

# **CONTRACT DOCUMENTS AND SPECIFICATIONS FOR ENGLEWOOD DRIVE IMPROVEMENTS**

**Village of Silver Lake, Summit County, Ohio**

Prepared for: Mr. Mark W. Lipan  
Service Director  
Village of Silver Lake  
2961 Kent Road.  
Silver Lake, Ohio 44224

**Project No.:** 12481  
**Date:** November 02, 2021

Prepared by:



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## LEGAL NOTICE

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Notice is hereby given that sealed proposals will be received at the Administrative Offices, Village Hall Building, 2961 Kent Road, Silver Lake, OH 44224, until noon, Monday, November 29, 2021, for the 2022 Englewood Drive Improvement Project, in accordance with the specifications now on file and available to prospective bidders on the Village of Silver Lakes website <http://villageofsilverlake.com>.

Each proposal must contain the full name of the party or parties submitting the bid and must also be accompanied by a bond or certified check through a solvent bank in the sum of 100% of the total amount of each bid, as a guarantee that if the bid is accepted, a contract will be entered into by the successful bidder and the Village of Silver Lake. The Village Council reserves the right to reject any or all bids and to waive any informality in any proposal.

Bids are to be submitted on the "Proposal Form" provided in the bidding documents and shall be enclosed in a sealed envelope plainly marked "2022 Englewood Drive Improvement Project" and shall bear the name(s) of the bidder(s).

By: Mark W. Lipan,  
Director of Public Service

**Published on:**

Sunday, November 7, 2021

Sunday, November 14, 2021

Sunday, November 21, 2021

**Bid Opening:**

Monday, November 29, 2021

## INSTRUCTIONS TO BIDDERS

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### 1. DEFINITIONS

Owner – The Village of Silver Lake

Contractor – Contractor awarded this contract

### 2. BIDDING PROCEDURE

Sealed bids for the 2022 Englewood Drive Improvement Project will be received by the Director of Public Service, Administrative Offices, Village Hall Building, 2961 Kent Road, Silver Lake Village, Ohio, 44224 until noon on November 29, 2021. Said bids shall be enclosed in a sealed envelope plainly marked "2022 Englewood Drive Improvement Project" and shall bear the name(s) of the bidder(s).

Each proposal shall be made on the attached "Proposal Form," which shall be signed with the full name and address of the proprietorship, partnership, or corporation submitting the same. The bid of the proprietorship shall be signed by the owner, a partnership by one of the general partners, and a corporation by a duly authorized officer thereof stating their title. No bid may be withdrawn after delivery to the Director of Public Service. The bidder may, at their discretion, add other pertinent facts or data that they deem desirable, but the bid **MUST BE ON THE PROVIDED "PROPOSAL FORM"**.

The Proposal Form (**Appendix B**), which is part of the bidding documents, shall be properly executed/signed.

### 3. BID BOND OR CERTIFIED CHECK

Each bidder shall furnish a **bid bond in the sum of 100% of the total of each bid** or a certified check in a like amount as a guarantee that if the bid is accepted that the contract will be entered into and its performance properly secured.

The Bid Bond or Certified Check Disclosure Form (**Appendix C**), which is part of the bidding documents, shall be properly executed/signed.

### 4. AWARD OF CONTRACT & PERFORMANCE BOND

The bidder whose proposal is accepted will be required to enter into a contract **WITHIN 10 BUSINESS DAYS** after notice of acceptance on the forms hereto attached and give a **BOND IN THE SUM EQUAL TO ONE HUNDRED PERCENT (100%)** of the proposal and ensure the faithful performance of all requirements of said contract to the satisfaction of the Village, including the posting of a satisfactory maintenance bond.

If the bidder to whom the contract shall have been awarded refuses or neglects, within 10 business days after notice of acceptance, to execute the contract and furnish security in the amount required, then the guaranteed deposit shall be forfeited to the Village as liquidated damages for such neglect or refusal, and the amount so collected shall be paid into the General Fund.

## 5. RIGHT TO REJECT – CERTIFIED STATEMENT

Before contracts are awarded, the successful bidder(s) may be required to submit sworn statements of their financial responsibility, technical qualifications, and records, which the Village will consider in connection with the awarding of contracts.

The Village reserves the right to reject any bid or any alternative, or part thereof, or all bids, alternatives, and parts thereof.

The Right to Reject Certified Statement (**Appendix D**), which is part of the bidding documents, shall be properly executed/signed.

## 6. MAINTENANCE BOND

The Contractor, for the work herein specified, in consideration of the prices bid and to be received, therefore, guarantees that the workmanship and materials furnished under the specifications and used in said work, are first class in all respects, and are such kind, quality, and the amount that for a period of two years after the completion and final acceptance thereof by the Owner, the work shall require no repairs or renewals on account of the settlement of foundation, structure or backfill, or defects in workmanship or materials.

Before final payment to the Contractor, the Contractor shall furnish to the Owner a satisfactory surety company's maintenance bond in an amount equal to fifteen percent (15%) of the total final contract price of the improvement, effective for two years after the completion and final acceptance of the improvement.

## 7. DISCREPANCIES AND ADDENDA

- A. Should a bidder find discrepancies or ambiguities in or omissions from the specifications or should there be a doubt as to their meaning, the bidder shall at once notify the Director of Public Service.
- B. Replies will be issued to all bidders of record as addenda to the drawings or specifications and will become part of the contract. The Director of Public Service and Owner will not be responsible for oral clarification. Questions received less than 72 hours before the bid opening cannot be answered.

## 8. DIVISION OF WORK IN SPECIFICATIONS

- A. The detailed specifications are separated into divisions and sections only for convenience in defining the work.
- B. The sectionalization shall not be construed as an assignment of labor or material to any particular craft of contractor.

## 9. SUBSTITUTIONS

- A. Those products, devices, materials, forms of construction, etc., named in the specifications shall be known as "Standards" and are named to establish the quality, type, and characteristics for the particular item involved and not to limit competition. The Contractor's Base Bid in the Proposal Form shall be based on providing these "Standards."

- B. Similar products, devices, materials, forms of construction, etc., not specifically named will be acceptable if “approved equal” by the Director of Public Service. Any such items the Contractor wishes to offer shall be listed on a separate sheet, entitled “Substitution Sheet,” provided with the Proposal Form, with the net change in cost and/or construction time to the Owner.
- C. The Director of Public Service and Owner will review the successful bidder’s Substitution Sheet and accept or reject each item listed.
- D. No substitution will be allowed thereafter, and the Contractor will be made to correct any construction method or replace any item on the job not in conformity with the specifications, drawings, or approved substitutions.

#### 10. WORK APPROVAL

In all instances, all materials, services, etc., must have the approval of the Mayor and Director of Public Service.

#### 11. DELINQUENT PERSONAL PROPERTY TAXES

After the award by the Village of Silver Lake and prior to the time that the contract is entered into, the person making a bid shall submit to the Clerk-Treasurer a statement affirmed under oath that the person with whom the contract is to be made was not charged at the time the bid was submitted with any delinquent personal property taxes on the general tax list of personal property of Summit County of that such person was charged with delinquent personal property taxes on any such list, in which case the statement shall also set forth the amount of such due and unpaid delinquent taxes and any due and unpaid penalties and interest thereon. If the statement indicates that the taxpayer was charged with any such taxes, a copy of the statement shall be transmitted by the fiscal officer to the county treasurer within 30 days of the date it is submitted.

The Delinquent Personal Property Tax Affidavit (**Appendix E**), which is part of the bidding documents, shall be properly executed and notarized.

#### 12. UNRESOLVED FINDINGS FOR RECOVERY

Ohio law (ORC section 9.24) prohibits any state agency or political subdivision from awarding a contract for goods, services, or construction to any person against whom a finding for recovery has been issued by the Auditor of State, if that finding is unresolved. While there are additional criteria, the statute limits this prohibition to contracts paid wholly or in part with state funds and which exceed \$50,000.

The Unresolved Findings for Recovery Certificate (**Appendix F**), which is part of the bidding documents, shall be properly executed/signed.

#### 13. INSURANCE

The contractor shall maintain such insurance as will protect him from claims, workmen’s compensation acts, and also from any other claim for damages for personal injury, including death and property damage, which may arise from operations under this contract, whether such operations be by the contractor, by any subcontractor, or anyone directly or indirectly employed by use of them. Certificates of such insurance for workers’

compensation coverage, general liability coverage, and liability coverage on equipment and vehicles used on the project shall be filed with the Village and shall be subject to the approval of the Village for adequacy of protection. The general, equipment, and vehicle liability coverage shall be in the minimum amount of \$1,000,000.00 property damage and \$1,000,000.00 bodily injury coverage.

#### 14. TAXES

- A. The Village of Silver Lake is exempt from all sales and transportation tax, except the State of Ohio gasoline tax. The prices bid shall be exclusive of all such taxes. The Contractor shall pay all federal, state, or local sales and/or use taxes applicable to materials, processes, or devices purchased or used in connection with the work under this contract.
- B. Employers doing business within the Village of Silver Lake are required to deduct, at the time of payment of salaries, wages, commissions, or other compensation, two percent (2%) of gross wages earned as a result of performing work within the Village of Silver Lake.

Every employer who is required to deduct the tax at the source is liable directly to the Village of Silver Lake for payment of such tax, whether actually collected from their employees or not.

Also, the net profit from income earned within the Village of Silver Lake is subject to the tax. Both withholding and tax on profits are due quarterly.

Before work commences, the Contractor and all Subcontractors shall furnish to the Village of Silver Lake a completed Income Tax Questionnaire provided by the office of the Clerk-Treasurer. Contact the Regional Income Tax Agency (RITA) at 1-800-223-2517 or Village of Silver Lake Clerk-Treasurer's Office at 330-923-5233 for necessary forms and additional information.

#### 15. PUBLIC READING

All proposals will be publicly opened and read.

#### 16. PROPOSAL SUBMISSION

The proposals, with all papers bound thereto, must be deposited un mutilated.

#### 17. PRODUCT DELIVERY

Product delivery without installation will be no more than 45 days after the Notice to Proceed Order from the Village of Silver Lake.

#### 18. TIME FOR COMPLETION OF CONTRACT

The time for the completion of the contract shall be filled in by the Bidders, and such time limit will be used in determining the lowest and best bid.

#### 19. NON-COLLUSION AFFIDAVIT

The Non-Collusion Affidavit (**Appendix G**), which is part of the bidding documents, shall be properly executed and notarized.



**20. DECLARATION REGARDING MATERIAL ASSISTANCE / NON-ASSISTANCE TO A TERRORIST ORGANIZATION**

Pursuant to the Ohio Revised Code Section 2909.32, 2909.33 and 2909.34, the following types of applicants must complete and submit a DMA form with their applications:

- Certain state-issued licenses identified by the Ohio Department of Public Safety.
- All candidates under final consideration for public employment.
- Business contracts with and funding from any government entity in an annual aggregate amount greater than \$100,000.00.
- Private entities that wish to do business with a government entity that adopts rules requiring pre-certification.

**21. CONTRACTOR SAFETY POLICY**

It is the policy of the Village of Silver Lake to conduct all of our operations safely, in order to prevent injuries to our employees and damage to our property. We endeavor to take all practical steps to maintain a safe work environment at all times. We expect all subcontractors working for the Village of Silver Lake to conduct their operations in the safest possible manner.

The Contractor agrees that the prevention of accidents to their employees engaged in work under this agreement is the responsibility of the contractor. The contractor agrees to comply with all laws, regulations, and codes concerning safety as they shall be applicable to the work and the safety standards established during the progress of the work by the Village of Silver Lake. When necessary, the Contractor agrees to stop any part of the work that the Village of Silver Lake deems unsafe until all corrective measures satisfactory to the Village of Silver Lake have been taken, and further agrees to make no claim for damage growing out of such stoppages. Should the Contractor neglect to adopt such corrective measures, the Village of Silver Lake may elect to have the subcontractor stop work on the project until the situation is corrected.

As a Contractor, you realize that an effective safety program is in our mutual interest. Therefore, if the hope for enthusiastic cooperation is not forthcoming, we will insist that you comply with the spirit and letter of the contract. Your attention is directed specifically to the following items.

**A. PERSONAL PROTECTIVE EQUIPMENT:**

You must furnish your employees with the proper type of personal protective equipment as required by the operations you will be performing., i.e.

1. Hard hats must be furnished to your employees and worn at all times when there is a danger of falling or flying objects, sparks, or electrical shocks.
2. Eye Protection meeting ANSI Standard Z 87.1 must be provided to and worn by your employees when the operations being performed present the danger of an eye injury.
3. Safety Belts/Harnesses must be furnished and worn whenever your employees are working in the area where falls from heights are possible, and nets or protective railing are not practical.

4. Safety Vests when working around Roadways.
5. Other personal protective equipment is to be provided and worn by your employees when the hazards of the job warrant.

B. TREATMENT OF INJURIES:

You must require that any of your employees injured (no matter how slightly) while working in any of our facilities report this immediately to one of your supervisors.

