting as directed by the County.
 - Manhole walls to be cleaned, patched, and lined per Supplemental Specification SS-13 and paid under Item SS-13, Urethane/Epoxy Manhole Rehabilitation.
 - The Contractor shall rehabilitate the bench and channel per Supplemental Specification SS-13 and paid under Item SS-13, Urethane/Epoxy Manhole Rehabilitation.
 - The Contractor shall patch voids and Manhole Step removal damage smooth and flush with the face of the Manhole Wall per Supplemental Specifications SS-13 and paid under Item SS-13, Urethane/Epoxy Manhole Rehabilitation.
 - All manhole steps shall be removed and paid under Item SS-13, Urethane/Epoxy Manhole Rehabilitation.
 - Flexible Chimney Sealant shall be manufactured by Cretex, NPC, or approved equal and installed at all manholes per Supplemental Specifications SS-24. Cost shall be paid per manhole under Item, SS-24 Flexible Manhole Chimney Seal.

**URETHANE/EPOXY
MANHOLE REHABILITATION DETAIL (SS-13)**

(Not To Scale)

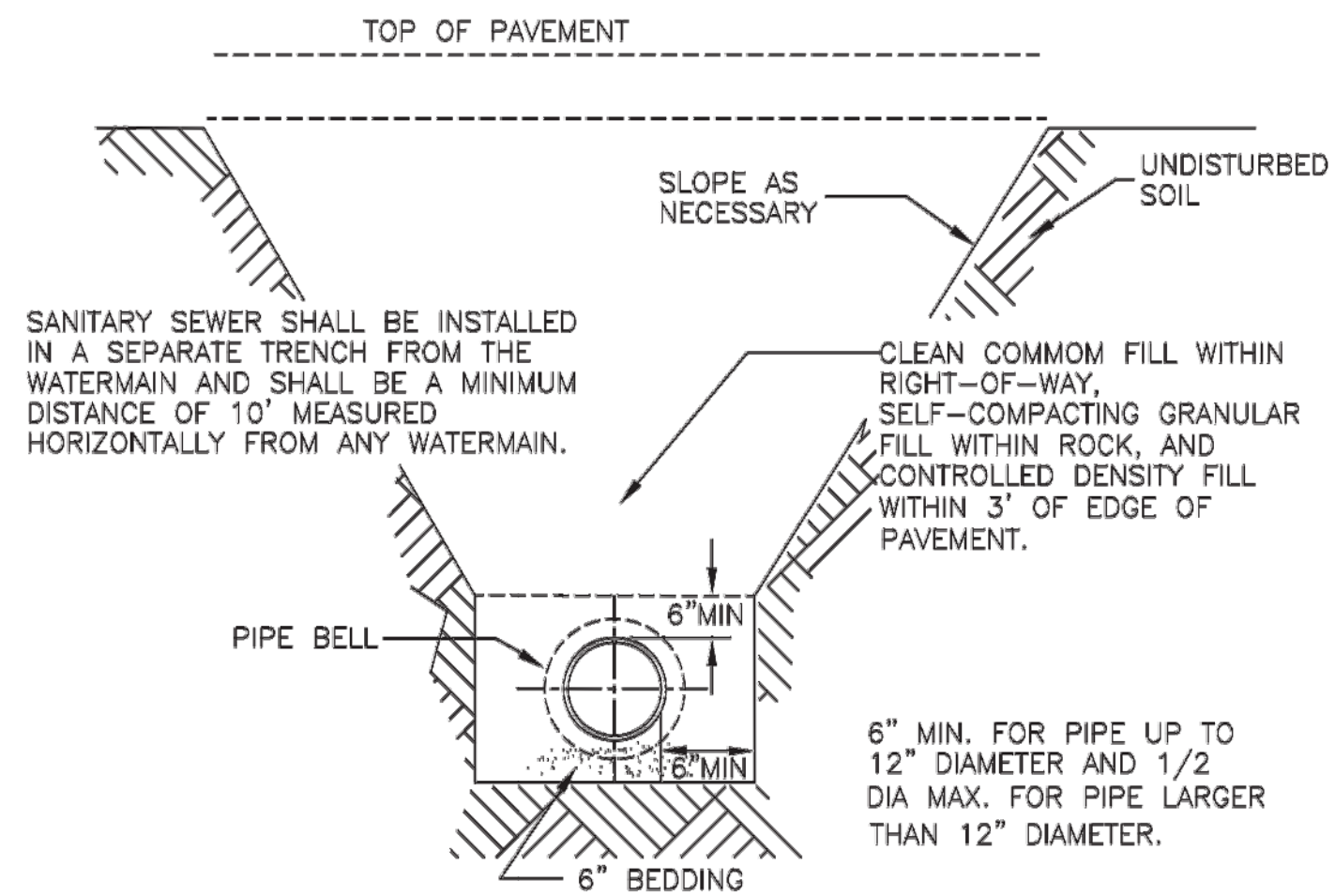
No.	Revision/Issue	Date

SEAL



WAYNESVILLE COLLECTION SYSTEM
IMPROVEMENTS - PHASE I
MANHOLE REHAB DETAILS

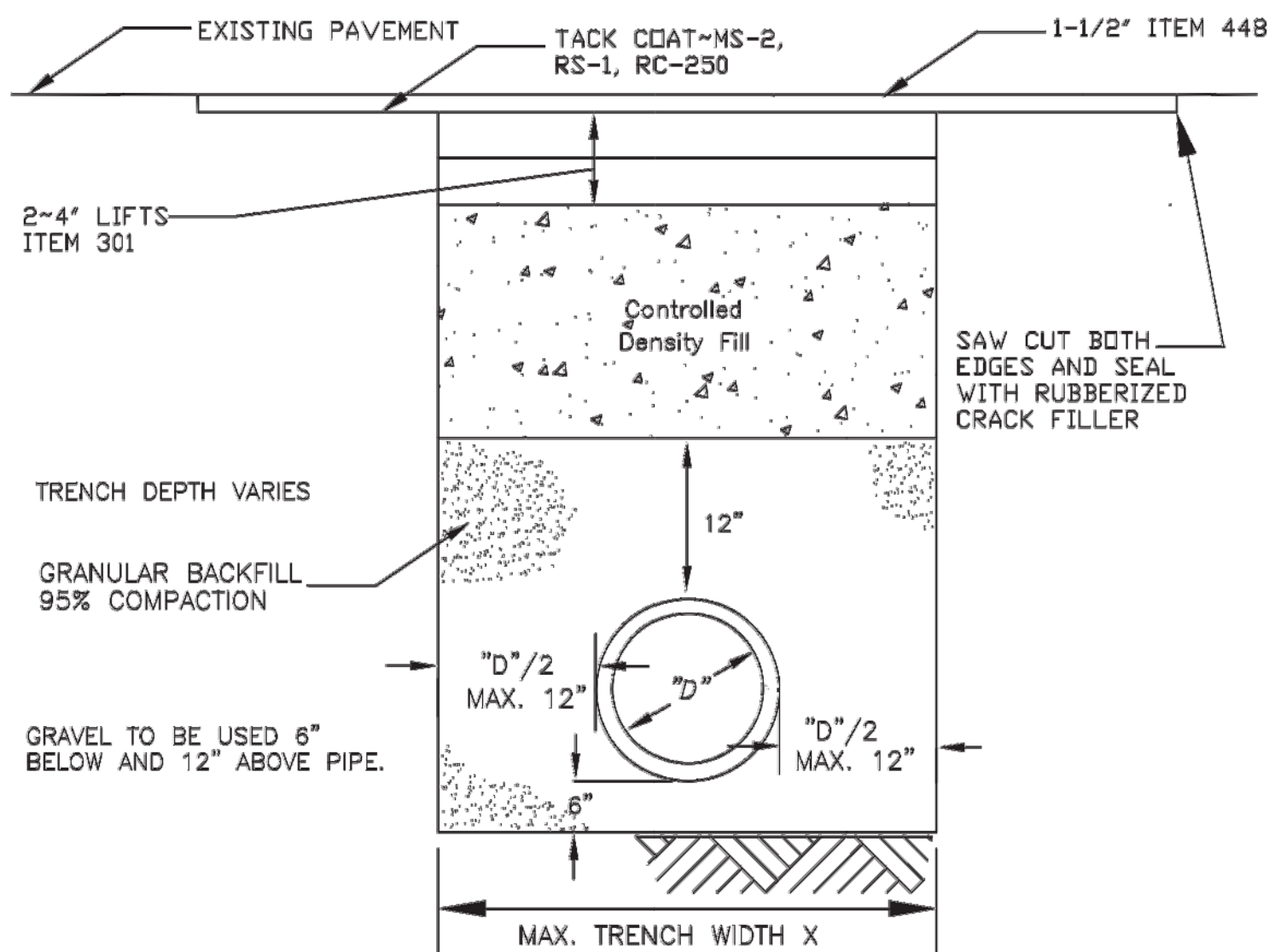
Project WAYNESVILLE	Sheet
Date 8/15/18	03
Scale NTS	
Designed By K. GILBERT	
Reviewed By C. WOUNICZ	



- NOTES:
- TRENCH SIDES SHALL MEET OSHA REQUIREMENTS.
 - TRENCH SHALL HAVE FLAT BOTTOM SO THAT PIPE WILL BE SUPPORTED UNIFORMLY ALONG THE BARREL.
 - NO SUPPORT BY BLOCKING IS PERMITTED.

SANITARY GRAVITY SEWER TRENCH DETAIL

APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		S-6



ALL DIMENSIONS ARE MINIMUM - ACTUAL TO BE PER COUNTY ENGINEER OR ODOT INSTRUCTIONS & PERMIT.

