



AGENDA ITEM EXECUTIVE SUMMARY

Agenda Item:	Sanitary Sewer Lining		
Presenter & Title:	Bob Van Gyseghem, Superintendent of Water & Wastewater		
Date:	August 1, 2022		
Please Check Appropriate Box:			
<input checked="" type="checkbox"/>	Committee of the Whole Meeting	<input type="checkbox"/>	Special Committee of the Whole Meeting
<input checked="" type="checkbox"/>	City Council Meeting	<input type="checkbox"/>	Special City Council Meeting
<input type="checkbox"/>	Public Hearing	<input type="checkbox"/>	Other -
Associated Strategic Plan Goal/Objective: EMSII, ESII			
Estimated Cost: \$716,971.20	Budgeted?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Other Funding? <input type="checkbox"/> Yes <input type="checkbox"/> No
Executive Summary:			
<p>The budget contains funds allocated for the rehabilitation of sanitary sewers. The lining will correct structural deficiencies, prevent root intrusion, and seal out ground water infiltration. The project was advertised in the Daily Herald and on the City web site. Two (2) bids were received on July 11, 2022 with the low bid submitted by Hoerr Construction, Inc. The low bid of \$651,792.00 is \$51,792.00 over the budgeted amount. The increase in cost has been discussed with Finance Director, Rita Kruse, and cash balance in the fund is available to cover the additional cost. Staff is recommending that a 10% contingency be included in the overall not-to-exceed amount to account for any unforeseen field changes that may occur. Any field changes (Change Orders) must be approved by the City Administrator to be applied to the contingency.</p>			
Attachments: <i>(please list)</i>			
<ul style="list-style-type: none"> • Resolution • Bid Summary • Lining Locations 			
Voting Requirements:			
<p><i>This motion requires a simple majority of affirmative votes for passage.</i></p> <p><i>The Mayor may vote on three occasions: (a) when the vote of the aldermen or trustees has resulted in a tie; (b) when one half of the aldermen or trustees elected have voted in favor of an ordinance, resolution, or motion even though there is no tie vote; or (c) when a vote greater than a majority of the corporate authorities is required by state statute or local ordinance to adopt an ordinance, resolution, or motion.</i></p>			
Recommendation / Suggested Action: <i>(how the item should be listed on agenda)</i>			
<p>Recommend approval of a Resolution authorizing the City Administrator to execute a contract with Hoerr Construction, Inc. at a cost of \$651,792.00 and allow the City Administrator to approve up to \$65,179.20 in change orders for a total not-to-exceed amount of \$716,971.20</p>			

RESOLUTION NO. 2022-66
RESOLUTION AUTHORIZING EXECUTION OF
Contract for Sanitary Sewer Lining

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GENEVA, KANE COUNTY, ILLINOIS, as follows:

SECTION 1: That the City Administrator is hereby authorized to execute, on behalf of the City of Geneva, a contract with Hoerr Construction, Inc. related to sanitary sewer lining and rehabilitation.

SECTION 2: This Resolution shall become effective from and after its passage as in accordance with law.

PASSED by the City Council of the City of Geneva, Kane County, Illinois, this ____ day of _____, 2022