C. GENERAL:

Any deviation from the requirements listed above will be called to the attention of your supervisor for immediate correction. Conversely, we would greatly appreciate your calling to our attention any unsafe acts for which any of our personnel or other contractors' personnel may be responsible.

Please feel free to enlist the aid of our supervision in any accident prevention problem you may have. We will be more than happy to assist and advise you.

The Contractor Safety Policy (**Appendix H**), which is part of the bidding documents, shall be properly executed/signed.

**22. AGREEMENT ON DRUG AND ALCOHOL POLICY**

The Agreement on Drug and Alcohol Policy (**Appendix I**), which is part of the bidding documents, shall be properly executed/signed.

**23. WAGES AND HOURS ON PUBLIC WORKS**

OHIO PREVAILING WAGE

The Contractor or his Subcontractor shall comply with all provisions of Chapter 4115 of the Ohio Revised Code during the entire time this contract is in force. The Contractor shall pay at least the minimum rate of wages for all classifications of employees covered by the work items on this contract.

The Contractor's attention is particularly called to Section 4115.05, Ohio Revised Code, which provides for wages paid to be the prevailing rate in this county in the event of a conflict in rates established by other governmental agencies.

The Contractor shall furnish the Village a certified copy of the payroll covering the various classifications of employees used during the work covered by this Contract shall furnish acceptable evidence that such minimum wage rates have been paid.

Under the terms of this Contract, the workday shall not exceed 8 hours. Overtime will be permitted only upon approval of the Director of Public Service. Prior to the start of work, the Contractor and Village Director of Public Service shall determine that starting time for daily work based on the time of year.

The Contractor shall comply with the Wages and Hours on Public Works Prevailing Wage Packet (**Appendix J**).

All bids not in conformity with these provisions will be rejected.

**CONTRACT**

NOTE: The bidder is advised not to fill in any of the following blanks. After the contract is awarded, the blank spaces will be filled in under the direction of the Clerk-Treasurer.

ARTICLES OF AGREEMENT

(Executed in Triplicate)

Between the Village of Silver Lake, party of the first part, and \_\_\_\_\_  
\_\_\_\_\_, Contractor, party of the second part, to complete the  
\_\_\_\_\_ In pursuance

of the following, to wit:

1. BIDS DULY ADVERTISED for in the \_\_\_\_\_  
Commencing \_\_\_\_\_.
2. BIDS OPENED by the Clerk-Treasurer and the Director of Public Service on \_\_\_\_\_.
3. IT IS THE DETERMINATION by the Council of the Village of Silver Lake that the bid of \_\_\_\_\_ in the amount of \_\_\_\_\_ is the best bid on the \_\_\_\_\_ day of \_\_\_\_\_.
4. PURSUANT THERETO, the bid of \_\_\_\_\_ is hereby accepted and awarded on the \_\_\_\_\_ day of \_\_\_\_\_, in the particulars appended hereto as Exhibit "A" to this contract.

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_, by and between the Village of Silver Lake, Party of the first part, and \_\_\_\_\_, Contractor, party of the second part.

WITNESSETH

WITNESSETH: That the said party of the second part has agreed and by these presents does agree with the said party of the first part, for the consideration hereinbefore mentioned and contained, and under the penalty expressed in a bond bearing even dated with these presents, and hereto annexed, to furnish at his own cost and expense all of the necessary materials of every description, and to carry out and complete in a good firm and substantial manner the furnishing of service contained in the proposal in accordance with the specifications hereinafter set forth, subject to such changes as may be made from time to time by the Director of Public Service of said Village.

The provisions contained in the "Legal Notice," in "Instructions for Bidder," in "Proposal," in "Bond," and in the "Specifications" are hereby also embodied as a part of this agreement.

IN WITNESS WHEREOF, the said Village of Silver Lake has caused its name and corporate seal to be affixed by the Village of Silver Lake, and the said part of the second part set its hand and seal the day and year aforesaid.

VILLAGE OF SILVER LAKE

BY: \_\_\_\_\_

(MUNICIPAL SEAL)

Bernie Hovey, Mayor  
Village of Silver Lake

BY: \_\_\_\_\_

(CORPORATE SEAL)

Official of Firm or Corporation

ATTEST: \_\_\_\_\_

Secretary of Firm or Corporation

LAW DIRECTOR'S CERTIFICATE

I, Robert W. Heydorn, hereby certify that the foregoing instrument is approved as to legal form.

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Robert W. Heydorn, Solicitor  
Village of Silver Lake

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Date

CLERK-TREASURER'S CERTIFICATE

I, Sean M. Housley, Clerk-Treasurer, Village of Silver Lake, hereby certify that the funds necessary to meet the expenditures herein are in the treasury or in the process of collection, free from obligations or certifications, now outstanding.

Signed this \_\_\_\_\_ day of \_\_\_\_\_.

\_\_\_\_\_  
Sean M. Housley, Clerk-Treasurer  
Village of Silver Lake

## **GENERAL REQUIREMENTS**

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### **1. SCOPE OF WORK**

The following summarizes the major project components of the Work:

- Mobilization and demobilization.
- Demolition – Removal of all landscaping, curbs, drive aprons, asphalt pavement, storm sewer, drainage structures, water structures, and other items within the Englewood Drive right-of-way.
- Installation of new storm sewer, retention, and bioretention facilities, water main and structures, services laterals, concrete curb and sidewalk, and drive aprons.
- Establishment of a new full-depth asphalt pavement roadway.
- Restoration of disturbed areas with seeding, plantings, and trees.
- The work limits are as depicted on the Plans, with the work being located in both the Village of Silver Lake and City of Stow jurisdictions. The Village of Silver Lake is referenced herein as the Owner of the project.

QUANTITIES:

All quantities are estimated and can be more or less at the same price bid.

### **2. RESERVES THE RIGHT**

The Village reserves the right to add or subtract scope depending on the amount of the bids.

### **3. CONTRACTOR'S RESPONSIBILITIES**

- A. The Owner will inspect all work on the project.
- B. The Contractor shall bring to the Owner's attention any existing conditions that he may discover that might adversely affect the final quality of the work, immediately upon discovery of such conditions.
- C. The Contractor shall cooperate with the Owner in the Owner's testing and inspection services.

### **4. OWNER'S RESPONSIBILITIES**

- A. The Owner will furnish all testing and inspection services.
- B. The Owner will give instructions in the work required by field conditions in a timely manner to not cause delays in the Contractor's performance.

### **5. SCHEDULING**

- A. Work will be performed on a continuous basis, with a minimum amount of inconvenience to the property owners.
- B. The Contractor shall prepare a written schedule for all phases of the work. The schedule shall indicate starting and completion dates. The schedule will be subject to approval by the Owner before work commences.

## 6. TEMPORARY UTILITIES

- A. Water
- The Contractor shall provide, at his own expense, all the water for construction, including drinking water.
  - All water furnished shall be drinking water quality.
- B. Electricity
- The Contractor, at his own expense, is responsible for providing electricity for construction operations.

## 7. MAINTENANCE OF TRAFFIC

Local traffic shall be maintained for the duration of construction. Temporary shutdowns shall be coordinated with the Owner. The Contractor shall submit a maintenance of traffic plan to the Owner for review and approval prior to project commencement. The Contractor shall furnish and maintain traffic barriers, lights, and control devices for the general welfare and safety of the residents within the project limits. Refer to Technical Specification 614 for additional requirements.

## 8. MATERIAL CLEANUP & STORAGE

- A. The Contractor shall keep the premises free of rubbish and debris at all times and shall arrange his material storage so as not to interfere with the Owner's activities.
- B. All unused material, rubbish, and debris shall be removed from the site on a timely basis.

## 9. PUBLIC UTILITIES SERVING THE VILLAGE OF SILVER LAKE

<b>Ohio Utilities Protection Service (OUPS)</b>	1-800-362-2764	
<b>Dominion East Ohio Gas</b>		
	<b>Smell Gas – Emergency Services</b>	<b>1-877-542-2630</b>
	Mia Maddison	330-798-7204
	Rhonda Boosinger	Rhonda.boosinger@dom.com
	Disconnection of natural gas service for buildings or structures scheduled for demolition–10 day notice required	1-800-362-7557
<b>FirstEnergy/Ohio Edison</b>	<b>1-800-527-8059 – 911 Service</b>	
	Kirk Gardner – Area Manager (Call Kirk first)	330-436-4220
	Street Light Out Dedicated fax number w/required form	330-384-4811
	Power Outages – Customer Service <a href="http://www.firstenergycorp.com">www.firstenergycorp.com</a>	1-800-633-4766 1-888-544-4877 ( 1-888-LIGHTSS )
	First Energy - Forestry–John Bianchi	330-436-4129
	Claims	1-800-633-4766
<b>SBC - Ameritech AT&amp;T</b>		
	Repair	1-800-572-4545 1-888-272-4047 opt #2



	SBC – Repair Center	1-800-727-2273 1-800-572-4545 Normal repair: 1-800-660-1000
	Christopher Wyehe–External Affairs	1-614-233-5652-office
	Jim Carter, Jr. – Inspector If Jim is not available call: Brian Conklin	330-384-2095  330-212-5918 (Cell)
<b>Time Warner Cable</b>		
	New Service/General Information	1-877-772-2253
	Billing Questions/Customer Service	1-877-283-8091

## TECHNICAL SPECIFICATIONS

The following sections of the Ohio Department of Transportation, Construction, & Material Specifications, 2019 Edition, Version 07/16/2021, are the governing specifications for this project with modifications or exceptions as noted. The Englewood Drive Improvement Plans are further referred to as “Plans.” The Owner is the Village of Silver Lake, Ohio. Reference to Engineer is the Owner’s representative, EnviroScience, Inc., unless otherwise directed by the Village of Silver Lake.

### **Item Specification – Pre- and Post-Construction Video**

Description. The Contractor is to perform a survey of pre- and post-construction conditions in the vicinity of the Contractor’s construction activities, utilizing a video device (mobile phone, camera, etc.) as necessary to document existing damage or conditions. This survey will assist in resolving any damage claims against the Contractor during and after construction. The area of the survey should include the haul route and any staging areas.

Submit one copy of the pre-construction video to the Owner within 7-days of the intended start date. Submittal of the post-construction video to the Owner will be required prior to project close-out and final payment.

### **Item Specification – Ex. Manhole, Valve Box, and Monument Box Adjustment**

Description. This item shall provide labor, tools, equipment, and incidentals necessary to adjust tops of manholes, water main valve boxes, and monument boxes to the newly finished grades established by the paving operations of this project and as directed by the Owner.

#### Materials:

- a) Incremental raising of the manhole, main valve box, and monument box tops may be accomplished by use of frame risers as manufactured by Nation Utility Products Co., (NUPCO), Cleveland, Ohio 44145 or Lancaster Steel Products, Leola, PA 17450, or similar approved fittings.
- b) Water main valve box tops may also be adjusted by rotating the top section of the valve box on screw threads cast into the sections if enough thread remains.
- c) If existing manhole frames need to be removed for major adjustment, such removal shall be performed carefully to avoid damage to the castings and existing masonry. Materials

required for sanitary sewer manhole adjustment by such method shall conform to the standard details and specifications of the Summit County Department of Environmental Services.

- d) Frame risers shall be fabricated of ductile iron and/or steel and shall be sopped coated with bituminous paint.

Construction Method:

- a) Frame risers shall be set in a bed of bituminous joint filler applied to a thoroughly cleaned existing frame casting and then adjusted to the correct height and slope to meet new pavement surfaces.
- b) All water valve box work shall assure good access to the valve nut for ease of operation.
- c) After completing all work, the Contractor shall thoroughly clean the bottom of manhole structures and water valve boxes of their construction debris, making certain there are no obstructions to the proper operation of the appurtenance.
- d) All work shall conform to standards established by the Village of Silver Lake Water and Road Department.

Basis of Measurement. Manhole, valve box, and monument box tops adjusted to grade will be measured as the actual number of each completed as directed and accepted.

Basis of Payment. Payment for manhole, valve box, and monument box tops adjusted to grade will be for each unit completed at the contract price bid and shall include all materials, labor, equipment, and incidentals necessary to perform the work as specified and directed.

**Item 201 – Clearing and Grubbing**

201.01 Description. This work shall consist of clearing, grubbing, scalping, removing trees and stumps, and removing and disposing of all vegetation and debris within the limits of the right-of-way except such objects as are designated to remain or are to be removed in accordance with other sections of these specifications. When the bid schedule contains a lump sum for 201, Clearing and Grubbing, the lump sum price bid will be paid and shall be full compensation for all the work described in this section, including removal of all trees and stumps marked for removal. When the bid schedule contains 201, Removal of Trees and Stumps on an individual basis, the balance of the work described in this section shall be performed but will not be paid for directly but shall be considered a subsidiary obligation of the Contractor under other contract items.

201.02 General. The Plans designate the trees, shrubs, plants, and other items to be removed or to remain. The Contractor shall preserve all items designated to remain. Alignment stakes, grade stakes, guard stakes, boundary markers, benchmarks, and tie points shall be preserved until their usefulness has ceased and permission for their destruction is given by the Owner. Clearing for this project is limited to removing vegetation and miscellaneous material that may be located within the work area as designated on the Plans.