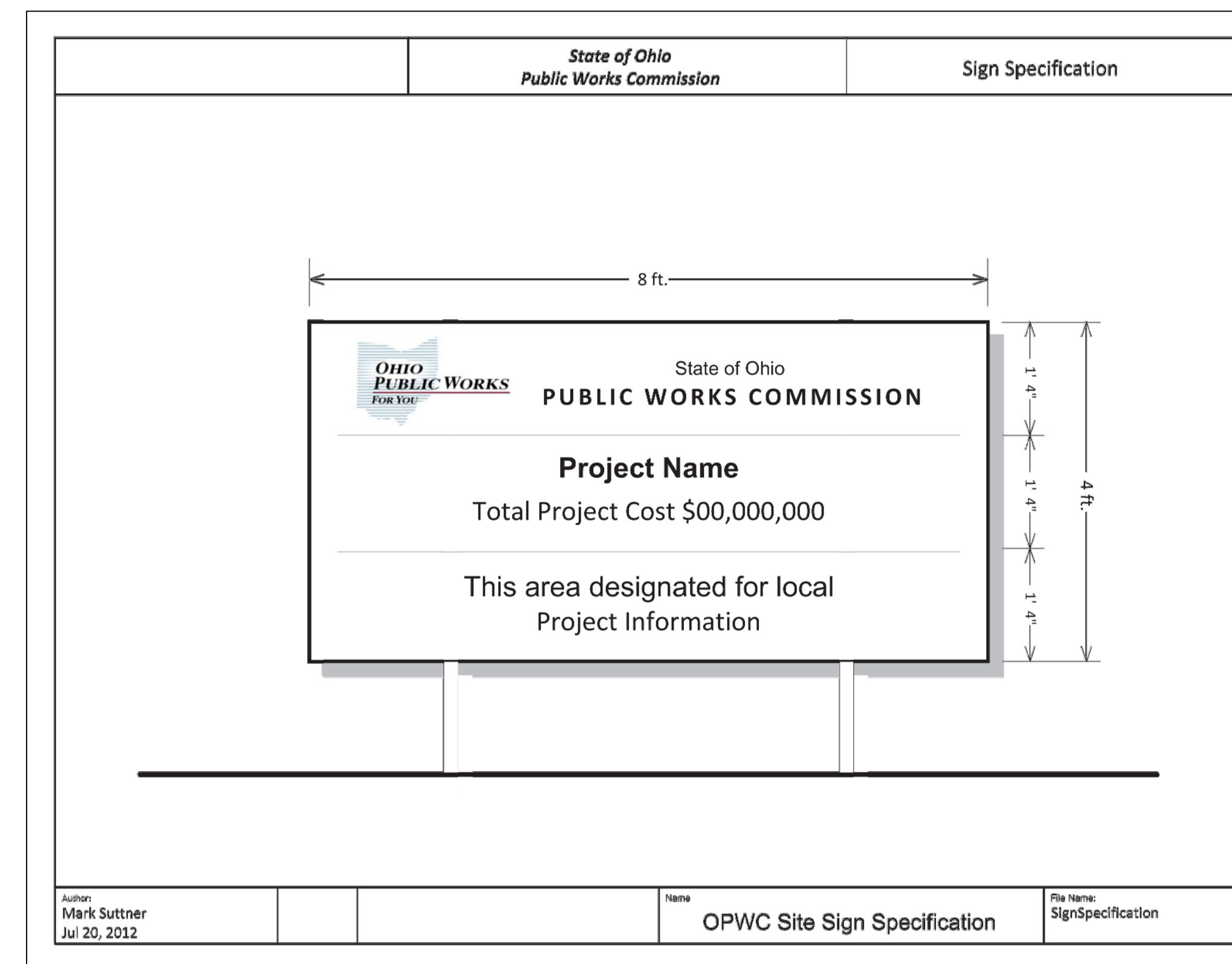
TRAFFIC MUST BE MAINTAINED AT ALL TIMES; LIGHTS, SIGNS, BARRICADES AND IF NECESSARY, FLAGMAN AND WATCHMEN TO BE ON JOB FOR PROTECTION OF THE PUBLIC. STREET PLATES MUST CONFORM TO COUNTY ENGINEER OR ODOT REQUIREMENTS.

FLASHFILL OR CONTROLLED DENSITY FILL TO A MINIMUM DISTANCE OF 3 FEET BEYOND THE EDGE OF PAVEMENT. TRENCH BACKFILL AND PAVEMENT RESTORATION MUST CONFORM TO THE APPLICABLE WARREN COUNTY ENGINEER OR ODOT SPECIFICATIONS.

EXISTING PAVEMENT EDGES SHALL BE NEATLY AND SQUARELY TRIMMED AND/OR MILLED. PAVEMENT MUST MATCH EXISTING ROAD THICKNESS OR AS SPECIFIED BY COUNTY ENGINEER OR ODOT.