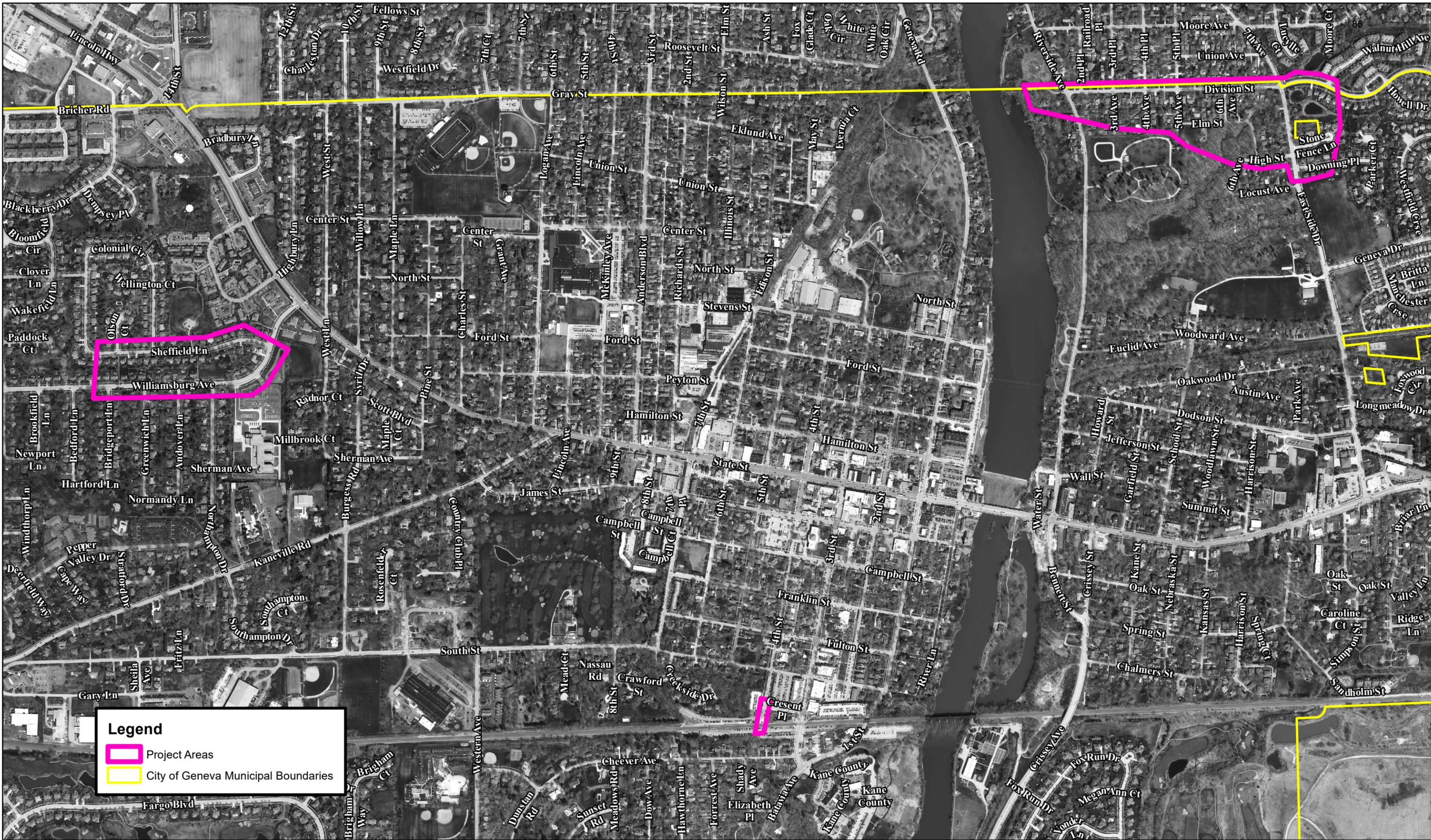
AYES: __ NAYS: __ ABSENT: __ ABSTAINING: __ HOLDING OFFICE: __

Approved by me this ____ day of _____, 2022.

Mayor

ATTEST:

City Clerk



Legend

- Project Areas
- City of Geneva Municipal Boundaries



FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

**CONTRACT DOCUMENTS
FOR
2022 SANITARY SEWER REHABILITATION**

**PREPARED FOR:
CITY OF GENEVA
22 South First Street
Geneva, IL 60134**

**PROJECT NO.: 21-2085
DATE: JUNE/2022**



A handwritten signature in black ink, appearing to read "Robert Peters".

Expires: November 31, 2023

**PREPARED BY:
FEHR GRAHAM**

STATE OF ILLINOIS LICENSE NO. 184-003525

101 West Stephenson Street
Freeport, IL 61032
(815) 235-7643

200 Prairie St., Suite 208
Rockford, IL 61107
(815) 394-4700

1107 16th Avenue
Monroe, WI 53566
(608) 329-6400

515 Lincoln Highway
Rochelle, IL 61068
(815) 562-9087

2060 W. Iles Ave., Suite A
Springfield, IL 62704
(217) 544-8477

1610 Broadmoor Drive
Champaign, IL 61821
(217) 352-7688

128 S. Vine Street
West Union, IA 52175
(563) 422-5131

221 East Main St., Suite 301
Manchester, IA 52057
(563) 927-2060

200 5th Avenue SE
Cedar Rapids, IA 52401
(319) 294-6909

909 North 8th St., Suite 101
Sheboygan, WI 53081
(920) 453-0700

230 Woodlawn Avenue
Aurora, IL 60506
(630) 897-4651

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TABLE OF CONTENTS

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS

00020	ADVERTISEMENT FOR BIDS
00100	INSTRUCTION TO BIDDERS
00300	BID FORM
00310	GENERAL CERTIFICATIONS
00315	CERTIFICATION OF COMPLIANCE WITH CRIMINAL CODE OF 1961
00320	CERTIFICATION OF DEBARMENT
00330	AFFIDAVIT OF EXPERIENCE
00335	AFFIDAVIT OF LITIGATION HISTORY
00400	AGREEMENT
00410	NOTICE OF AWARD
00420	NOTICE TO PROCEED
00530	CHANGE ORDER FORM
00605	PAYMENT BOND
00610	PERFORMANCE BOND