201.03 Clearing and Grubbing. All surface objects, roots, and other protruding obstructions, not designated to remain, and all trees and stumps marked for removal, shall be cleared and/or grubbed, including mowing, as required. Except in areas to be excavated, stump holes and other holes from which obstructions are removed shall be backfilled with suitable

material and compacted in accordance with Item 203. Materials and debris shall be removed from the right-of-way and disposed of at locations beyond the project limits. The Contractor shall make all necessary arrangements to obtain suitable disposal locations, and the cost involved shall be included in the unit price bid. Low hanging branches and unsound or unsightly branches on trees or shrubs designated to remain shall be removed as directed. Branches of trees extending over the paved pavement limits shall be trimmed to give a clear height of 20 feet above the pavement surface.

201.04 Method of Measurement. Measurement for clearing and grubbing as needed for this project is by lump sum.

## **202 – Removal of Structures and Obstructions**

202.01 Description. Raze, remove, and dispose of all old pavements, abandoned pipelines, and other obstructions within the disturbance area designated on the Plans, except for utilities and those items where other provisions have been made for removal. This project includes many removal items installed by property owners within the Englewood Drive right-of-way, including fencing, planters, and miscellaneous landscape items. The Owner will coordinate with and obtain any agreements from property owners who choose salvage items located within the right-of-way. The property owner will be responsible for removing salvaged items from the work limits prior to construction.

Materials to be salvaged as called for on the Plans shall be considered as the property of the Owner. All other materials shall become the property of the Contractor and shall be removed from the worksite.

202.02 General Construction Requirements. Conform to ODOT 202.02 without exception.

202.03 Structures Removed. Conform to ODOT 202.03 without exception.

202.04 Pipe Removed. This project calls for pipe removed and disposed of and shall include excavating all material necessary to permit removing the pipe; disposing of excavated material, including broken pipe; and removing and disposing of pipe headwalls.

- a) The pipe disposal becomes the responsibility of the Contractor and shall be disposed of in accordance with 202.02.
- b) Where the plans call for the pipe to be removed for re-use or storage, a section of pipeline shall be removed sufficiently in length to permit determining the quality of the pipe and the possibility of removing it without damage. If the Engineer determines that the pipe is worth salvaging and can be salvaged, the Contractor shall perform the remainder of the excavation in a manner that will not damage the pipe. If the Engineer determines otherwise, the pipe will be removed under "Pipe Removed for Disposal," and the original item shall be non-performed. Where caving occurs, the caved material shall be excavated before the trench is backfilled. All excavated material shall be used or disposed of in accordance with the provisions of 203.
- c) For this project, trenches remaining from pipe removal will be reformed and used for new pipe installation. Backfill for these trenches is incidental to new pipe installation. When backfilling is required, in lieu of new utility installation, backfill the resulting cavities, voids, or trenches to 95% max dry weight per the Ohio Department of Transportation (ODOT) Item 203.06. Before backfilling the trench, excavate the caved material as necessary.

- d) If an adjacent existing pipe is encountered during removal operations, verify its use with the Owner before proceeding with removal. If the pipe is inactive or is to be abandoned, plug, or seal the remaining ends of the pipe before proceeding with backfilling operations. Perform plugging by using approved precast stoppers. Perform sealing by using masonry bulkheads.
- e) Backfill. The trench resulting from the removal of pipe shall be backfilled in accordance with the provisions of 203 except when the trench lies within limits of subsequent excavation

202.05 Pavement, Sidewalks, Curbs, etc., Removed. When designated for removal, an existing wearing course, concrete base course, concrete pavement, bituminous wearing course, concrete sidewalks, concrete gutters, stone or concrete curbs, concrete combined curb and gutter, concrete traffic dividers, etc., shall be removed and disposed of.

Removal methods shall be used that ensure that other existing installations, such as adjacent pavement, etc., which are to remain in place will not be damaged. Installations that are to remain in place and which are damaged by the Contractor's operations shall be repaired to the satisfaction of and at no cost to the Owner.

Removal of damaged curbs shall consist of removing entire sections or partial removal, if the concrete is cut neatly in an acceptable manner, and then separating these from the undamaged portion. The minimum length of the curb removed for replacement shall be 5 feet.

If the amount of pavement, sidewalks, and/or other item(s) to be removed is of sufficient size to warrant the use of graders or other mechanical equipment, these machines shall operate only in such areas and in such a manner that the above provisions will not be violated.

The removal of the wearing course shall extend to the surface of the existing base course as shown on the plan cross-section, which shall serve as the base for the pavement courses to be constructed within this Project. The Contractor shall employ such methods and tools as will not disturb or damage the existing base. Broken or damaged base resulting from the Contractor's operations shall be repaired or replaced as directed by the Owner at the Contractor's expense. If any portions of the exposed base are found to be broken, loosened, soft, or otherwise in an unsatisfactory condition through no fault or neglect of the Contractor, they will be repaired or removed and replaced by the Owner without cost to the Contractor.

The Contractor shall take precautions to prevent the displacement of or damage to manholes or valve boxes located within the limits of the wearing course to be removed, or to the curbing, catch basins, and pavement adjacent to the area of the wearing course to be removed. The Contractor shall repair, or replace, as may be required, at their own expense, any and all such items damaged by their operations. The wearing course removal will be limited to the areas shown on the plan or as determined by the Engineer. The edges of the adjoining bituminous pavements shall be neatly cut to form vertical joints with the pavement courses to be constructed under this Contract.

This item shall also include furnishing all equipment and labor required for the thorough cleaning of the base course surface of whatever type encountered within the limits of the removal of the existing wearing course. The cleaning shall be done prior to the application of the prime or tack coats (if such item is provided for in this Contract) and the leveling course, and in such manner as to remove completely all mud, earth, dust, surplus bituminous material, and other foreign material from the base course to prevent the dislodging of the embedded aggregate.

Materials to be salvaged shall be stored at locations determined by the Owner and shall be cleaned and ready for re-use. Materials that are not to be salvaged or unsuitable for re-use shall be disposed of in the same manner as excavation.

202.06 Buildings Demolished. Item is not included in the scope of this Project.

202.07 Septic Tanks and Privy Vaults Removed. Item is not included in the scope of this Project.

202.08 Underground Storage Tank Removed. Item is not included in the scope of this Project.

202.09 Fence Removed. Where so required by the plans and proposal, the existing fence shall be carefully dismantled and stored for re-use as specified or for salvage by the Owner. Unless otherwise specified, wood posts and other materials not considered salvageable shall be disposed of as directed.

202.10 Manhole, Catch Basin, and Inlet Removed. Conform to ODOT 202.10 without exception.

202.11 Manhole, Catch Basin, and Inlet Abandoned. Conform to ODOT 202.11 without exception.

202.12 Method or Measurement. When the Contract stipulates that payment will be made for the removal of structures and obstructions on a “lump sum” basis, the pay item will include all areas designated on the plans or in the proposal, in accordance with the provisions of this section. When the proposal stipulates that payment will be made for the removal of specific items on a “linear foot,” “square foot,” “square yard,” “cubic foot,” “cubic yard,” “pound,” or “each” basis, the measurement will be made by the unit stipulated in the Contract.

202.13 Basis of Payment. The accepted quantities of structures and obstructions removed and stored or disposed of, as directed, will be paid for at the contract lump sum price bid or at the price bid per unit specified in the proposal, which prices shall be full compensation for removal and storage or disposal of such items including excavation and backfill incidental to their removal, and the custody, preservation, storage on the right-of-way, and disposal as provided herein.

## **203 – Roadway Excavation and Embankment**

203.01 Description. This work shall consist of preparing areas upon which embankments are to be placed; excavation for the roadway, including the removal of all material encountered not being removed under some other item; constructing embankments with the excavated material and material from other sources necessary to complete the planned embankments; disposing of unsuitable and surplus material; preparing the subgrade; and finishing shoulders, slopes, and ditches. All work will be performed according to these specifications and in reasonably close conformity with the lines, grades, thicknesses, and cross sections shown on the plans. All excavation shall be considered as unclassified excavation.

Payment for roadway embankment shall be made under this item, which shall include payment for furnishing suitable material from sources other than excavation if needed to complete embankments, with no separate payment for borrow for planned embankments. The Contractor shall control the disposition of excavated material, using in embankment or wasting as they desire.

Payment for roadway excavation shall be made under this item, which shall include payment for placing suitable excavated material in the embankment. If borrow is needed to complete planned embankments, it shall be measured and paid for separately under 203.04 Borrow. No excavated material shall be wasted without permission, and all suitable material from excavation, or an equivalent volume from other sources, shall be used for a planned embankment to the extent of project requirements.

203.02 Definitions. Conform to ODOT 203.02 without exception.

203.03 Restrictions on the Use of Embankment Materials. Conform to ODOT 203.03 excepting:

J. The use of PCS is not permitted on this project.

203.04 General. Conform with ODOT 203.04 excepting:

B. Blasting: Blasting is not permitted on this project.

F. Borrow: Approved material required for the construction of embankments or other portions of the work, obtained from approved sources outside the right-of-way. Borrow shall meet the requirements for suitable embankment material set forth in this section. Borrow shall be resorted to only when sufficient quantities of suitable materials are not available from other contract items. Unless otherwise designated in the contract, the Contractor shall maintain their arrangements for obtaining borrow and pay all costs involved.

Borrow used in embankment shall be placed in accordance with all the requirements for constructing embankment.

Borrow will not be paid for a separate item:

- a) Where embankment is a pay item in the contract, or
- b) Where the Contractor elects to use borrow in place of the excavation.

If the Contractor places more borrow than is required and thereby causes a waste of excavation, the amount of such waste will be deducted from the borrow volume as measured in the borrow area. All borrow areas shall be bladed and left in such shape as to permit accurate measurements after excavating has been completed.

The Contractor shall notify the Owner sufficiently in advance of opening any borrow areas so that cross-section elevations and measurements of the ground surface after stripping may be taken, and the borrow material can be tested before being used.

203.05 Embankment Construction Methods. Conform to ODOT 203.05 without exception.

203.06 Spreading and Compacting. Conform to ODOT 203.06 without exception.

203.07 Compaction and Moisture Requirements. Conform to ODOT 203.07 without exception.

203.08 Earthwork Construction Tolerances. Conform to ODOT 203.08 without exception.

203.09 Method of Measurement. The quantities of excavation to be paid for shall be the number of cubic yards of material in the original position, acceptably excavated, measured by the

method of average end areas. Excavation outside plan lines shall not be included in the measurement for payment.

- a) Contract Quantity Payment. The quantities of excavation and embankment, when embankment is specified as a separate bid item, for which pavement will be made will be those shown in the contract, provided the project is constructed to the lines and grade shown on the plans, within allowable tolerance, and provided the plan quantities are adjusted to correct errors and to take into account authorized changes. Check measurements of the final cross-section shall be used to establish the quantity for payment.

When the plans have been altered or when disagreement exists between the Contractor and the Engineer as to the accuracy of the plan quantities, either party shall have the right to request and cause the quantities involved to be measured in accordance with "measured quantities." When the quantities are measured for payment, the original plan cross-sections may be interpolated at points where necessary to more accurately determined quantities.

- b) Measured Quantities. When payment is specified on a volume basis, all accepted excavation shall be measured in its original position by cross-sectioning the area excavated, which measurements will include overbreakage or slides not attributable to the carelessness of the Contractor. Volumes will be computed from the cross-section measurements by the average end area method.

Measurements will be made for unsuitable materials actually excavated and removed at the direction of the Engineer to obtain proper stability in cut sections and foundations for fill sections.

No measurement will be made of the suitable material temporarily removed and replaced to facilitate compaction of the material for the full depth shown on the plans.

Where it is impractical to measure material by the cross-section method due to the erratic location of isolated deposits, acceptable methods involving three-dimensional measurements may be used.

- c) Measurement of Borrow. Borrow will be measured and paid for by the cubic yard as approved by the Owner.
- d) Water. Use of water will not be measured or paid for but will be incidental to the work.

203.10 Basis of Payment. The accepted quantities of excavation and embankment will be paid for at the contract price per unit of measurement for each of the pay items included in the bid proposal schedule.

- a) If caused by the lack of implementing erosion controls, the Owner will not pay for reshaping shoulders, slopes, and ditches damaged by erosion during construction.
- b) If caused by the Contractor's equipment or methods, the Owner will not pay for repairing or restoring damaged areas designated for salvage.

- c) The Owner will not pay for the additional wasting cost of material excavated in the work that was wasted instead of being dried as detailed in ODOT Item 203.03.H. Nor will the Contractor be compensated for removing the saturated embankment or drying the embankment.

The price and payment shall constitute full compensation for excavation, hauling, formation and compaction of embankment, format and compaction of subgrades, the locating, cleaning, protecting of water and gas service boxes and utilities to remain, disposing of surplus materials, and furnishing of all labor, equipment, tools, and incidentals necessary to complete this item.