ROAD PAVEMENT CUT AND RESTORATION AT ROADWAY CROSSING

APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		S-7



SEWER

- ALL SANITARY PIPE SHALL CONFORM TO ASTM D-2680 FOR ABS/PVC GASKETED COMPOSITE PIPE (TRUSS), ASTM D-3034 FOR SDR 26 GASKETED 4" - 15" DIAMETER OR ASTM F-679 FOR SDR 26 GASKETED 18" - 30" DIAMETER. PIPE LARGER THAN 15" SHALL CONFORM TO ASTM F-949 (A2000) OR ASTM F-1803. CERAMIC COATED CLASS 53 DUCTILE IRON PIPE OR EQUAL MUST BE USED WHERE SPECIFIED BY THE COUNTY SANITARY ENGINEER. JOINTS FOR PVC GRAVITY SEWER PIPE SHALL BE PUSH-ON TYPES WITH RUBBER GASKETS. PIPE ENDS SHALL NOT BE BEVELED. PIPE ENDS MUST BE SEALED.
- ROOF DRAINS, FOUNDATION DRAINS AND OTHER STORM WATER CONNECTIONS TO THE SANITARY SYSTEM ARE PROHIBITED.
- NO MANHOLE, OR ANY PORTION OF THE MANHOLE, SHALL BE LOCATED UNDER A SIDEWALK OR DRIVEWAY.
- SANITARY SEWER LATERALS SHALL BE CONSTRUCTED OF THE FOLLOWING MATERIALS:
 - ABS PIPE - ASTM D-2751 WITH SDR 23.5 (6" GLUE JOINT)
 - PVC PIPE - ASTM D-3034 WITH SDR 23.5 (6" GLUE OR GASKET JOINT)
ASTM D-2665 SCHEDULE 40
ASTM D-3034 WITH SDR 35 (6" ONLY)
 - DUCTILE IRON - CLASS 53 (6")
- SEWER LATERALS MUST BE EXTENDED TO THE HOUSE SIDE OF UTILITY EASEMENTS AND SHALL BE MARKED BY TWO INCHES (2") BY FOUR INCHES (2" X 4") OR LARGER POSTS. POSTS SHALL BE PAINTED GREEN. A SIX FOOT (6') LENGTH OF #6 REINFORCED BAR SHALL BE INSTALLED AGAINST THE POST. END OF SEWER LATERAL SHALL NOT EXCEED 4' IN DEPTH UNLESS APPROVED BY THE COUNTY SANITARY ENGINEER. SEE DETAIL S-14A.
- ONLY SANITARY WYES WITH 45° BENDS SHALL BE USED FOR SANITARY LATERAL INSTALLATION. ALL WYES TO BE GLUE JOINTS ON TRUSS AND COMPOSITE PIPE. ALL SANITARY LATERALS MUST BE SIX INCHES (6") IN DIAMETER WITHIN THE RIGHT-OF-WAY NO CONNECTION SHALL BE MADE TO THE CROWN OF THE SEWER MAIN.
- ALL LATERALS TO BE NOT LESS THAN SIX INCHES (6") INSIDE DIAMETER.
- THE LOCATION OF SEWER LATERALS MUST BE STAMPED IN THE CURB AT THE TIME THE CURB IS PLACED TO PERMANENTLY INDICATE THE LOCATION OF SAID LATERALS.
- THE LOCATION OF ALL SEWER LATERALS MUST BE PROVIDED ON THE AS-BUILT PLANS.
- MANHOLE LATERALS SHALL HAVE AN INVERT TWO INCHES (2") ABOVE MAIN-LINE INVERT.

APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		SG-2A

SEWER (CONTINUED)

- EXISTING MANHOLE CASTINGS ARE TO BE RAISED BY EITHER A MANHOLE ADJUSTING RING OR A BARREL SECTION ADDED. IF THE HEIGHT OF NECESSARY ADJUSTMENT IS OVER ONE FOOT (1') OR THERE IS ALREADY AN EXISTING ADJUSTMENT RING BEING USED, THE CONTRACTOR IS TO USE A NEW BARREL SECTION ONLY. EXTRA CARE IS TO BE TAKEN TO INSURE A PROPER AND TIGHT SEAL AT ALL NEW JOINTS.
- THE CONTRACTOR MUST INSTALL MECHANICAL PLUG(S) AT THE POINT(S) OF CONNECTION TO THE EXISTING SEWER PRIOR TO INITIATING ANY CONSTRUCTION. THE BULK HEAD(S) OR MECHANICAL PLUG(S) SHALL REMAIN IN PLACE UNTIL THE NEW MAINS HAVE BEEN FLUSHED, CLEANED, TESTED, TELEVISED, AND APPROVED FOR USE BY WARREN COUNTY. THE MECHANICAL PLUG(S) CAN ONLY BE REMOVED IN THE PRESENCE OF A WARREN COUNTY SEWER INSPECTOR.
- TRENCH SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MUST INSURE THAT ALL APPLICABLE OSHA OPEN TRENCH SAFETY REQUIREMENTS ARE FOLLOWED. IT IS NOT WARREN COUNTY'S RESPONSIBILITY TO INSPECT EACH SITE FOR COMPLIANCE.
- HDPE PIPE MAY BE USED FOR DIRECTIONAL BORING OF FORCE MAINS WITH APPROVAL FROM THE COUNTY SANITARY ENGINEER. ALL DIRECTIONAL DRILLING SHOULD BE ACCOMPANIED BY DRILLING LOGS AT 25' STATION INCREMENTS, PVC PIPE SHALL BE PERMITTED FOR FORCE MAINS SIX INCHES (6") OR SMALLER IN DIAMETER. FORCE MAINS EIGHT INCHES (8") OR LARGER MUST BE CLASS 53 DUCTILE IRON WITH AN INTERIOR LINING OF EPOXY OR CERAMIC. PVC SHALL CONFORM TO AWWA C900 REQUIREMENTS AND HAVE AN EQUIVALENT OUTSIDE DIAMETER OF DR 14.
- MINIMUM SLOPE SHALL BE AS FOLLOWS:

PIPE SIZE	MINIMUM SLOPE (%)
6"	2.00
8"	.50
10"	.35
12"	.28
15"	.19
18"	.15
- ALL MATERIALS USED SHALL BE DOMESTIC, MADE IN THE UNITED STATES OF AMERICA.

APPROVED/REVISED	WARREN COUNTY STANDARD DETAILS DEPARTMENT OF WATER & SEWER	STANDARD NUMBER
MARCH, 2018		SG-2B

General Notes

No.	Revision/Issue	Date

SEAL

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS - PHASE I
SANITARY DETAILS

Project WAYNESVILLE	Sheet
Date 8/15/18	04
Scale NTS	
Designed By K. GILBERT	
Reviewed By C. WOUNICZ	