I. SPECIAL PROVISIONS

SP-1	EXECUTION OF CONTRACT
SP-2	GENERAL
SP-3	PRECONSTRUCTION CONFERENCE
SP-4	INCIDENTAL WORK
SP-5	SAFETY
SP-6	FINAL COMPLETION
SP-7	HOURS OF WORK
SP-8	WORK ON PRIVATE PROPERTY
SP-9	NOISE RESTRICTIONS
SP-10	ACCESS TO RESIDENTS AND BUSINESSES
SP-11	USE OF CITY WATER
SP-12	LOCATING OF EXISTING UTILITIES; NOTIFICATION TO UTILITIES
SP-13	TRAFFIC CONTROL AND WORKSITE PROTECTION
SP-14	PROTECTION OF PROPERTY AND SURFACE STRUCTURES
SP-15	PRECONSTRUCTION SURFACE VIDEO RECORDING
SP-16	GRASS RESTORATION
SP-17	COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT
SP-18	SIDEWALK (BRICK PAVER OR PCC) REMOVAL AND REPLACEMENT
SP-19	TREE PROTECTION
SP-20	ROCK EXCAVATION
SP-21	SOIL EROSION AND SEDIMENT CONTROL
SP-22	RECORD DRAWINGS

- SP-23 PRE-CONSTRUCTION CLEANING AND TELEVISIONING
- SP-24 PRE-CONSTRUCTION CLEANING AND TELEVISIONING, 15" RAILROAD SEGMENT
- SP-25 LATERAL CLEANING AND TELEVISIONING
- SP-26 DYE TESTING OF SERVICES
- SP-27 CURED – IN – PLACE PIPELINING
- SP-28 CURED – IN – PLACE PIPELINING, 15" RAILROAD SEGMENT
- SP-29 AIR TEST AND GROUT (GENERAL)
- SP-30 AIR TEST AND GROUT SERVICE CONNECTIONS
- SP-31 T-LINER INSTALLATION
- SP-32 CHIMNEY REHABILITATION (IN PAVEMENT OR OFF PAVEMENT)
- SP-33 INTERNAL CHIMNEY SEALING
- SP-34 FURNISH NEW LID AND FRAME
- SP-35 PLUG PIPE
- SP-36 GROUT ENTIRE MANHOLE AND GROUT BOTTOM 18"
- SP-37 REPLACE AND BENCH TROUGH
- SP-38 CEMENTITIOUS COAT
- SP-39 VACUUM TESTING
- SP-40 PATCH INVERT & WALLS
- SP-41 INSTALL COVER INSERTS
- SP-42 LOCATE AND UNBURY MANHOLE, RAISE TO GRADE
- SP-43 REMOVAL OF EXCESS EXCAVATED MATERIAL
- SP-44 SUBSTITUTION OF MATERIALS, ACCESSORIES AND EQUIPMENT
- SP-45 POST – CONSTRUCTION CLEANING AND TELEVISIONING
- SP-46 PCC PAVEMENT REMOVAL AND REPLACEMENT
- SP-47 SEWER FLOW AND BYPASS PUMPING

II. RAILROAD PAPERWORK

III. PLAN/PROFILE AND EXHIBITS

CITY OF GENEVA
2022 SANITARY SEWER REHABILITATION

BIDDING DOCUMENTS

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SECTION 00020

ADVERTISEMENT FOR BIDS

**2022 SANITARY SEWER REHABILITATION
CITY OF GENEVA
2022**

Sealed **Bids** submitted in duplicate in a sealed envelope with the words “2022 SANITARY SEWER REHABILITATION” clearly marked on it, will be received by the City of Geneva, Illinois until **10:00 A.M. Monday July 11th, 2022** at the office of the City Administrator, 22 South First Street, Geneva, IL, 60134 and will be publicly opened and read aloud at that time. The proposed project consists of Sanitary Sewer Lining, Grouting, Manhole Rehabilitation and all appurtenant construction in accordance with the Plans and Specifications for said work, and traffic control.

The Contractor and sub-Contractors shall pay not less than the current prevailing wages at the time of the signing of the contract as found by the Department of Labor or as determined by the Court of Appeal, to all his/her employees performing work under the Contract. A signed certification stating the above as well as the fact that the bidder is not barred from bidding as a result of a violation of either Section 33E-3 or 33E-4 of Chapter 38, Illinois Revised Statutes, 1987 (as amended) must be submitted by the successful bidder as part of this contract.