### **204 – Subgrade Compaction and Proof Rolling.**

Conform to ODOT Item 204 without exception.

### **254 – Pavement Planing (As Per Plan)**

254.01 Description. This item shall consist of providing all materials, labor, tools, equipment, and incidentals necessary to remove existing bituminous pavement surfaces and to load and transport such removed materials to a place for reprocessing or stockpiling as directed by Owner.

254.02 Equipment. Conform to ODOT 254.02 without exception.

254.03 Planing APP. Perform in conformance with ODOT Item 254.03 excepting:

The removal depth shall vary to allow for placement of new bituminous pavement thickness of 3 ¼ inch as per Plan.

The Owner may request that the pavement removed, or a portion of it, be salvaged. The contractor shall coordinate with the Owner prior to planing activities. The material to be salvaged shall be broken down to a gradation suitable for re-use in such applications by on-site methods or with aggregate crushers and screens at the reprocessing place. The location of salvaged material will be as directed by Owner.

The Contractor shall arrange to dispose of material not salvaged in accordance with ODOT Item 202.

254.04 Surface Patching. Conform to ODOT 254.04 without exception.

254.05 Surface Tolerances. Conform to ODOT 254.05 without exception.

254.06 Method of Measurement. Conform to ODOT 254.06 without exception.

254.07 Basis of Payment. Material removed under this item will be measured as the number of square yards of pavement surface removed. Actual field measurement of removed surface shall be obtained by the Owner prior to covering with new material.

### **301 – Asphalt Concrete Base**

Conform to ODOT Item 301 without exception.

The Contractor may use a maximum of 50 percent of reclaimed asphalt concrete pavement in base only.



### **304 – Aggregate Base**

Conform to ODOT Item 304 without exception.

### **407 – Tack Coat**

Conform to ODOT Item 407 without exception.

### **441 – Asphalt Concrete – Mix Design and Quality Control**

Conform to ODOT Item 441 in its entirety with the following clarifications:

Following are the types of materials being bid:

#### Asphalt Concrete, Surface Course, Type 1, Medium, PG 64-22

All aggregates in preparation of this material shall be crushed limestone except for the fine aggregate of which a maximum of 50% of the virgin fines can be a natural sand. NO recycled material shall be allowed.

#### Asphalt Concrete, Intermediate Course, Type 2, (448)

Conform to ODOT Item 441.

All materials used must be obtained from a source approved by ODOT.

### **601 – Slope and Channel Protection**

Conform to ODOT Item 601 in its entirety with the following clarifications:

Following are the types of materials being bid:

#### 601.09 Rock Channel Protection

707.19, Type C

703 Aggregate – Washed Gravel for Bioretention

Geotextile Fabric, Type B, 712.09

### **602 – Masonry**

Conform to ODOT Item 602 in its entirety with the following clarifications:

Following are the items included in this bid:

Headwall, HW1.1, 24 inches

Headwall, HW 1.2, 12 inches

### **605 – Underdrains**

Conform to ODOT Item 605 in its entirety with the following clarifications:

Following are the types of materials being bid:

6 inch SDR-35, 707.45 drainage pipe.

Geotextile Fabric, Type A, 712.09

### **608 – Walks, Curb Ramps, and Steps**

Conform to ODOT Item 608 in its entirety with the following clarifications:

Following items will be used in this project:

608.03 Concrete Walk

608.07 Curb Ramps

### **609 – Curbing, Concrete Medians, and Traffic Islands**

Conform to ODOT Item 609 in its entirety with the following clarifications:

Following items will be used in this project:

609.08 Cast in Place Concrete Curb, Type 2.

### **611 – Pipe Culverts, Sewers, Drains, and Drainage Structures**

Conform to ODOT Item 611 in its entirety with the following clarifications:

611.02 Materials. The following will be used in this project:

Type B Conduit: 12, 15, 18, & 24-inch Corrugated Polypropylene Smooth Lined pipe, 707.65

Type C Conduit: 6, 8 & 12-inch Polyvinyl Chloride Solid Wall Pipe, SDR-35, 707.45

Type E Conduit: 8-inch Clean Out, Polyvinyl Chloride Solid Wall Pipe, SDR-35, 707.45

Precast Reinforced Concrete Manhole, Catch Basin, and Inlet Sections: CB 2-2A, CB-3A, MH-3, Standing Curb Inlet as detailed in the Plans.

Conform with materials in Sections 611.02 E, F, G, H, I, and J as applicable.

### **614 – Maintaining Traffic**

Conform to ODOT Item 614 with the following exceptions:

614.01 Description. This work consists of maintaining and protecting vehicular, bicycle, and pedestrian traffic according to these provisions. The Contractor shall submit a maintenance of traffic plan to the Owner for review as soon as practical prior to mobilization. The plan shall address anticipated construction phasing, designate changes in traffic patterns along Englewood Drive and intersecting roadways, detours, and indicate length of time involved in each phase. The Contractor will construct and maintain facilities for vehicular traffic and make certain that local traffic will be maintained through all or portions of the project.

614.02 Traffic Facilities. Conform to ODOT 614.02 without exception.

614.03 Traffic Control General. Conform to the requirements of the Plan, standard construction drawings, and the OMUTCD, for the installation, maintenance, and operation of all traffic controls and traffic control devices. When the plans or standard construction drawings do not cover a specific traffic control situation, place the necessary traffic control devices according to the OMUTCD and use the procedures required by the OMUTCD.

- a) Conspicuity. Only controls that pertain to local road, urban construction areas are applicable. The Contractor shall implement measures necessary to make sure all equipment, vehicles, and workers are easily seen and identifiable. The contractor shall not utilize any devices that cause disruption to residents including spot or strobe lights of excessive brightness.

614.035 Storage of Equipment, Vehicle, and Material on Highway Rights of Way. Road right-of-way is limited in the work area. The Contractor shall obtain approval of storage locations from the Owner.

614.04 Work Zone Marking Signs. Furnish, install, maintain, and subsequently remove work zone marking signs and their supports within the work limits. All signage shall provide advance notice to changes in traffic patterns and conditions in accordance with the OMUTCD.

614.05 Road Closed. Conform to ODOT 614.05 without exception.

614.06 Detour Signing.

- b) Contractor Detour Signing. The Contractor will be responsible for providing a detour-signing plan and shall maintain and subsequently remove all required detour signing and supports according to the detour signing plan.

614.07 Traffic Maintained. Conform to ODOT 614.07 without exception.

614.08 Flaggers. Conform to ODOT 614.08 without exception.

614.09 Law Enforcement Officer. At the direction of the Owner, the Contractor shall furnish the services of a law enforcement officer and patrol car equipped with flashing lights.

614.10 Work Zone Traffic Signals. Conform to ODOT 614.10 if the Owner determines that the use of a signal is warranted for public traffic safety.

614.11 Work Zone Pavement Markings. Removed.

614.12 Pavement Marking Operations. Removed.

614.13 Asphalt Concrete for Maintaining Traffic. Removed.

614.14 Performance. Conform to ODOT 614.14 without exception.

614.15 Method of Measurement. The Owner will measure Maintaining Traffic complete, including Contractor plan preparation, plan implementation, placement, and removal of all items included in the approved plan.

614.16 Basis of Payment. The lump sum price bid for Maintaining Traffic, as described herein.

## **623 – Construction Layout Stakes and Survey Monuments.**

Conform to ODOT Item 614 in its entirety excepting:

623.08 Construction Layout Staking.

Before performing a portion of the Work, submit a copy of the construction layout notes for that portion to the Owner. The construction layout notes must contain information sufficient for the Engineer to verify the construction layout.

Submit a printout of all benchmarks with locations, elevations, and differences from plan elevations to the Engineer.

Submit a description of the new benchmark, location, elevation, and closed loop survey field notes to the Engineer.

As new control points are established, a list of all control points shall be submitted weekly to the Engineer.

The Contractor is responsible for having the finished work conform to the lines, grades, elevations, and dimensions shown on the plans.

Any inspection or checking of the Contractor's layout by the Engineer and the acceptance of all or any part of it does not relieve the Contractor of that responsibility.

The removal of construction layout stakes at the completion of the work is a final cleanup item that is required as a condition of full payment for Item 624, Mobilization.

The stationing of the pipe shall be as defined in the Plans.

- a) Pavement Stakes. Construction stakes for subgrade and crushed aggregate base course shall be placed at intervals of 50 feet along the roadway centerline.

A minimum of three stakes is required per cross-section. The stakes may be set on the centerline and at varying lateral distances from the centerline, depending on the needs of the grading contractor. Additional stakes should be set and maintained as necessary to establish location and grade along intersecting road radii and for vertical curves, horizontal curves, and curve transitions in accordance with the plan.

As indicated on the Plans, construction stakes shall be placed at a minimum 25 feet along the centerline in the areas of cross-slope transition. Additional stakes may be necessary to achieve the required accuracy as determined by the Contractor.

Stake Information:

1. Station number
2. Offset
3. Designation of alignment

- b) Curb Stakes. Stake curb at 50-foot intervals along the centerline and 25-foot intervals at intersection radii and tapers. When staking radii, stake and mark the curve radius point along with the PC point, the PT point, and one or more points equally distributed throughout the curve. The Engineer may adjust intervals to construct the project properly.

Stake curb and gutter with a minimum 3-foot, maximum 6-foot offset. Set hubs with tacks on the offset line used for horizontal and vertical control. Reference grades to the top of the curb and the offset to the back of the curb. Reference will be taken from the tack in the hub.

Stake Information:

1. Offset to back of curb
2. Cut or fill to the top of the curb

3. Gutter slope
4. Super elevation of pavement (as necessary)
5. Station number
6. Hub elevation

- c) Pipe Stakes. Stakes shall be marked or flagged to describe the utility (storm water, sanitary, etc.). Use 12-inch hubs for referencing the pipe's line and flowline elevation.

Pipelines greater than 200 feet will require intermediate hubs set on 100-foot intervals or on smaller intervals as deemed necessary by the Engineer. The intermediate hubs shall contain cuts or fill relative to the pipes invert elevations directly adjacent to the intermediate hub's location.

Provide one reference line, consisting of two hubs with corresponding reference stakes, for the inlet and outlet of the pipeline. The first reference hub shall be a minimum of 10 feet from the reference point, with the second hub installed at an equal distance from the first hub.

Reference stakes will be used in conjunction with hubs to provide the required information as detailed below:

At First Reference Hub:

1. Offset to the reference point of pipe
2. Station of the point referenced with respect to the pipeline
3. Cut or fill from hub to invert
4. Length size and type of pipe
5. Grade of pipe in percent with either inlet or outlet defined
6. Structure number
7. Hub elevation on the side of the stake

At Second Reference Hub (reference pipe location by alignment with the first hub):

1. Offset to the reference point of the pipe
2. Station of the point referenced with respect to the pipeline
3. Length size and type of pipe
4. Structure number

- d) Structure Stakes. Provide a reference line to mark the centerline of junction boxes and drop inlets and the inside back wall of catch basins. Grades should be set and referenced from the hubs to the top of the structure for junction boxes, catch basins, and the flow line of grate for drop inlets. Refer to the Plans for the grate and frame dimensions and the location used to reference stationing and elevation of structures.

Stake Information:

1. Offset to the center of the structure
2. Reference line of hubs with respect to the drainage structure
3. Cut/fill from hub to invert; top of the structure for drop inlets and junction boxes, top of grate for catch basins.
4. Structure number
5. Hub elevation on the side of the stake

- e) Headwall Stakes: Stake headwalls perpendicular to the pipe. Provide one reference line with a hub on each side of the proposed structure. The line should be referenced to the outside face of the headwall. Grades should be set and referenced from the hubs to a known or calculated elevation on the proposed structure.

Stake Information:

1. Offset to the center, the outside face of the headwall
2. Cut or fill from hub to reference point on headwall (typically top of the wall)
3. Hub elevation

623.09 Providing Electronic Instrumentation. Removed

623.10 Method of Measurement. Measurement includes all construction layout stakes and surveying required to construct the project as indicated in the Plans and includes payment for right-of-way staking and verifying the location of existing survey monuments.

623.11 Basis of Payment. Payment for construction layout stakes and surveying shall be based on the accepted work at lump sum contract price.

**624 Mobilization and Demobilization**

Conform to ODOT Item 624 in its entirety.

**638 – Water Mains and Service Branches**

Conform to ODOT Item 638 in its entirety with the following clarifications:

**638.02 Materials**. Following are the types of materials being bid:

6-inch Polyvinyl chloride (PVC) pipe, joints, and fittings, AWWA C-909, DR 18, 748.02

¾-inch Copper service branches and fittings, 748.05

Gate valve and valve box, 748.08

Inserting valve and valve box, 748.09

Cutting-in sleeve, valve, and valve box, 748.10

Tapping sleeve, valve, and valve box, 748.11

Tapping saddle and corporation stop, 748.12

Service stop and service box, 748.13

Fire hydrant, 748.15

Granular Material, 605.02

Disinfectant, AWWA

Pipe bedding, 611.02.H

Concrete, Class QC-Misc, 499 and 511

Soil and granular embankment, 203.02

Structural Backfill, 703.11

Mortar, 602

**638.04 Excavation**

- d) The following specifications shall be added to 638.04 D:

The Contractor shall dispose of all excavated material in excess of that required for backfilling. Public or private property shall not be used for this purpose without the

written permission of the owner. A copy of the written permission shall be approved by and filed with the Engineer. No trespass on private property shall be made until this has been done.