Manhole Number	Existing Surface	Type of Manhole	Estimated Depth (feet)	Rehabilitate Bench and Channel	Remove Steps	Manhole Rehabilitation Specification	Approximate GPD (Average)
1	grass	Pre-Cast	23.21	Yes	Yes	SS-13	150,000
2	grass	Pre-Cast	22.86	Yes	Yes	SS-13	150,000
3	grass	Pre-Cast	15.89	Yes	Yes	SS-13	150,000
4	grass	Pre-Cast	17.14	Yes	Yes	SS-13	150,000
5	pavement	Pre-Cast	2.90	Yes	Yes	SS-13	150,000
6	pavement	Brick	9.60	Yes	Yes	SS-14	150,000
7	pavement	Pre-Cast	15.78	Yes	Yes	SS-14	150,000
8	pavement	Pre-Cast	7.115	Yes	Yes	SS-13	300
9	pavement	Brick	8.00	Yes	Yes	SS-15	148,000
10	Paved Over	Brick	6.59	Yes	Yes	SS-15	147,000
11	Paved Over	Brick	6.50	Yes	Yes	SS-14	17,000
12	Paved Over	Brick	7.00	Yes	Yes	SS-14	16,600
13	Paved Over	Brick	7.00	Yes	Yes	SS-15	16,000
14	Paved Over	Brick	5.20	Yes	Yes	SS-15	15,600
15	Paved Over	Brick	4.50	Yes	Yes	SS-15	12,800
16	pavement	Brick	8.00	Yes	Yes	SS-14	12,400
17	pavement	Brick	8.00	Yes	Yes	SS-14	10,400
18	pavement	Brick	8.00	Yes	Yes	SS-14	9,200
19	pavement	Brick	8.00	Yes	Yes	SS-14	8,000
20	pavement	Brick	8.20	Yes	Yes	SS-15	6,800
21	pavement	Pre-Cast	7.44	Yes	Yes	SS-14	129,000
22	Paved Over	Pre-Cast	9.41	Yes	Yes	SS-14	128,200
23	pavement	Brick	9.99	Yes	Yes	SS-14	17,200
24	pavement	Brick	9.22	Yes	Yes	SS-14	15,600
25	pavement	Pre-Cast	8.00	Yes	Yes	SS-13	109,800
26	Paved Over	Pre-Cast	4.50	Yes	Yes	SS-13	106,800
27	pavement	Pre-Cast	6.00	Yes	Yes	SS-13	106,400
28	pavement	Brick	6.60	Yes	Yes	SS-15	800
29	pavement	Brick	6.00	Yes	Yes	SS-15	800
30	pavement	Brick	7.60	Yes	Yes	SS-15	14,900

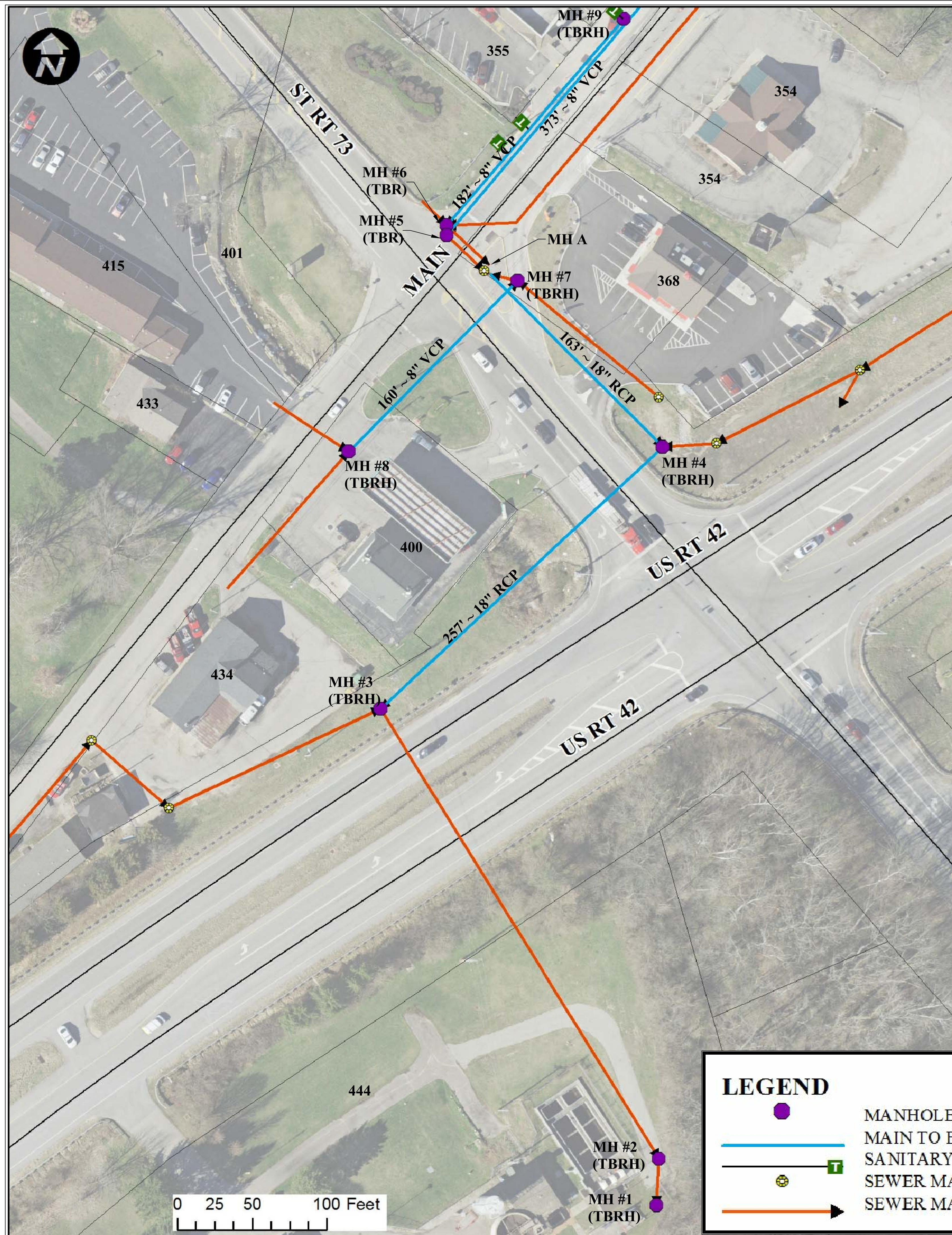
No.	Revision/Issue	Date

SEAL



WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS – PHASE I
MANHOLE REHAB TABLE