A digital copy of Instructions for Bidders, Bid Form, Plans, and Specifications is available of the City of Geneva website: <https://www.geneva.il.us/>

All **Bids** shall be submitted in accordance with the Instructions for Bidders and shall be accompanied by a **10% Bid** guarantee consisting of a bid bond, as provided for under terms of said Instructions for Bidders and Specifications. Complete instructions for filing Bids are included in the Instructions for Bidders.

The City reserves the right to reject any or all **Bids** and waive technicalities.

City of Geneva, Illinois
Stephanie Dawkins
City Administrator

Dated this 16th day of June, 2022

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SECTION 00100

INSTRUCTIONS FOR BIDDERS

2022 SANITARY SEWER REHABILITATION CITY OF GENEVA 2022

Certain additional terms used in these Instructions for Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.

Bidder - one who submits a Bid directly to Owner as distinct from a sub-bidder, who submits a bid to a Bidder.

Issuing Office - the office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

Successful Bidder - the lowest, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

Article 1. Qualifications of Bidders

- 1.1 To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days after Bid opening, upon Owner's request, detailed written evidence such as financial data, previous experience, present commitments, and other such data as may be called for. **Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.**

The investigation of a Bidder will seek to determine whether the organization is adequate in size, has had previous experience and whether available equipment and financial resources are adequate to assure Owner that the Work will be completed in accordance with the terms of the Agreement. The amount of other work to which the Bidder is committed may also be considered.

- 1.2 In evaluating Bids, Owner will consider the qualifications of only those Bidders whose Bids are in compliance with the prescribed requirements.
- 1.3 Owner reserves the right to reject any Bid if the evidence submitted by, or the investigation of, such Bidder fails to satisfy Owner that such Bidder is properly qualified to carry out the obligations of the Contract Documents and to complete the Work contemplated therein.
- 1.4 Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity of

Subcontractors and other persons and organizations must be submitted as described herein.

Article 2. Copies of Contract Documents

- 2.1 Complete sets of Contract Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.
- 2.2 **Each Bidder shall submit two (2) copies of the Bid Documents.**
- 2.3 The Owner and Engineer, in making copies of Contact Documents available, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

Article 3. Examination of Contract Documents and Site

- 3.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents, including Addenda, thoroughly, (b) visit the project sites to become familiar with local conditions that may in any manner affect cost, progress or performance of the work, (c) become familiar with Federal, State and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work, (d) study and carefully correlate Bidder's observations with the requirements of the Contract Documents, and (e) satisfy themselves of the accuracy of the estimated quantities in the Bid Schedule.
- 3.2 Before submitting a Bid, Bidders may, at their own expense, make such investigations and tests as they may deem necessary to determine their Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- 3.3 On request, Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for the submission of a Bid.
- 3.4 The lands upon which the work is to be performed, rights-of-way for access thereto and other lands designated for use by Contractor in performing the work are identified in the Specifications, Special Provisions or on the Drawings.
- 3.5 The submission of a Bid will constitute an incontrovertible representation that the Bidder has complied with every requirement of this Article 3 and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

Article 4. Interpretations

- 4.1 All questions about the meaning or intent of the Contract Documents shall be received in writing by Fehr Graham Engineering and Environmental, 230 Woodlawn Avenue, Aurora, Illinois, 60506 (Fax: 630/897-5696), at least five (5) days before the date set herein for the opening of bids. Questions received by the Engineer less than five (5) business days prior to

the date for opening of Bids will not be answered.

- 4.2 Written clarifications or interpretations will be issued by Addenda not later than two days before the bid opening date. Only questions answered by formal written Addenda will be binding. Oral and other clarifications or interpretations will be without legal effect. Addenda will be sent by delivery service with return receipt requested or by FAX, to all parties recorded as having received the Contract Documents.
- 4.3 Bidders are responsible for determining that they have received all Addenda issued.

Article 5. Bid Security

- 5.1 Each Bidder shall deposit with his Bid a Bid guarantee consisting of a **bid bond** executed by the Bidder in an amount not less than **10%** of the total amount of the Bid submitted. Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located. The bid security shall act as a guarantee that in case the Bidder's proposal is accepted, the Bidder shall within ten (10) days after the date of such acceptance and notification thereof, deliver to the Owner a contract signed and executed by the Contractor and a responsible bonding company acceptable to and written upon forms prepared or approved by the Owner.