Excavated material required for backfill may be stored on the bank of the trench immediately adjacent to the work under construction where space is available within the right-of-way acquired for the work, provided, however, that such storage shall not interfere with the access to and maintenance of traffic, drainage, and utilities as herein specified.

In all cases, satisfactory ingress and egress to all properties along the line of the work shall be maintained.

**638.08 Backfilling.** The following specifications shall be added to 638.08 Backfilling:

Where the proposed waterline will be within the roadway of any street (paved or unpaved), sidewalk, drive approach, or similar structure, or as designated on the Construction Plans, the backfill shall consist of granular material as approved by the engineer. This material shall be hand backfilled to a depth of 2 feet above the top of the pipe, the backfill being placed in layers not exceeding 8 inches in thickness.

Each layer shall be compacted to 95% of the maximum laboratory dry weight with special care to ensure thorough compaction under and around the sides of the pipe. The remainder of the backfill may be placed mechanically; however, it shall also be placed in layers not exceeding 8 inches and be compacted to 95% of the maximum laboratory dry weight.

The moisture content of the backfill material shall generally range between 3% below optimum to 2% over optimum for the material being used. Where additional water is required, it shall be sprinkled uniformly over the material. The cost of such granular backfill and any additional water required shall be included in the price bid per lineal foot of pipe installed.

All backfill shall be included in the price bid per lineal foot of pipe installed.

**638.09 Hydrostatic Tests.**

The following specifications shall be added to 638.09 Hydrostatic Tests.

The Contractor shall submit a required pipeline testing and disinfection plan for review and approval by the Village of Silver Lake a minimum of one month before testing starts. At a minimum, the Contractor's pipeline testing and disinfection plan shall include the following:

- A. Testing schedule.
- B. Proposed water source for testing.
- C. Proposed equipment and chemicals, including chlorine dosage testing equipment.
- D. Proposed plan for water conveyance, including flow rates.
- E. Proposed plan for water control.
- F. Proposed plan for water disposal, including flow rates.
- G. Proposed measures to be incorporated in the project to minimize erosion while discharging water from the pipeline.

General. After pipe has been laid, all hydrant assemblies installed, and all pipe hydrant assemblies and appurtenances completely backfilled except as approved by the Engineer, all newly laid pipe, service pipe, or any valved section thereof shall be subjected to the hydrostatic pressure testing. The hydrostatic test shall reference specifications, AWWA C600, Hydrostatic Testing, AWWA C605. The mains shall be tested in lengths of less than 2,000 feet when possible.

Duration. The duration of each pressure test shall be a minimum of 1 hour.

Procedure. Each valved section of pipe shall be slowly filled with water, under the specified test pressure, which is based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge. This pressure shall be applied using a pump connected to the pipe in a manner satisfactory to the Engineer. The pump, pipe connection, gauges, taps, and all necessary apparatus shall be furnished by the Contractor.

Air Removal Before Test. Before applying the specified test pressure, all air shall be expelled from the pipe. If permanent air vents are not located at all high points, the Contractor shall install corporation cocks at such points so the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation cocks shall be closed, and a test pressure of 150 PSI or 50 PSI over maximum static line pressure will be applied (whichever is greater).

Examination Under Pressure. Any cracked or defective pipe, fittings, valves, or hydrants discovered in consequence of this pressure test shall be removed and replaced by the Contractor with sound material. The test shall be repeated until satisfactory to the Engineer.

Leakage Test. A leakage test shall be conducted after the pressure test has been satisfactorily completed. The Contractor shall furnish the pump, pipe, gauge, measuring device, connections, and all other necessary apparatus, and shall furnish the necessary assistance to conduct the test. The duration of each leakage test shall be a minimum of 2 hours, and during the test, the main shall be subjected to the pressure specified in the Air Removal Before Test section above.

Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain the specified leakage test pressure after the air in the pipeline has been expelled, and the pipe has been filled with water. Ensure that the quantity of water lost from the main does not exceed the number of gallons (liters) per hour as determined by AWWA C600 or C605 or by the following formula:

$$L = \frac{ND\sqrt{P}}{7400}$$

where: L = allowable leakage, in gallons per hour

N = number of joints in the length of pipe tested

D = nominal diameter of the pipe, in inches

P = average test pressure during the leakage test, in pounds per square inch

The allowable leakage at various pressures for pipes of various diameters is shown in the tables published in AWWA C600.

The owner shall be furnished a written report of the leakage test results that identify the specific length of pipe tested, the pressure, the duration of the test, and the amount of leakage. Both the Contractor and the Engineer shall sign the report.

In the event that the main fails to meet the test requirements, the Engineer may order the Contractor to expose the joints or any section in question, repair the defective joint or replace the



defective pipe, repeat the test, backfill, and restore the surface. Such additional work shall be at the Contractor's expense.

The Contractor shall be responsible for any damage to the trench, piping, or appurtenances that may arise from or in connection with the tests. All damaged pipes or appurtenances shall be replaced by the Contractor immediately.

The cost of all material and labor performed by the Contractor in conjunction with the pressure testing shall be included for payment under the item governing the installation of the main being tested.

**638.10 Disinfection of Completed Water Work.** The following specifications shall be added to 638.10 Disinfection.

Preliminary Flushing. The main shall be flushed prior to disinfection. The Engineer shall approve the velocities of flushing and sites.

- a) The flushing velocity shall not be less than 2.5 ft/sec. The rate of flow required to produce this velocity in various diameters is shown in the table below. No site for flushing should be chosen until it is determined that drainage is adequate at that site.
- b) Flushing is no substitute for preventative measures taken before and during pipe laying. Certain contaminants, especially in caked deposits, resist flushing at any velocity. It shall be the Contractor's responsibility to prevent caked deposits or contaminants or to remove them.

Form of Chlorine for Disinfection. The allowed forms of chlorine used in the disinfecting solutions shall be liquid chlorine (gas at atmospheric pressure), calcium hypochlorite granules, or sodium hypochlorite solutions.

- a) Liquid Chlorine. Shall be used only when suitable equipment is available and only under the direct supervision of a person familiar with the physiological, chemical, and physical properties of this element and who is properly trained and equipped to handle any emergency that may arise. The introduction of chlorine gas directly from the supply cylinder is unsafe and shall not be permitted.

The preferred equipment consists of a solution feed chlorinator in combination with a booster pump for injecting the chlorine-gas water mixture into the main to be disinfected. Direct feed chlorinators are not recommended because their use is limited to situations where the water pressure is lower than the chlorine cylinder pressure.

- b) Hypochlorites.
  - 1) Calcium Hypochlorite – Calcium hypochlorite containing 70% available chlorine by weight. It is either granular or tabular in form. A chlorine-water solution is prepared by dissolving the granules in water in the proportion requisite for the desired concentration.
  - 2) Sodium Hypochlorite – Sodium hypochlorite is supplied in strengths from 5.25 to 16% prepared by adding hypochlorite to water. Product deterioration must be reckoned with in computing the quantity of sodium hypochlorite required for the desired concentration.

- c) Application. The hypochlorite solution shall be applied to the water main with a gasoline or electrically powered chemical feed pump designed for feeding chlorine solutions. Feed lines shall be of such material and strength as to safely withstand the maximum pressures created by the pumps. All connections shall be checked for tightness before applying the hypochlorite solution to the main.

Methods of Chlorine Application.

1. Continuous Feed Method.

TABLE  
Chlorine Required to Produce 50 Mg/1  
Concentration in 100 ft of Pipe –  
by Diameter

Pipe Size in Inches	100% Chlorine in Lb	1% Chlorine Solutions in Gallons
4	0.027	0.33
6	0.061	0.33
8	0.103	1.30
10	0.170	2.04

Water from the existing distribution system or other approved sources of supply shall be made to flow at a constant, measured rate into the newly-laid pipeline. The water shall receive a dose of chlorine, also fed at a constant, measured rate. The two rates shall be proportioned so that the chlorine concentration in the water in the pipe is maintained at a minimum of 50 mg/1 available chlorine. To ensure this concentration is maintained, the chlorine residual shall be measured at regular intervals in accordance with the procedures described in the latest edition of Standard Methods and AWWA M12 – Simplified Procedures for Water Examination.

The table above gives the amount of chlorine residual required for every 100 ft of pipe of various diameters. Solutions of 1% chlorine may be prepared of sodium hypochlorite or calcium hypochlorite. The latter solution requires approximately 1 lb of calcium hypochlorite in 8.5 gallons of water.

During the application of the chlorine, valves shall be manipulated to prevent the treatment dosage from re-entering the line supplying the water. Chlorine application shall not cease until water shall be retained in the line for at least 24 hours. During this time, all valves and hydrants in the section treated shall be operated in order to disinfect the appurtenances. At the end of these 24 hours, the treated water shall contain no less than 5 mg/1 chlorine throughout the length of the main.

2. Slug Method – This method is suitable for use with mains of large diameter for which, because of the quantities of water involved, the continuous feed method is not practical.

Water from the existing distribution system or other approved supply source shall be made to flow at a constant, measured rate into the newly laid pipeline. The water shall receive a dose of chlorine, also fed at a constant, measured rate. The two rates shall be proportioned so that the concentration in the water entering the pipeline is maintained at no less than 300 mg/l. The

chlorine shall be applied continuously and for a sufficient period to develop a solid column or "slug" of chlorinated water that will, as it passes along the line, expose all interior surfaces to a concentration of at least 300 mg/l for at least 3 hours. The application shall be checked at a tap near the upstream end of the line by residual chlorine measurements made according to the Specifications.

As the chlorinated water flows past tees and crosses, related valves and hydrants shall be operated to disinfect appurtenances.

Final Flushing. After the applicable retention period, the heavily chlorinated water shall be flushed from the main until the chlorine concentration in the water leaving the main is no higher than that generally prevailing in the system or less than 1 mg/l. Chlorine residual determination shall be made to ascertain that the heavily chlorinated water has been removed from the pipeline.

Alternate Disinfection Procedures. With the written approval of the Engineer, the Contractor may elect to use an alternate disinfection procedure. Any alternatives shall, however, conform to acceptable methods of waterline disinfection. Before an alternate method is approved, the Contractor shall submit a written description of the method he proposes to use. Such description shall include the types of chemicals to be used and the method for applying them. If an alternate disinfection procedure as approved by the Engineer is used, the waterline must pass the Bacteriologic Tests as described below. If the line fails to meet these requirements, at the direction of the Engineer, either the disinfection procedures outlined above shall be performed, or the alternative procedure chosen by the Contractor shall be repeated.

Bacteriologic Tests.

1. After final flushing, and before the water main is placed in service, a sample or samples shall be collected from the end of the line and tested for bacteriologic quality and shall show the absence of coliform organisms. If the number and frequency of samples are not prescribed by the public health authority having jurisdiction, at least one sample shall be collected from chlorinated supplies where a chlorine residual is maintained throughout the new main. From unchlorinated supplies, at least two samples shall be collected at least 24 hours apart.

In the case of extremely long mains, samples shall be collected at 2,500-foot intervals over the length of the line and at all ends.

2. Samples for bacteriologic analysis shall be collected in sterile bottles treated with sodium thiosulphate. No hose or fire hydrant shall be used in the collection of samples. A suggested sampling tap consists of a standard corporation cock installed in the main with a copper tube gooseneck assembly. After samples have been collected, the gooseneck assembly may be removed and retained for future use. The Engineer shall inspect and approve all samples taken.

3. The samples shall be tested at an approved testing laboratory, and four certified copies of the results shall be sent to the Engineer for approval. The cost of collecting samples and testing samples shall be included in the unit prices bid for Item 638.

Repetition of Procedure. If the initial disinfection fails to produce satisfactory samples, disinfection shall be repeated until satisfactory samples have been obtained. When the samples are satisfactory, the main may be approved. The Contractor will pay the cost of repeated disinfection, and no additional costs shall be paid. The Contractor, in all cases, shall take all necessary precautions to keep the water lines from freezing.

Procedure After Cutting into or Repairing Existing Main. The procedures outlined in this section primarily apply when mains are wholly or partially dewatered. Leaks or breaks repaired with clamping devices while the mains remain full of water under pressure present little danger of contamination and require no disinfection.

1. Trench "Treatment." When an old line is opened, either by accident or design, the excavation will likely be wet and badly contaminated from nearby sewers. Liberal quantities of hypochlorite shall be applied to open trench areas to lessen the danger from such pollution. Tablets have the advantage in such a situation because they dissolve slowly and release hypochlorite as water is pumped from the excavation.