Project WAYNESVILLE	Sheet
Date 8/15/18	05
Scale NTS	
Designed By K. GILBERT	
Reviewed By C. WOJNICZ	



General Notes

NOTES:
 1. MANHOLES LABELED "TBRH" (TO BE REHABILITATED) SHALL BE REHABILITATED PER THE STANDARD MANHOLE REHABILITATION DETAILS ON SHEET 3. REHABILITATE MANHOLES AS NOTED ON THE MANHOLE REHABILITATION TABLE ON SHEET 4 OR AS REQUIRED IN WRITING BY WARREN COUNTY. PLEASE SEE TECHNICAL SPECIFICATIONS FOR FURTHER DETAILS.

3. OSHA CLEARANCE REQUIREMENTS TO BE MAINTAINED DURING CONSTRUCTION BETWEEN EQUIPMENT AND OVERHEAD LINES.

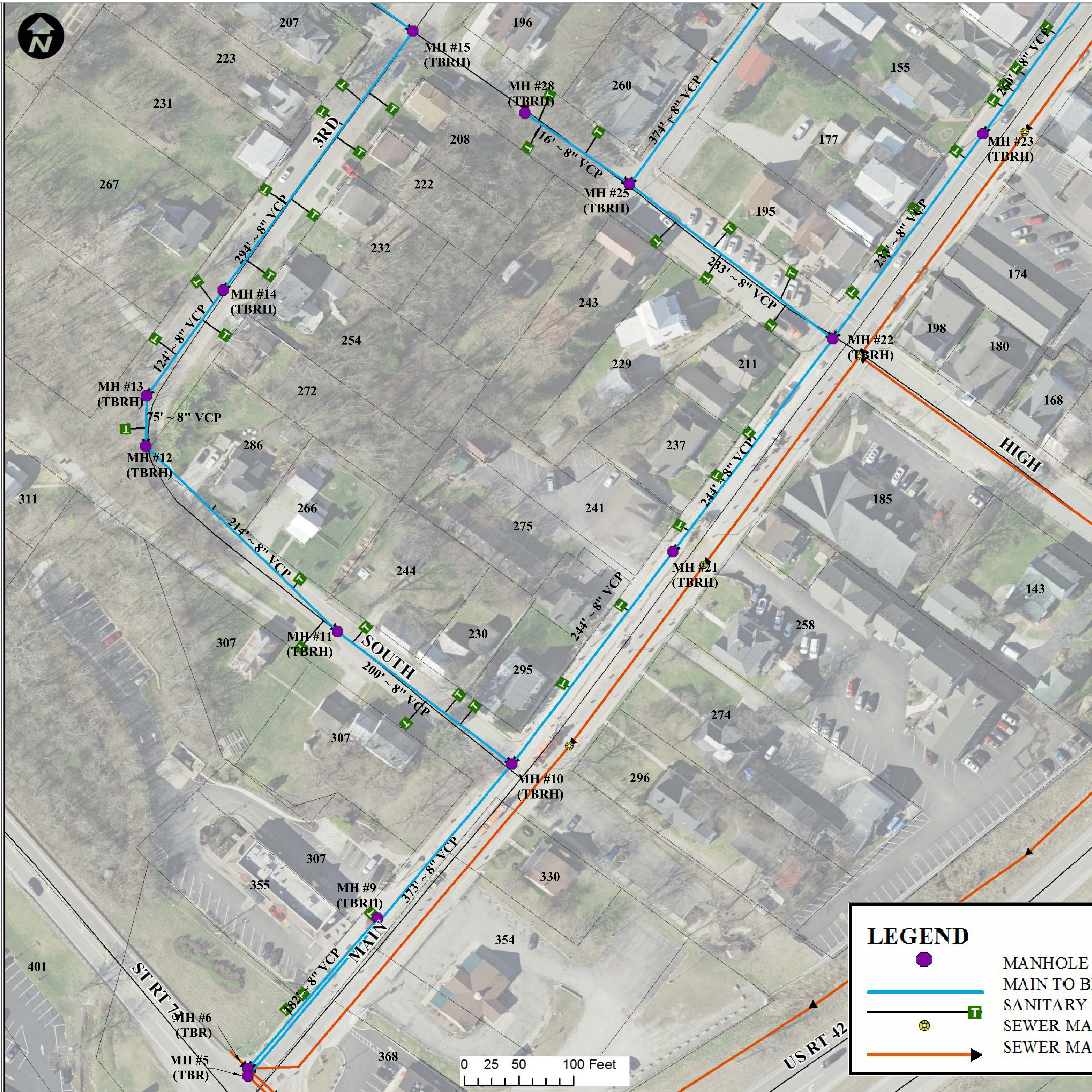
No.	Revision/Issue	Date

SEAL

WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS - PHASE I

PLAN VIEW

Project WAYNESVILLE	Sheet
Date 8/15/18	06
Scale As Noted	
Designed By K. GILBERT	
Reviewed By C. WOJNICZ	