Article 6. Bid Form

- 6.1 Each Bid shall be submitted on the Bid Form on the pages included in the Contract Documents. The Bid Form shall be removed and submitted separately. All blank spaces for Bid prices must be filled in with the unit price of the item or the lump sum for which the Bid is made.
- 6.2 Bid Forms shall be completed in ink or by typewriter. The Bid price of each item on the form shall be stated in figures.
- 6.3 Bids by corporations shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- 6.4 Bids by partnership shall be executed in the partnership name and signed by a partner, whose title shall appear under the signature. The official address of the partnership shall be shown below the signature.
- 6.5 All names shall be typed or printed below the signature.
- 6.6 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

- 6.7 The address to which communications regarding the Bid are to be directed shall be shown.
- 6.8 A Bid which includes for any item a Bid Price that is abnormally low or high may be rejected as unbalanced.
- 6.9 A conditional or qualified Bid will not be accepted.

Article 7. Receipt of Bids

- 7.1 Sealed Bids will be received by the City of Geneva, Illinois, on the 11th day of July, 2022, up to the hour of 10:00 o'clock A.M., Prevailing Time, and then at said office PUBLICLY OPENED AND READ ALOUD.
- 7.2 Each Bid must be submitted in a sealed envelope addressed to Ms. Stephanie Dawkins, City Administrator, City of Geneva. Each sealed envelope containing a Bid must be plainly marked on the outside as "2022 SANITARY SEWER REHABILITATION", and the envelope should bear on the outside the name of the Bidder and their address. If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope, addressed to the City Administrator at 22 South First Street, Geneva, Illinois 60134.
- 7.3 Owner may consider informal any Bid not prepared and submitted in accordance with the provisions hereof.
- 7.4 Bidders are cautioned that it is the responsibility of each individual bidder to assure that their bid is in the possession of the responsible official, or the designated alternate, prior to the stated time and at the place of the Bid Opening. Owner is not responsible for bids delayed by mail and/or delivery services, of any nature.

Article 8. Modification and Withdrawal of Bids

- 8.1 Bids may be modified only by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- 8.2 Bids may be withdrawn prior to the scheduled time (or authorized postponement thereof) for the opening of Bids.
- 8.3 Any Bid received after the time and date specified shall not be considered. No Bid may be withdrawn for a period of 90 days after the actual date of the opening of the Bids. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the Bidder.
- 8.4 If the Bidder modifies, limits, restricts or subjects his Bid to conditions that would change the requirements of the Plans and Specifications, this would be considered a conditional or qualified bid and the Bid will not be accepted.

Article 9. Performance, Payment and Other Bonds

- 9.1 A Performance Bond and a Payment Bond, each in the amount of 100 percent of the Contract Price, with a corporate surety approved by the Owner will be required for the faithful performance of the contract.
- 9.2 All Bonds required as Contract Security shall be furnished with the executed Agreement.
- 9.3 Attorneys-in-fact who sign Payment Bonds and Performance Bonds must file with each Bond a certified and effective dated copy of their power of attorney.

Article 10. Award of Contract

- 10.1 The Contract will be awarded to the lowest responsive, responsible and eligible Bidder (Successful Bidder) for the project determined by the Owner to be in the Owner's best interest.

Responsive Bidders will provide bids for the unit or lump sum price for each item set forth on the Bid Form, and for each alternate project feature addition. Responsive Bidders may also provide bids for each alternate equipment manufacturer listed as described in the Bid Form and selected by the Bidder.

The term "lowest responsive, responsible and eligible Bidder" as used herein shall mean the Bidder whose Bid is the lowest of those Bidders possessing the skill, ability and integrity necessary to the faithful performance of the Work, and submits a Bid meeting all requirements.

- 10.2 The Contract will be awarded on the basis of material and equipment described in the Contract Documents without consideration of possible substitute or "or equal" items. Whenever it is indicated in the Contract Documents that a substitute or "or equal" item of material or equipment may be furnished or used by the Bidder, if acceptable to the Engineer, application for such acceptance will not be considered by the Engineer until after the "effective date of the Agreement."
- 10.3 Owner reserves the right to reject any and all Bids, to waive any and all informalities if it is in Owner's best interest to do so, and the right to disregard all nonconforming, nonresponsive or conditional Bids.
- 10.4 Owner also reserves the right to reject the Bid of any Bidder that Owner considers to be unqualified relative to Article 1 above.
- 10.5 If the Contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within 5 days, after the actual date of the opening of the Bids.
- 10.6 The party to whom the contract is awarded will be required to execute the Agreement and obtain the Performance Bond, Payment Bond, and required insurance within ten (10)

calendar days from the date of when the Notice of Award is delivered to the Bidder. The Notice of Award shall be accompanied by the necessary Agreement and Bond forms.