2. Main Disinfection.

- a) Swabbing with Hypochlorite Solution – The interior of all pipe and fittings used in repairing (particularly couplings and tapping sleeves) shall be swabbed with a 5% hypochlorite solution before they are installed.
- b) Flushing – Thorough flushing is the most practical means of removing contamination introduced during repairs. If valving and hydrant locations permit, flushing from both directions is recommended. Flushing shall be started as soon as the repairs are completed and continued until discolored water is eliminated.
- c) Slug Method – Where practicable, in addition to the procedure of a. and b., a section of main in which the break is located shall be isolated, all service connections shut off, and the section flushed and chlorinated as previously described except that the dose may be increased to as much as 500 mg/l, and the contact time reduced to as little as ½ hour. After chlorination, flushing shall be resumed and continued until discolored water is eliminated.

3. Sampling. Bacteriologic samples shall be taken after repairs to provide a record by which the effectiveness of the procedures can be determined. If the direction of flow is unknown, samples shall be taken on each side of the main break.

Chlorine Residual. The drop dilution method of approximating total residual chlorine is suitable for concentrations above 10 mg/l, such as are applied in the disinfection of water mains or tanks. It is taken from AWWA M12 – Simplified Procedures For Water Examination.

A comparator kit containing a suitable range of standards equal to that manufactured by W. A. Taylor and Company shall be approved.

The cost of all material and labor performed by the Contractor in conjunction with the pressure testing and disinfection shall be included for payment under the item governing the installation of the main being tested.

**As Per Plan (APP) ¾ Inch Service Complete.**

This item shall include tapping the main for a ¾-inch service, the corporation stop, the required length of copper service, the curb stop, the curb box, backfilling and compacting the trench with select on-site granular material or fine granular material compacted in 6-inch lifts to 95% max dry weight per ODOT 203.06, and the removal and disposal of the old service.

### **As Per Plan (APP) Fire Hydrant Complete.**

This item shall be per the detail and include but is not limited to the City of Cuyahoga Falls compliant hydrant, 6-inch gate valve, swivel anchoring tee, all the necessary blocking, and joint restraints. All materials shall be approved by the Village of Silver Lake. Hydrant tees, leads, and fittings shall be ductile iron pipe. Hydrant shall contain all stainless steel bolts.

### **659 – Seeding and Mulching**

Conform to ODOT Item 659 in its entirety and as indicated on the Plans.

Item includes stripping of topsoil, stockpiling, and respread to prepare grass areas for seeding.

### **Sediment and Erosion Control As Per Plan**

The contractor shall be responsible for installing and maintaining all sediment and erosion controls as indicated on the Plan. Additional controls may be necessary to meet changes in site conditions.

The Contractor shall file as a Co-Permittee to the Notice of Intent obtained by the Village of Silver Lake.

The Contractor shall perform site inspections and maintain records of these inspections as described on the Plan.

The Contractor shall reference Supplemental Specification 832 – Temporary Sediment and Erosion Control in addition to the Plans.

Basis of Payment. Payment for sediment and erosion control shall be based on the accepted work at the lump sum contract price.

### **Item Specification – Bioretention Cells Complete**

Description. The contractor shall install the bioretention areas as directed on the Plans.

Protection During Construction. The following points are critical during the construction process:

- a) The facilities must not be installed until the contributing drainage area is stabilized to the satisfaction of the Engineer to avoid clogging the bioretention areas with silt and clay.
- b) The Contractor shall minimize disruption to the bioretention areas during construction, to the extent possible.
- c) Secondary erosion control measures shall be employed during the installation of the bioretention facility. These may include a silt fence around the perimeter of the filter area, diversion dikes, blocking/diverting all inlets into the facility, and/or installing sod or erosion control matting on the side slopes of the facility itself. The objective is to keep all sediment runoff, including from disturbed side slopes of the bioretention area, from entering the filter area.

Testing the Bioretention Soil Mix. The soil shall be a uniform mix, free of stones, stumps, roots, or other similar objects larger than 2 inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of noxious weeds.

When the contractor mixes the soil, the mix shall be tested according to specifications provided herein. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated. Since different labs calibrate their testing equipment differently, all testing results shall come from the same testing facility.

Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur. Should the mix not meet the minimum requirement for magnesium, it may be modified with magnesium sulfate. Likewise, should it not meet the minimum requirement for potassium, it may be modified with potash. Magnesium sulfate and potash must be mixed uniformly into the soil mix prior to use in the bioretention facilities.

For pre-mixed bioretention soils available from vendors, the mix shall first be approved by the Engineer.

Excavation. The bioretention facility shall be excavated to the dimensions, side slopes, and elevations shown on the Plans. The method of excavation shall minimize the compaction of the bottom of the bioretention facility. If possible, excavators and backhoes operating on the ground adjacent to the bioretention facility shall be used to excavate the facility. Low ground-contact pressure equipment may also be used for excavation. It is unacceptable to use equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires that will cause excessive compaction resulting in reduced infiltration rates and storage volumes. Excavated materials shall be removed from the bioretention facility site.

Tilling/Ripping Base for Infiltration Designs. Compaction shall be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12-inch compaction zone. The Engineer must approve substitute methods. The use of rototillers is not acceptable. The Contractor must till 2 to 3 inches of sand into the base of the bioretention facility before backfilling the stone layer and pump any ponded water before tilling the base. The soil must be friable before tilling.

Underdrain Installation. Place the underdrain according to the Plan. When installing perforated underdrain pipe, ensure a minimum of 3 inches of gravel (No. 57) over the pipe, plus the additional 3 inches of pea gravel (No. 8 or 78). Underdrains shall be placed across the entire bottom of the bioretention facility, with an approximate spacing of 20 feet on-center and a minimum slope of 1%.

Observation wells/cleanouts of non-perforated pipe shall be placed vertically in the bioretention facility. The wells/cleanouts shall be connected to the perforated underdrain with the appropriate manufactured connections, using 45-degree connections at the junction to aid cleanout. The wells/cleanouts shall extend roughly 6 inches above the top elevation of the bioretention facility, and shall be capped with a screw cap. The ends of underdrain pipes not terminating in an observation well/cleanout shall be capped.

Placing the Soil Mix. The bioretention soil mix shall be placed and graded using excavators and/or backhoes operating on the ground adjacent to the bioretention facility. If equipment must operate within the filter area itself, it must be light equipment that will not compact the soil to any appreciable degree (e.g., small loader with wide tracks or marsh tracks). No heavy equipment

and/or equipment with narrow tracks, narrow tires, rubber tires, or high pressure tires shall be used within the immediate filter area during or after the placement of the soil mix.

The mix shall be placed in horizontal layers not to exceed 12 inches for the entire area of the bioretention facility. The Contractor must grade bioretention materials by hand or with light equipment such as a compact loader or a dozer/loader with marsh tracks. The soil mix can be expected to settle, especially after becoming saturated. For this reason, the elevation of the mix should be a couple of inches higher at installation than the design elevation in anticipation of settling.

Plant Installation. After placing the soil mix and approval, trees, shrubs, and herbs shall be planted. Planting shall be conducted between May 1 and June 15 or September 15 and November 1. The rootstock of the plant material should be kept moist during transport, from the source to the job site and until planted.

Bioretention facilities should be planted according to the planting plan and plant schedule on the Plans, which provide specific spacing requirements. Prior to planting the entire area, the Owner or their representative should inspect and approve plant spacing and planting techniques before proceeding.

All planting pits shall be dug by hand and excavated to 1½ times the width of the root mass. The planting pit shall be deep enough to allow the first lateral root of the root mass to be flush with the existing grade. Remove all non-organic debris from the pit and tamp loose soil in the bottom of the pit by hand.

Remove the plant from its container either by cutting or inverting the container. Do not handle the plant by the branches, leaves, trunk, or stem. Place the plant straight in the center of the planting pit, carrying the plant by the root mass. Never lift or carry a plant by the trunk or branches.

Mix a minimum of 500 spores of endomycorrhizal fungi and 30 million spores of ectomycorrhizal fungi to each cubic foot of backfill for tree and shrub planting. Backfill the planting pit with existing soil and hand tamp as the pit is being backfilled to completely fill all voids and air pockets. Do not over compact soil. Make sure the plant remains straight during backfilling/tamping procedure. Do not cover the top of the root mass with soil.

An 18-inch diameter area of well-aged (6 to 12 months) shredded hardwood mulch shall be placed around each plant 2-3 inches thick. Mulch shall NOT be placed directly against the stem of the plant. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Water plant thoroughly immediately after planting unless otherwise directed by the Engineer. The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum impedes, this goal.

The contractor shall guarantee plants, trees, and shrubs as described in the Plans.

Method of Measurement. The bioretention cell quantities are complete in place. The term complete includes all excavation, grading, soil mix, underdrain, cleanouts, basins, seeding, planting, and maintenance required to establish growth.

Basis of Payment. Payment for the bioretention cells shall be based on the accepted work at the lump sum contract price.

## **Item Specification – Storm Drainage Water Retention Structure**

Description. This section includes stormwater drainage systems for site area drainage. The work includes the installation of the StormTech chamber drainage system.

### **GENERAL**

#### Abbreviations:

- a) PP: Polypropylene
- b) HDPE: High-Density Polyethylene
- c) PE: Polyethylene
- d) PVC: Polyvinyl Chloride
- e) ASTM: American Society for Testing and Materials
- f) AASHTO: American Association of State Highway and Transportation Officials
- g) ADS: Advanced Drainage Systems Inc.
- h) TSS: Total Suspended Solids

#### Definitions

- a) Stormwater Chamber System: All products associated with the drainage system, including but not limited to chambers, end caps, pipe, fittings, stone, geotextile, and drainage structures.
- b) Subsurface Drainage System: Refers to the StormTech subsurface stormwater chamber system.
- c) Manifolds and manifold piping refer to the piping system to inlet and outlet rows of chambers.
- d) STORMTECH brand name is referred to as CHAMBER MANUFACTURER hereafter.
- e) ADS and HANCOR brand names are considered interchangeable within this section.

#### Reference Standards

- a) American Association of State Highway and Transportation Officials (AASHTO)
  - 1) AASHTO LRFD Bridge Design Specifications Section 3 – Loads and Load Factors
  - 2) AASHTO LRFD Bridge Design Specifications Section 12 – Buried Structures and Tunnel Liners
  - 3) AASHTO M 43 – Standard Specification for Sizes of Aggregate for Road and Bridge Construction
  - 4) AASHTO M 288 – Standard Specification for Geotextile Specification for Highway Applications
  - 5) AASHTO M 294 – Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm Diameter
- b) American Society for Testing and Materials (ASTM)
  - 1) ASTM F 2418 or F 2922 Standard Specification for Polypropylene (PP) or Polyethylene (PE) Corrugated Wall Stormwater Collection Chambers



- 2) ASTM F 2787 Standard Practice for Structural Design of Thermoplastic Corrugated Wall Stormwater Collection Chambers
- 3) ASTM D 2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
- 4) ASTM F 2306 – Standard Specification for 12 to 60 in. [300 to 1,500 mm] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications

Administrative Requirements

- a) Preinstallation Meetings
  - 1) A preinstallation meeting between the StormTech representative and the general contractor is recommended to discuss the chamber system installation.
    - a. StormTech offers installation consultations to installing contractors.
    - b. Contact StormTech at least 30 days prior to system installation to arrange a preinstallation consultation.
- b) Sequencing
  - 1) The Contractor is responsible for coordinating the installation of the subsurface stormwater chamber system and installing permanent structures on site.
    - a. Construction loads for permanent structures may require the subsurface chamber system to be installed after the permanent structure(s) on-site.
  - 2) Coordinate stormwater chamber system connections to off-site storm sewer with the appropriate agency having jurisdiction.
  - 3) Coordinate stormwater chamber system connections to the existing on-site storm sewer
  - 4) Coordinate with other utility work.

Submittals The following shall be submitted by the Contractor:

- a) Product Specifications for the following:
  - 1) StormTech chambers and end caps
  - 2) ADS PE pipe
- b) Product Installation Instructions for the following:
  - 1) StormTech chambers and end caps
  - 2) ADS PE pipe
- c) Inspection and Maintenance Instructions for the following:
  - 1) StormTech Isolator™ Row PLUS as specified.

Quality Assurance

- a) Regulatory Agency Approvals:
  - 1) Environmental agency compliance: Comply with regulations pertaining to storm drainage systems.
  - 2) Utility Compliance: Comply with regulations pertaining to storm drainage systems. Include standards of water and other utilities where appropriate.

b) Qualifications:

1) Manufacturers

- a. All chamber and end cap products must be produced in an ISO 9001 certified manufacturing facility or shall demonstrate at least 5 years of experience in producing similar products.

Delivery, Storage, and Handling

- a) The Contractor shall check all materials upon delivery to assure that the proper chamber size and plastic pipe and pipe fittings have been received.
- b) The Contractor shall check the chambers for shipping damage prior to installation. Units that have been damaged must not be installed. The Contractor shall contact the chamber manufacturer immediately upon discovery of any damage. Chambers may be left palletized until the units are ready to be installed.
- c) All chambers, pipe, and pipe fittings shall be delivered to the site and unloaded with handling that conforms to the manufacturer's instructions for reasonable care.
- d) Protect chamber and chamber fittings from dirt and damage.
- e) All pipe and chambers shall be protected against impact, shock, and free-fall, and only equipment of sufficient capacity and proper design shall be used to handle the pipe. Storage of the pipe on the job shall be in accordance with the pipe manufacturer's recommendations.
- f) The Contractor shall refer to the fabric manufacturer's guidance handling and storage of fabric products on site.