LEGEND

- MANHOLE TO BE LINED
- MAIN TO BE LINED
- T SANITARY SEWER TAP
- SEWER MANHOLE
- SEWER MAIN

- NOTES:**
- MHs # 10, 11, 12, 13, 14, 15, 22, & 26 ARE CURRENTLY PAVED OVER.
 - NO EXISTING VIDEO FOR THE FOLLOWING SPANS DUE TO EXCESS ROOTS:
 - MH #14 - MH #15
 - MH #15 - MH #16
 - MH #16 - MH #17
 - MH #17 - MH #18
 - MH #18 - MH #19
 - MH #25 - MH #28

General Notes

NOTES:

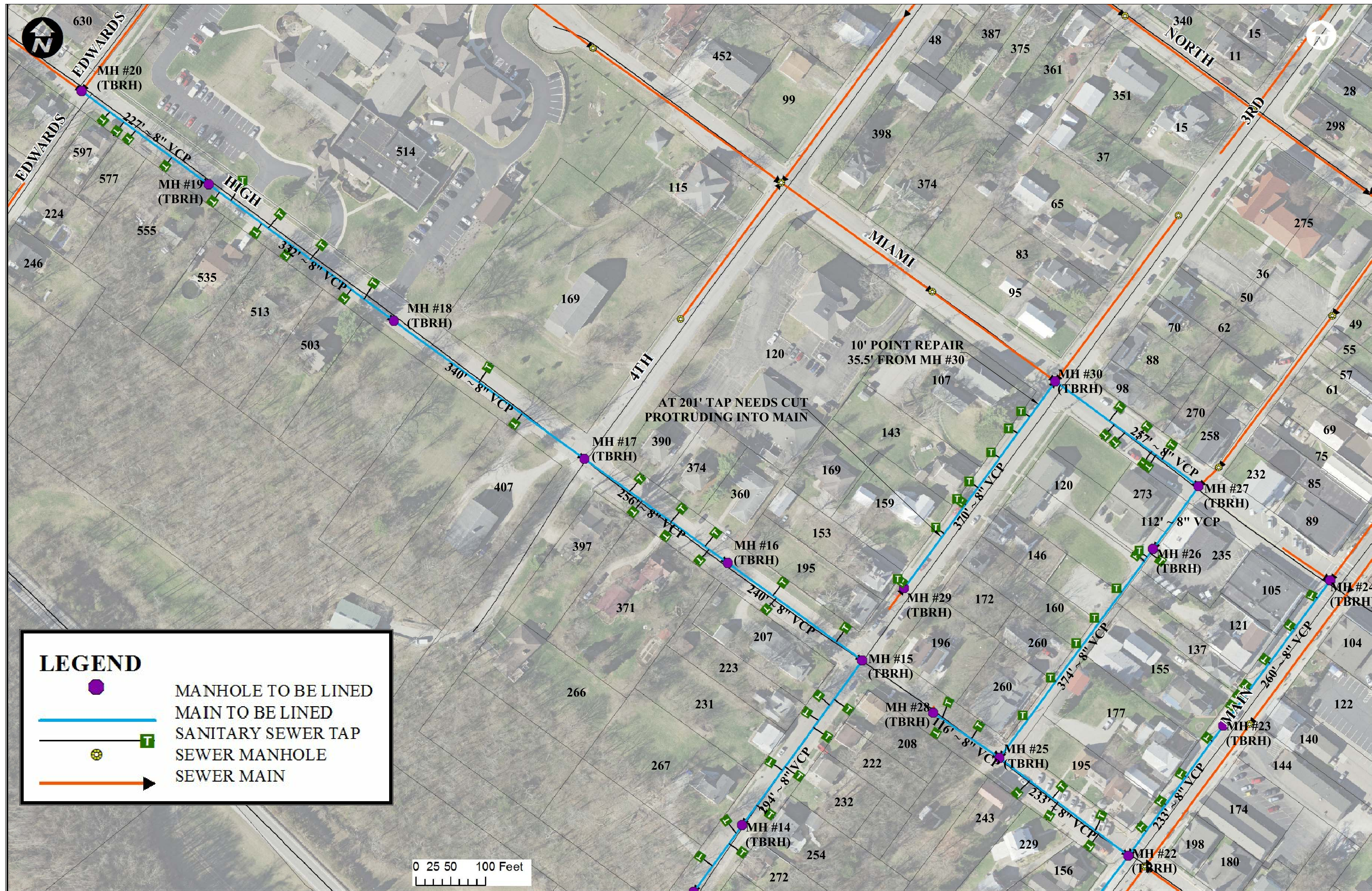
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- OSHA CLEARANCE REQUIREMENTS TO BE MAINTAINED DURING CONSTRUCTION BETWEEN EQUIPMENT AN OVERHEAD LINES.