Article 11. Execution of Agreement

- 11.1 When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by at least five unsigned copies of the Agreement and all other applicable Contract Documents. Within 5 days, excluding Saturdays, Sundays and legal holidays, after the date of receipt of such notification Contractor shall execute and return all copies of the Agreement and all other applicable Contract Documents to Owner.
- 11.2 The Owner within ten (10) days after receipt of acceptable Performance Bond, Payment Bond, required insurance, and Agreement signed by the party to whom the Agreement was awarded shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the Owner not execute the Agreement within such period, the Bidder may send Written Notice to withdraw their signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner.
- 11.3 The Notice to Proceed shall be issued within ten (10) days of the execution of the Agreement by the Owner. Should there be reasons why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the Owner and Contractor. If the Notice to Proceed has not been issued within the ten (10) day period or within the period mutually agreed upon, the Contractor may terminate the Agreement without further liability on the part of either party.
- 11.4 In case of failure of the Bidder to execute and provide all agreements, bonds and insurance as required by the Contract Documents, the Owner may at their option consider the Bidder in default, and the amount of the security submitted with the Bid shall be forfeited as liquidated damages. However, nothing shall be construed herein to prevent the Owner from electing to claim and prove damages in excess of the bid security.
- 11.5 Because time is of the essence regarding the work under this contract, the Contractor shall initiate work within 10 days of the receipt of the Notice to Proceed by the Contractor.

Article 12. Safety and Health Regulations

- 12.1 This project is subject to the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974 and CFR 29, Part 1910, General Industry Safety and Health Regulations Identified as Applicable to Construction.
- 12.2 The Successful Bidder shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).

- 12.3 The Successful Bidder shall have a competent person or persons, as required under the Occupational Safety and Health Act on the Site to inspect the work and to supervise the conformance of the Work with the regulations of the Act.

Article 13. Prevailing Wages for Kane County

- 13.1 The prevailing wage rates from Kane County, Illinois shall apply.

Article 14. Nondiscrimination in Employment

- 14.1 Contracts for work under this Project will obligate the Contractor and Subcontractors not to discriminate in employment practices.
- 14.2 The Contractor assures the Owner that they are an "Equal Opportunity Employer" as defined by Federal and State laws and regulations and agrees to comply with the Illinois Employment Practice Commission Equal Opportunity Clause as required by Article II of the Illinois FEPC Rules and Regulations, which is considered to be part of any contract or purchase agreement.
- 14.3 The Contractor certifies that the firm has a written sexual harassment policy defining sexual harassment as required in Section 2-105 of the IL. Human Rights Act 775 ILCA 5/1-105 et.seq.

Article 15. State Sales Tax

- 15.1 Sales tax will not have to be paid on equipment and material purchased for this project.

Article 16. Liquidated Damages

- 16.1 Provisions for Liquidated Damages are set forth in the Agreement

Article 17. General

- 17.1 The Contract Documents contain the provisions required for the construction of the Project. Information obtained from an officer, agent, employee of the Owner, or any other person shall not affect the risks or obligations assumed by the Contractor, or relieve them from fulfilling any of the conditions of the Contract.
- 17.2 The low Bidder shall submit the names of the major subcontractors (contracts in excess of \$5,000). Failure to comply with this requirement may make the Bidder non-responsive as determined by the Owner. The Owner shall receive the list of the subcontractors by 2:00 P.M., prevailing time, on the day after Bids are received by the Owner, at the offices of the Engineer, Fehr Graham Engineering and Environmental, 230 Woodlawn Avenue, Aurora, IL 60506; FAX (630) 897-5696.
- 17.3 Certification that Contractor is not barred from public contracting due to bid-rigging or bid

rotation convictions must accompany the Bid.

- 17.4 The lands upon which the work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by the Contractor.
- 17.5 **Attached is a checklist of items that must be submitted with the Bid.**

2022 SANITARY SEWER REHABILITATION
CITY OF GENEVA
2022

Bidder's Checklist of Items to Assist with Bid Submittal

1. **Bid Security:** 10% of the Bid, attach to last page of Bid Form Section 00300
2. **Completed Bid Form**
 1. All names filled in appropriate blanks.
 2. Acknowledge receipt of Addenda.
 3. Price Schedule filled out.
 4. Bid Signed by Officers.
3. **Completed Sections 00310, 00315, 00320**
 - a. Drug Free Workplace Certification – Section 00310
 - b. Certification of Compliance with Safety Regulations – Section 00310
 - c. Certification of No Tax Delinquency and No Tax Default – Section 00310
 - d. Certification of Compliance with Sexual Harassment Policies – Section 00310
 - e. Certification of Non-Segregated Facilities – Section 00310
 - f. Anti-Bid Rigging Certification – Section 00315
 - g. Certification of Debarment, Suspension and Other Responsibility Matters – Section 00320
4. **Completed Affidavit of Experience Section 00330**
5. **List of Subcontractors by 2:00 p.m. the day after receipt of bids, Section 00300 - Page 6**
6. **Completed Affidavit of Litigation History Section 00335**

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SECTION 00300

BID FORM

2022 SANITARY SEWER REHABILITATION
CITY OF GENEVA
2022

Proposal of HOERR CONSTRUCTION, INC.
(hereinafter called "BIDDER"), organized and existing under the laws of the State of Illinois, doing
business as A Corporation (insert "A Corporation," "A Partnership," or "An
Individual," as applicable) to the City of Geneva (hereinafter called "Owner").