**PRODUCTS**

Manufacturers

a) Manufacturers

- 1) StormTech, Inc.  
2) Advanced Drainage Systems, Inc.  
3) Hancor, Inc.

Stormwater Chamber System

a) Chamber Options

- 1) Only stormwater chamber systems evaluated by a licensed design engineer and found to meet AASHTO section 12.12 safety factors are allowed.
- 2) Stormwater chambers must be designed in accordance with ASTM F 2418-16a or F 2922 Standard Specification for Polypropylene (PP) or Polyethylene (PE) Corrugated Wall Stormwater Collection Chambers
- 3) The structural design of the chambers, the structural backfill, and the installation requirements shall ensure that the load factors specified in the AASHTO LFRD bridge design specifications, section 12.12, are met for:
- a. Long-duration dead loads and
- b. Short-duration live loads, based on the AASHTO design truck with consideration for impact and multiple vehicle presences.

- 4) Stormwater chambers shall be designed, tested, and allowable load configurations determined in accordance with ASTM F 2787, "Standard Practice for Structural Design of Thermoplastic Corrugated Wall Stormwater Collection Chambers." Load configurations shall include: 1) instantaneous (< 1 minute) AASHTO design truck live load on minimum cover; 2) maximum permanent (75-year) cover load; and 3) allowable cover with parked (1-week) AASHTO design truck.
  - 5) Chamber systems allowed under this specification include StormTech SC-740.
- b) Performance
- 1) Requirements for handling and installation:
    - a. To maintain the width of chambers during shipping and handling, chambers shall have integral, interlocking stacking lugs.
    - b. To ensure a secure joint during installation and backfill, the height of the chamber joint shall not be less than SC-740 2 in., DC-780 2 in.
    - c. To ensure the integrity of the arch shape during installation:
      - a) The arch stiffness constant as defined in section 6.2.8 of ASTM F 2922 shall be greater than or equal to: SC-740 550 lbs/in./in., DC-780 550 lbs/in./in.
      - b) To resist chamber deformation during installation at elevated temperatures (above 73° f / 23° c), chambers shall be produced from reflective gold or yellow colors.
  - 2) Only chambers that are approved by the site design engineer will be allowed. Upon request by the site design engineer or owner, the chamber manufacturer shall submit a structural evaluation for approval before delivering chambers to the project site as follows:
    - a. The structural evaluation shall be sealed by a registered professional engineer.
    - b. The structural evaluation shall demonstrate that the safety factors are greater than or equal to 1.95 for dead load and 1.75 for live load, the minimum required by ASTM F 2787 and by sections 3 and 12.12 of the AASHTO LFRD bridge design specifications for the thermoplastic pipe.
    - c. The test-derived creep modulus as specified in ASTM F 2922 shall be used for permanent dead load design except that it shall be the 75-year modulus used for design.
  - 3) Only mechanical and material properties that were determined in accordance with ASTM test methods shall be allowed for the structural design of the chambers.
  - 4) Only chambers affixed with the ASTM F 2418-16a or F 2922 designation shall be considered as meeting ASTM F 2418-16a or F 2922.
  - 5) The contractor shall submit the design summary by the manufacturer that demonstrates that the system is designed to convey peak flow rates without scour of foundation stone.

#### Materials

- a) Chamber
  - 1) Chambers shall be arch-shaped and shall be manufactured from virgin, impact modified polypropylene or polyethylene copolymers.

- 2) Chamber rows shall provide continuous, unobstructed internal space with no internal support panels in order to provide ease of access for inspection and maintenance functions.
  - 3) Inspection ports shall be installed and constructed per project plans. Note that inspection ports shall only be installed along the Isolator™ Row PLUS to allow for inspection of the sediment build-up over time.
  - 4) The chambers shall be open-bottomed.
  - 5) The chamber shall incorporate an overlapping corrugation joint system to allow chamber rows of almost any length to be built. Chamber models may be cut at the job site to improve site optimization and reduce product waste.
- b) Chambers and end caps shall be produced at an ISO 9001 certified manufacturing facility.
- c) End Caps
- 1) End caps shall be injection molded, or roto-molded, from polyethylene or polypropylene resin and allow pipe connections with polyethylene pipe. End caps shall have a curved face capable of resisting typical horizontal and vertical loads. End caps for MC-3500 and MC-4500 chambers shall be corrugated.
  - 2) All chamber rows shall be terminated with an end cap. End cap placement on the end of the chamber will vary depending on the chamber model.
  - 3) End caps may incorporate cutting guides to allow easy field cutting for various diameters of pipe. Cutting guides shall be located at both the top and bottom of each end cap.
- d) Manifold Piping
- 1) Manifold piping shall be designed to ensure that peak flows are distributed to the rows of chambers without scour of the foundation stone.
  - 2) Manifold piping shall be of dual wall HDPE piping such that accepted equations of hydraulics can be used as a basis for design.
- e) Stone
- 1) The foundation, embedment, and cover stone shall be in accordance with the chamber manufacturer's installation instructions.
- f) Fabric
- 1) Fabric between the chamber bottom and the stone foundation located along the entire length of the Isolator Row PLUS and the first 10.5 ft (SC-310, SC-740, DC780) or 14.5 ft (MC-3500, MC-4500) of all inlet rows. Fabric shall be ADSPLUS Woven for sediment capture, filtration, and scour protection.
  - 2) The fabric between the top of the Isolator Row PLUS chambers and the embedment stone surrounding the entire chamber system shall be AASHTO M288 Class 2 Non-Woven for filtration (not required over DC-780, MC-3500, or MC-4500 Isolator Row PLUS).
  - 3) If required, a thermoplastic liner may be installed around the entire system to prevent water migration. See manufacturer's Tech Note 6.50 for guidance on thermoplastic liners for the system.

### Stormwater Treatment System

- a) The stormwater chamber system shall incorporate an Isolator Row PLUS for stormwater treatment and system maintenance. An Isolator Row PLUS is a chamber row enclosed in geotextile fabric for sediment capture and maintenance.
- b) The stormwater treatment system shall remove a minimum of 80% of Total Suspended Solids (TSS), 80% Total Petroleum Hydrocarbons (TPH), 80% Suspended Sediment Concentration, 60% Total Phosphorus, and 60% Total Zinc as verified by 3rd party testing.
- c) Stormwater treatment system inspection and maintenance shall be in accordance with section 3 of this specification and the product manufacturer's published guidance.

### Accessories

- a) Spacers can be used to obtain the required minimum spacing between chamber rows.
- b) During construction FlexStorm Catch It inlet filters or pipe plugs on all inlet pipes to the stormwater chamber system can be used to prevent construction sediment from entering the Isolator Row PLUS system. Pipe plugs are to be removed once construction of the system is complete and no further construction sediment loading is expected.

## **EXECUTION**

### Preparation

- a) General
  - 1) Installing contractors are required to use and understand the latest manufacturer's installation instructions prior to beginning system installation.
    - a. Refer to the section regarding manufacturer preinstallation meeting information.
    - b. Chamber products must be designed and installed in accordance with the manufacturer's minimum requirements. Failure to do so will void the manufacturer's limited warranty.
  - 2) The contractor shall install all drainage structures, pipe, and chambers in the locations shown on the design engineer's drawings and/or as approved by the Owner. Pipe shall be of the type and sizes specified on the drawings and shall be laid accurately to line and grade. Structures shall be accurately located and properly oriented.
  - 3) Chambers, pipe, and drainage structures shall be inspected prior to installation, and any defective or damaged product shall be replaced accordingly.
  - 4) Contact local underground utility companies prior to construction.
  - 5) The contractor must apply erosion and sediment control measures to protect the stormwater system during all phases of site construction per local codes and the design Engineer's specifications.
- b) Site Preparation
  - 1) Excavation must be free of standing water. Dewatering measures must be taken if required.

- a. When groundwater is present in the work area, dewater to maintain stability of in-situ and imported materials. Maintain water level below pipe bedding and foundation to provide a stable trench bottom.
- 2) Prepare the chamber bed's subgrade soil as outlined in the Engineer's drawings. Requirement for subgrade soil bearing capacity should meet or exceed the chamber manufacturer's required allowable subgrade soil bearing capacity. The contractor must report any discrepancies with subgrade soil's bearing capacity to the design engineer.

#### Chamber Installation and Backfilling

- a) Install chamber system flat, or at constant slope between points, and elevations indicated.
- b) Construct fabric and stone foundation per chamber manufacturer's installation instructions.
- c) Construct the chamber bed by joining the chambers lengthwise in rows. Attach chambers by overlapping the end corrugation of one chamber onto the end corrugation of the last chamber in the row.
- d) See pipe manufacturer's installation instructions for pipe assembly.
- e) Stone placement between chamber rows and around the perimeter must follow instructions as indicated in the most current version of the chamber manufacturer's installation instructions.
- f) The Contractor must refer to the chamber manufacturer's installation instructions for a table of acceptable vehicle loads at various depths of cover. The Contractor is responsible for preventing vehicles that exceed the chamber manufacturer's requirements from traveling across or parking over the chamber system. Temporary fencing, warning tape, and appropriately located signs are commonly used to prevent unauthorized vehicles from entering sensitive construction areas.
- g) Refer to the chamber manufacturer's installation instructions for minimum requirements for backfill material above the stormwater chamber system.
- h) See pipe manufacturer's installation instructions for guidance on installing the plastic pipe fittings to the chamber system.

#### Protection

- a) Protect all inlets to the stormwater chamber system during construction. As previously noted, pipe plugs in the inlet manhole pipes or FlexStorm Catch It inlet filters may be used to prevent construction sediments from clogging the system. Once construction has ceased, the pipe plugs are removed to allow normal system functionality.
- b) All inlet and outlet structures should be protected against construction sediments.

#### Inspection and Maintenance

- a) As noted, chambers may incorporate an optional inspection port to allow for inspection of the stormwater system during normal operations.
  - 1) Inspection can also be accomplished through the inlet manhole connected to the Isolator Row PLUS, which may require confined space entry certification of the inspector.

- b) Refer to the chamber manufacturer's Isolator Row PLUS Operation and Maintenance manual for guidance on inspection intervals during normal system operation
- c) Maintenance of the Isolator Row PLUS shall utilize a JetVac process to remove sediments that have accumulated in the Isolator Row PLUS over time.

Method of Measurement. The Storm Drainage Water Retention Structure quantities are complete in place. These quantities include all excavation, bedding, geotextile material, compaction, drainage piping/chambers, cleaning, storm sewer connections, and any additional items required to install the system.

Demolition for the system area, including concrete curb and asphalt pavement removal, is included in the pay Item 202.

Planting on the island following system installation is included in the landscaping pay item. Concrete curb and asphalt pavement restoration are included in roadway pay Items.

Basis of Payment. Payment for the Storm Drainage Water Retention Structure shall be based on the accepted work at the lump sum contract price.

f) Village of Silver Lake right to reject:

The Village of Silver Lake reserves the right to reject any proposal for failure to comply with all requirements of this notice or the contract document; however, the Village may waive any minor defects or informalities at their discretion. The Village of Silver Lake further reserves the right to reject any and all proposals or not to award the contract if that is in their best interest. **“Bidders can take exception to any or all the specs outlined, but the utility will evaluate what is critical to their needs.”**

Bidder Responsibility to this Specification

It is the responsibility of each bidder to carefully examine these specifications and the bid documents and become familiar with the requirements set forth herein. In addition, it is the responsibility of each bidder to submit all necessary information concerning their product to the Village of Silver Lake. Failure to do so could result in your bid being declared as non-responsive.