No.	Revision/Issue	Date

SEAL

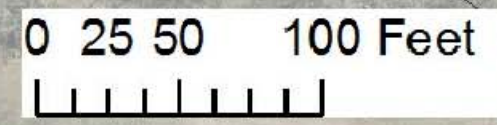
WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS - PHASE I
PLAN VIEW

Project WAYNESVILLE	Sheet 07
Date 8/15/18	
Scale As Noted	
Designed By K. GILBERT	
Reviewed By C. WOJNICZ	



LEGEND

- MANHOLE TO BE LINED
- MAIN TO BE LINED
- SANITARY SEWER TAP
- ⊙ SEWER MANHOLE
- SEWER MAIN



- NOTES:**
- MHs # 10, 11, 12, 13, 14, 15, 22, & 26 ARE CURRENTLY PAVED OVER.
 - NO EXISTING VIDEO FOR THE FOLLOWING SPANS DUE TO EXCESS ROOTS:
 - MH #14 - MH #15 MH #15 - MH #16
 - MH #16 - MH #17 MH #17 - MH #18
 - MH #18 - MH #19 MH #25 - MH #28
 - SPAN MH #19 TO MH #20 HAS LARGE ROOT BLOCKAGE.

General Notes

NOTES:
 1. MANHOLES LABELED "TBRH" (TO BE REHABILITATED) SHALL BE REHABILITATED PER THE STANDARD MANHOLE REHABILITATION DETAILS ON SHEET 3. REHABILITATE MANHOLES AS NOTED ON THE MANHOLE REHABILITATION TABLE ON SHEET 4 OR AS REQUIRED IN WRITING BY WARREN COUNTY. PLEASE SEE TECHNICAL SPECIFICATIONS FOR FURTHER DETAILS.

3. OSHA CLEARANCE REQUIREMENTS TO BE MAINTAINED DURING CONSTRUCTION BETWEEN EQUIPMENT AN OVERHEAD LINES.

No.	Revision/Issue	Date

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WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS - PHASE I
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Project WAYNESVILLE	Sheet 08
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SECTION 00040 - INVITATION TO BIDDERS

Separate sealed bids for the Waynesville Collection System Improvements Project, Phase 1 will be received by the Warren County Board of Commissioners at the Office of the Warren County Commissioners, 406 Justice Drive, Lebanon, Ohio 45036, until October 4, 2018 @ 11:00 a.m. and then at said time publicly opened and read aloud.

Bid documents, drawings and specifications are available online at the Warren County's Website at <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>. Existing sanitary sewer video is available upon request. Please Contact Chris Wojnicz at Warren County Water and Sewer Department, (513) 695- 1646.

The project description: Work includes a Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5, 500 feet), two segments of 18- inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes. The Engineer's opinion of probable construction cost is \$900,000.

A Bid guaranty, as required by Ohio Revised Code, Section 153.54, shall accompany each proposal submitted, as follows:

1. A Certified check, cashier's check, or letter of credit equal to ten (10) percent of the bid. A letter of credit may only be revocable by the Owner. Upon entering into a contract with the Owner, the contractor must file a performance bond for the amount of the contract, and the bid guaranty will then be returned to the successful and unsuccessful bidders upon contract execution. **OR**
2. A form of bid guaranty bond (attached) for the full amount of the bid. Such bond is retained for the successful bidder, but returned to unsuccessful bidders after the contract is executed.

Attention of bidders is called to all of the requirements contained in the bid packet. No bidder may withdraw his bid within sixty (60) days after the actual date of the opening thereof. All bids shall be properly signed by an authorized representative of the bidder. All bids shall be sealed and plainly marked:

BID OPENING– WAYNESVILLE COLLECTION SYSTEM IMPROVEMENTS PHASE 1, PROJECT, OCTOBER 4, 2018 @ 11:00 a.m.

Warren County reserves the right to reject any or all bids submitted, to waive any irregularities in bids, and enter into a contract with the Bidder who in Warren County's consideration offered the lowest and best bid.

By order of the Board of County Commissioner, County of Warren, State of Ohio.

Tina Osborne, Clerk

ADVERTISEMENT FOR BIDS

Sealed bids will be received by the Clerk of the County Commissioners, Warren County, Ohio, 406 Justice Drive, Lebanon, Ohio 45036, until October 4, 2018 @ 11:00 a.m., at the Office of the Warren County Commissioners, and then at said time bids will be opened and read aloud for the Waynesville Collection System Improvements, Phase 1 Project.

Bid documents and specifications are available online at the Warren County's Website at <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>. Existing sanitary sewer video requests (USB drives) and questions regarding the technical specifications should be directed to Chris Wojnicz at the Warren County Water and Sewer Department, (513) 695-1646. Each bid shall contain the full name of each person or company submitting the bid and be accompanied by a bid bond for the full amount of the bid or a certified check in the amount equal to ten (10) percent of the bid.

The project description: Work includes Cured-in-Place Pipe rehabilitation of twenty-six segments of 8-inch diameter sanitary sewers (approximately 5, 500 feet), two segments of 18- inch diameter sanitary sewer (approximately 400 feet), and rehabilitation of thirty-two manholes. The Engineer's opinion of probable construction cost is \$900,000.

This notice is posted on the Warren County Government internet site. The Warren County Government Web Site can be accessed by logging onto the internet and typing in the following address <http://www.co.warren.oh.us/commissioners/Resources/Bids/Default.aspx>. To access bid project information, under the "Your Government" heading click on the "Board of Commissioners" tab, then click on the "Bid Projects" tab and choose the project you wish to obtain information about. Please contact the Warren County Commissioners Office at (513) 695-1250 if you have trouble with this procedure or if you need additional information on accessing bid project information on our web site.

The Board of Warren County Commissioners reserve the right to accept the lowest and best bid, to reject all bids, and to waive any irregularities in bids.

By order of the Board of County Commissioners, Warren County, Ohio.

Tina Osborne, Clerk

The Western Star:

Please publish the above advertisement one (1) time, the week of September 9, 2018 and send invoice to the Warren County Commissioners.