- I. The undersigned BIDDER proposes and agrees, if this bid is accepted, to enter into an agreement with the Owner in the form in the Bidding Documents to perform and furnish all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.
- II. BIDDER accepts all of the terms and conditions of the Advertisement for Bids and Instructions for Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that BIDDER may agree to in writing upon request of Owner.
- III. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:
 - A. BIDDER has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

Addendum No.	Addendum Date
<u>1</u>	<u>7/6/22</u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>
<u> </u>	<u> </u>

- B. BIDDER has visited the site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, performance, and furnishing of the Work.
- C. BIDDER is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

- D. BIDDER has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site. BIDDER acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information or data shown or indicated in the Bidding Documents with respect to Underground Facilities at or contiguous to the Site.
 - E. BIDDER is aware of the general nature of Work to be performed by Owner and others at the site that relates to Work for which this Bid is submitted as indicated in the Bidding Documents.
 - F. BIDDER has correlated the information known to BIDDER, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.
 - G. BIDDER has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that BIDDER has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to BIDDER.
 - H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
- IV. By submission of the bid, each BIDDER further certifies, and in the case of a joint bid each party thereto certifies as to his own organization, that in connection with the bid:
- A. The prices in the bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
 - B. Unless otherwise required by law, the prices which have been quoted in the bid have not knowingly been disclosed by the bidder, prior to opening, directly or indirectly to any other bidder or competitor; and
 - C. No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.
- V. Each person signing the Bid certifies that:
- A. They are the person in the BIDDER's organization responsible within that organization for the decision as to the prices being bid and that he has not participated, and will not participate, in any action contrary to (4) above; or
 - B. They are not the person in the BIDDER's organization responsible within that

organization for the decision as to the prices being bid, but that they have been authorized to act as an agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to (4) above, and as their agent shall so certify; and shall also certify that he has not participated, and will not participate, in any action contrary to (4) above.

VI. BIDDER will complete the Work in accordance with the Bidding Documents for the following price(s):

ITEM NO.	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
1	Pre - Construction Cleaning and Televising	8,000	LF	6.00	48,000.00
2	Pre - Construction Cleaning and Televising, 15" Railroad Segment	245	LF	24.00	5,880.00
3	Lateral Cleaning and Televising	53	EACH	525.00	27,825.00
4	Dye Testing of Services	2	EACH	1,100.00	2,200.00
5	Cured-in-Place Pipelining, 8"	3,200	LF	38.00	121,600.00
6	Cured-in-Place Pipelining, 15" Railroad Segment	245	LF	150.00	36,750.00
7	Lateral Reinstatements	60	EACH	100.00	6,000.00
8	Air Test Service Connection (5-foot)	115	EACH	800.00	92,000.00
9	Grout Service Connection (5-foot)	115	EACH	70.00	8,050.00
10	T-liner Installation (5-foot shorty, 8" x 6")	37	EACH	3,300.00	122,100.00
11	T-liner Installation (5-foot shorty, 10" x 6")	12	EACH	3,400.00	40,800.00
12	In Pavement Chimney Rehab	2	EACH	2,364. ⁰⁰	4,728.00
13	Off Pavement Chimney Rehab	14	EACH	2,054. ⁰⁰	28,756.00
14	Internal Chimney Sealing	9	EACH	1,140. ⁰⁰	10,260.00
15	Furnish New Lid and Frame	12	EACH	468. ⁰⁰	5,616.00
16	Plug Pipe	2	EACH	268. ⁰⁰	536.00
17	Grout Bottom 18"	4	EACH	1,990. ⁰⁰	7,960.00
18	Replace Bench and Trough	4	EACH	2,380. ⁰⁰	9,520.00
19	Cementitious Coat	105	VF	221. ⁰⁰	23,835.00
20	Vacuum Testing	3	EACH	1,372. ⁰⁰	4,116.00
21	Patch invert & Walls	4	EACH	6,390. ⁰⁰	25,560.00
22	Install Cover Insert	3	EACH	500. ⁰⁰	1,500.00
23	Locate and Unbury Manhole, Raise to Grade	2	EACH	9,100. ⁰⁰	18,200.00
Total Amount of Bid					651,772.⁰⁰

NOTES:

1. OWNER RESERVES THE RIGHT TO DELETE ANY BID ITEMS WHICH ARE NOT IN THE BEST INTEREST OF THE OWNER. THE OWNER ALSO HAS THE RIGHT TO REDUCE ANY QUANTITIES IN ORDER TO KEEP THE PROJECT UNDER THE BUDGETED VALUE FOR THE FISCAL YEAR.