## **APPENDIX A**

### **ENGLEWOOD DRIVE IMPROVEMENT PROJECT PLAN SET**

## APPENDIX B

### PROPOSAL FORM

BID ITEM	SPEC ODOT	DESCRIPTION	ESTIM. QUANT.	UNIT	TOTAL UNIT PRICE	TOTAL BID FOR ITEM
1	SPEC	Pre-Construction Video	1	LS		
2	SPEC	Post-Construction Video	1	LS		
3	623	Construction Survey and Stakeout	1	LS		
4	624	Mobilization and Demobilization	1	LS		
5	614	Maintaining Traffic	1	LS		
6	201	Clearing and Grubbing, As Per Plan (incl. shrubs and misc. landscape)	1	LS		
7	201	Trees Removed	10	EA		
8	202	Storm Sewer Pipe Removed & Disposed (8" and less)	120	LF		
9	202	Storm Sewer Pipe Removed & Disposed (10" and 12")	2,460	LF		
10	202	Storm Sewer Pipe Removed & Disposed (15" and 24")	2,691	LF		
11	202	Remove and Replace Misc. (Signage, Yard Lights, Etc.) As Per Plan	1	LS		
12	202	Catch Basin Removal and Disposal	48	EA		
13	202	Brick Headwall Removal and Disposal	1	EA		
14	202	Full-Depth Pavement Saw Cutting	594	LF		
15	202	Full-Depth Pavement Removal	10,640	SY		
16	202	4" Concrete Sidewalk Removal	1,045	SF		
17	202	Concrete Curb & Drive Remove and Replace Per City of Stow Standard	350	SF		
18	202	Drive Approach Removal (Asphalt and Concrete)	27,199	SF		
19	638	6" CIP Waterline Removed (As needed due to conflict)	1	LS		
20	638	6" Valve Removed	7	EA		
21	638	Fire Hydrant & Valve Removed	4	EA		
22	638	6" x 6" Tee Removed	3	EA		
23	203	Excavation and Embankment	8,343	CY		
24	204	Subgrade Compaction, Proof Roll Req'd	10,950	SY		
25	254 APP	Pavement Planing	1,000	SY		
26	301	Asphalt Concrete Base, PG 64-22, 6" Thick	1,761	CY		
27	304	Aggregate Base, 6" Thick, Limestone Only	1,825	CY		
28	407	Tack Coat @ 0.075 Gal/SY	868	GAL		
29	441	Asphalt Concrete, Surface Course, Type 1, Medium, PG 64-22, 1-1/4" Thick	401	CY		
30	441	Asphalt Concrete, Intermediate Course, Type 2 (448)	643	CY		
31	608	Concrete Driveway Reconstruction, 6" Thick	17,419	SF		

BID ITEM	SPEC ODOT	DESCRIPTION	ESTIM. QUANT.	UNIT	TOTAL UNIT PRICE	TOTAL BID FOR ITEM
32	608	Concrete Walk, 4" Thick w/ 2" #57 Limestone Agg. Base	20,963	SF		
33	608	Concrete Walk, 6" Thick w/ 2" #57 Limestone Agg. Base	4,699	SF		
34	609	6"x18" Concrete Curb	7,976	LF		
35	609	Curb Ramps	583	SF		
36	642	Pavement Markings Misc.	1	LS		
37	SPEC	Ex. Manhole Adjust to Grade	10	EA		
38	APP	Monument Box	4	EA		
39	APP	Asphalt Pavement Restoration per City of Stow Standard Detail SDR-1	1	LS		
40	659	Seeding and Mulching	11,523	SY		
41	638	6" Dia AWWA C-909 (DR18) Water Main	3,500	LF		
42	638	6" x 6" Tee	2	EA		
43	638	6" Bend 45 Degree	5	EA		
44	638	6" Gate Valve and Box Assembly	6	EA		
45	638	6" Tapping Sleeve & Valve	1	EA		
46	638 APP	3/4" K Copper Service Complete	90	EA		
47	638 APP	Fire Hydrant Complete	4	EA		
48	601	ODOT Type C, Rock Channel Protection, with Type B Filter Fabric	2	CY		
49	602	Headwall - ODOT HW1.1	1	EA		
50	605	6" Shallow Base Underdrain w/ Filter Fabric, SDR-35	7,500	LF		
51	611	6" Conduit, Type C, SDR-35, House Lateral Connections	2,700	LF		
52	611	8" Conduit, Type C, SDR-35, Collector Lines	2,365	LF		
53	611	Clean Out for 8" Collector Lines	16	EA		
54	611	12" Conduit, Type B, 707.65	984	LF		
55	611	15" Conduit, Type B, 707.65	495	LF		
56	611	18" Conduit, Type B 707.65	843	LF		
57	611	24" Conduit, Type B 707.65	1,472	LF		
58	611	48" Storm Sewer Manhole, ODOT No. 3, Flat Top	1	EA		
59	APP	Standing Curb Inlet w/ Grate	33	EA		
60	611	Catch Basin, ODOT CB-3A	3	EA		
61	SPEC	Bioretention Cells Complete (3 Cells on West Side of Road, 1,800 SF)	1	LS		
62	605	6" Pipe Underdrain SDR-35	300	LF		
63	SPEC	Stormwater Drainage Water Retention Structure (@ Oakhill Rd.)	1	LS		
64		Street Shade Trees - Per Village of Silver Lake	12	EA		
65		Native Plantings and Landscape - Per Village of Silver Lake	1	LS		

BID ITEM	SPEC ODOT	DESCRIPTION	ESTIM. QUANT.	UNIT	TOTAL UNIT PRICE	TOTAL BID FOR ITEM
66	601	ODOT 703.20 Washed Gravel w/Type B Filter Fabric	23	CY		
67	602	Half-Height Headwall - ODOT HW-2.1	1	EA		
68	611	12" Conduit, Type C, SDR-35	486	LF		
69	611	Catch Basin, ODOT CB-2-2A	6	EA		
70	601	ODOT Type C, Rock Channel Protection, with Type B Filter Fabric (at Bioretention Cells)	20	CY		
71	APP	Sediment & Erosion Control Misc.	1	LS		

The Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by the Bidder to be adequate to cover the Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

---

**Total of Lump Sum and Unit Price Bids = Total Bid Price**

**(NUMBERS) \$** \_\_\_\_\_

**Total of Lump Sum and Unit Price Bids = Total Bid Price**

**(WORDS)** \_\_\_\_\_

## APPENDIX C

### BID BOND OR CERTIFIED CHECK DISCLOSURE

Certified check or bid bond in the amount of:

---

Written Amount

---

Name of Bank or Bonding Company

---

deposited herewith.

---

BIDDER

## APPENDIX D

### RIGHT TO REJECT CERTIFIED STATEMENT

The Bidder hereby agrees that the Village of Silver Lake reserves the right to reject any bid or any alternative, or part thereof, or all bids, alternatives, and parts thereof.

---

Signature of Officer, Partner, or Owner

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(Business Address of Bidder)

**APPENDIX E**

**DELINQUENT PERSONAL PROPERTY TAX AFFIDAVIT**

State of Ohio } ss

County of Summit }

**Bid Identification:**

CONTRACTOR \_\_\_\_\_

Being first duly sworn, deposes and says that he/she is \_\_\_\_\_

(Sole owner, partner, president, secretary, etc.)

of \_\_\_\_\_ the party making the foregoing bid, hereby

(Name of company)

affirms under oath, pursuant to Section 5719.042 of the Ohio Revised Code, that at the time the bid was submitted, my company (was) (was not) charged with delinquent personal property taxes on the General Tax List of Personal Property for Summit County, Ohio.

If such charge for delinquent personal property tax exists on the General Tax List of Personal Property for Summit County, Ohio, the amount of such due and unpaid delinquent taxes, including due and unpaid penalties and interest, shall be set forth below.

A copy of this statement will be transmitted by the Fiscal Officer to the County Treasurer within 30 days of the date it is submitted.

Delinquent Personal Property Tax \$ \_\_\_\_\_

Penalties \$ \_\_\_\_\_

Interest \$ \_\_\_\_\_

Signed: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Seal of Notary

\_\_\_\_\_

Notary Public

My commission expires: \_\_\_\_\_

**APPENDIX F**

**CERTIFICATE OF BIDDER UNRESOLVED FINDINGS FOR RECOVER**  
**WITH AUDITOR OF STATE, ORC 9.24 & 9.241**

I, the undersigned, hereby affirm that the Bidder identified below:

CHECK & COMPLETE ONLY ONE

\_\_\_\_\_ has no unresolved findings of recovery with the State of Ohio Auditor, as defined by ORC 9.24 & 9.241.

\_\_\_\_\_ has the following unresolved findings of recovery with the State of Ohio Auditor, and defined by ORC 9.24 & 9.241:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

Bidder: \_\_\_\_\_

(Signed) \_\_\_\_\_

Print Name & Title: \_\_\_\_\_



## APPENDIX G

### NON-COLLUSION AFFIDAVIT

(This affidavit must be executed for the bid to be considered)

STATE OF \_\_\_\_\_ } SS

COUNTY OF \_\_\_\_\_ }

I, \_\_\_\_\_, \_\_\_\_\_  
(Name of party signing affidavit) (Title)

being duly sworn, do depose and say:

that \_\_\_\_\_  
\_\_\_\_\_

(Insert names of all persons, firms, or corporations interested in bid)

its agents, officers, or employees have not directly or indirectly entered into any agreement, participated in any collusion, or otherwise, taken any action restraint of free competitive bidding in connection with this proposal; and also that no member of the Council, heady of any department or bureau, or employee therein, or any officer of the Village of Silver Lake, is directly or indirectly interested therein.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

(SEAL)

\_\_\_\_\_  
Notary Public in and for

COUNTY OF \_\_\_\_\_, STATE OF \_\_\_\_\_

My commission expires \_\_\_\_\_, 20\_\_

# APPENDIX H

## CONTRACTOR SAFETY POLICY

### AGREEMENT ON SAFETY POLICY COMPLIANCE WHILE PERFORMING SERVICES AT A VILLAGE OF SILVER LAKE FACILITY OR JOB SITE

\_\_\_\_\_ (Contractor) acknowledges The Village of Silver Lake's commitment to safety and agrees that the Contractor will maintain a safety program and performance in compliance with the Village of Silver Lake's "Contractor Safety Policy."

The Contractor agrees that the Village of Silver Lake shall have the right to audit, for verification only, during the performance of any work covered by this agreement, Contractor's records relative to the implementation of these minimum requirements.

Contractor

The Village of Silver Lake

\_\_\_\_\_

\_\_\_\_\_

Signature

Title

Date

\_\_\_\_\_

\_\_\_\_\_

# APPENDIX I

## AGREEMENT ON DRUG AND ALCOHOL POLICY

### WHILE PERFORMING SERVICES ON THE JOB SITE OR IN THE WORKPLACE FOR THE VILLAGE OF SILVER LAKE

\* \_\_\_\_\_\* (CONTRACTOR) acknowledges The Village of Silver Lake's commitment to safety and agrees that (1) CONTRACTOR will not assign to work on The Village of Silver Lake's workplaces current users of illegal drugs or persons whose current use of alcohol presents a safety risk in the performance of services for The Village of Silver Lake, and that (2) CONTRACTOR will maintain a drug and alcohol program comparable to The Village of Silver Lake's in the following respects: (a) CONTRACTOR will provide for his/her employees working on the Village of Silver Lake's workplaces pre-assignment screening (or pre-employment screening, if such is part of CONTRACTOR's normal employment policy) and (b) CONTRACTOR will provide unscheduled, periodic testing for those CONTRACTOR employees performing safety-critical work for the Village of Silver Lake.

CONTRACTOR agrees that The Village of Silver Lake shall have the right to audit, for verification only, during the performance of any work covered by this agreement, CONTRACTOR's records relative to the implementation of these minimum requirements. The exercise of this right shall be subject to confidentiality restrictions relating to medical information.

It is the obligation of the CONTRACTOR to determine prior to performing work, and The Village of Silver Lake's obligation to advise prior to engaging CONTRACTOR for work whether the work to be performed is "Safety Critical" and subject to the additional requirements of unscheduled, periodic testing. The failure of either party shall not excuse the other party from the performance of this obligation.

To this end, the following criteria are provided as guidelines for determining if a position or work function is "Safety Critical."

If at least one of the following criteria is directly applicable to the position or function, then CONTRACTOR employees engaged in that work or function shall be subject to the requirements of this Agreement.

1. Operation or maintenance of chemical processing equipment of utilities supporting chemical processing operations, including laboratory and commercial facilities.
2. Operation or maintenance of heavy equipment, such as but not limited to front-end loaders and cranes.
3. Routine handling of chemicals and hazardous materials.

## AGREEMENT ON DRUG AND ALCOHOL POLICY

“Safety Critical” guidelines continued:

4. Direct technical and advisory support to ongoing operations, wherein recommendations and decisions are conclusive and can directly affect the safety and security of those operations.
5. Design, technical review, construction management, and start-up of new or modified chemical processing facilities and other equipment supporting chemical processing operations, wherein recommendations and decisions are conclusive and can directly affect safety performance.
6. Emergency response responsibilities, including members of the emergency management teams.
7. Line management/supervision of “Safety Critical” positions.
8. Other positions or functions as may be designated by The Village of Silver Lake’s Site Safety Representative.

CONTRACTOR

THE VILLAGE OF SILVER LAKE

DATE: \_\_\_\_ - \_\_\_\_ - \_\_\_\_

\_\_\_\_ - \_\_\_\_ - \_\_\_\_

BY: \_\_\_\_\_

\_\_\_\_\_

TITLE: \_\_\_\_\_

\_\_\_\_\_

## APPENDIX J

### PREVAILING WAGE DETERMINATION SCHEDULE

THE FOLLOWING LIST IS THE CURRENT PREVAILING WAGE RATES FOR THIS PROJECT. PLEASE REFER TO THE OHIO.GOV WEBSITE

(<https://ohio.gov/wps/portal/gov/site/jobs/resources/prevailing-wage>) TO LINK TO EACH INDIVIDUAL WAGE SCHEDULE.

\*HARD COPY TO BE PROVIDED UPON REQUEST\*