2. **BIDDER agrees that the Work will be Substantially Complete on February 1, 2023 and will meet Final Completion March 1, 2023.**
3. BIDDER accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work on time.
4. The Owner reserves the right to reject all Bids.
5. Accompanying this Bid is a Bid Security in the amount of \$ 10% Bid Bond, which is hereby tendered in accordance with the requirements of the Instructions to Bidders and the Specifications.
6. In the event that this Bid is accepted and an award of contract is made to the undersigned BIDDER, the undersigned does hereby covenant and agree to deliver to the Owner the signed and executed Contract and Bonds as specified in the Instructions for Bidders and the Specifications.
7. The undersigned further agrees to begin work within ten (10) days after the executions and acceptance of the Contract, and thereafter to carry on the work diligently and continuously in such manner as to insure final completion and delivery to the Owner of the entire work or equipment under contract in accordance with the provisions of the Contract.

Witness X Hand(s) and Seal X this 11th day of July, 2022.

If an individual, sign
and give address

Address _____

If a partnership, sign all
individual names and give
address of each partner

Partnership Name

Address _____

Name and Addresses
of Individual Partners

If a corporation, officers
duly authorized should sign,
attach corporate seal

HOERR CONSTRUCTION, INC.
Corporate Name

Address 1416 County Road 200 N

Goodfield IL 61742

By Max P. Hoerr

Attest:

Max P. Hoerr
Secretary

Corporate Seal

Contact Phone Number of Bidder: 309-691-6653

**ATTACH BID SECURITY TO THIS PAGE
USING A PAPER CLIP.**

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AIA Document A310tm - 2010

Bid Bond

Contractor:

(Name, Legal Status and Address)

Hoerr Construction Inc
PO Box 65
Goodfield IL 61742

Surety:

(Name, Legal Status and Principal Place of Business)

West Bend Mutual Insurance Company
1900 S 18th St., P O Box 1995
West Bend WI 53095

Owner:

(Name, Legal Status and Address)

City of Geneva
22 South First Street
Geneva IL 60134

Bond Amount: Ten percent of bid

Project:

(Name, location or address, and Project number, if any)

2022 Sanitary Sewer Rehabilitation

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

The document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and give such bond or bonds as may be Specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waived any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 11th day of July, 2022



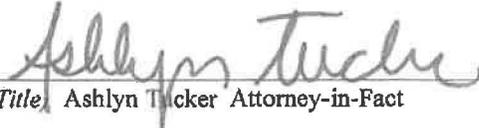
(Witness)

Hoerr Construction Inc
(Contractor as Principal) (Seal)

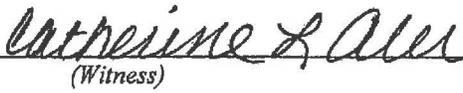


(Title) President

West Bend Mutual Insurance Company
(Surety) (Seal)



(Title) Ashlyn Tucker Attorney-in-Fact



(Witness)

State of Illinois

} ss:

County of Macon

On 11th day of July, 2022 before me, a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared Ashlyn Tucker

known to me to be Attorney-in-Fact of West Bend Mutual Insurance Company the corporation described in and that executed the within and foregoing instrument, and known to me to be the person who executed the said instrument in behalf of the said corporation, and he duly acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year stated in this certificate above.

Catherine L. Ater

(Notary Public)





THE SILVER LINING®

Bond No. 2523090

POWER OF ATTORNEY

Know all men by these Presents, That West Bend Mutual Insurance Company, a corporation having its principal office in the City of West Bend, Wisconsin does make, constitute and appoint:

Ashlyn Tucker

lawful Attorney(s)-in-fact, to make, execute, seal and deliver for and on its behalf as surety and as its act and deed any and all bonds, undertakings and contracts of suretyship, provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed in amount the sum of:

Ten Million Dollars (\$10,000,000)

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of West Bend Mutual Insurance Company at a meeting duly called and held on the 21st day of December, 1999.

Appointment of Attorney-In-Fact. The president or any vice president, or any other officer of West Bend Mutual Insurance Company may appoint by written certificate Attorneys-In-Fact to act on behalf of the company in the execution of and attesting of bonds and undertakings and other written obligatory instruments of like nature. The signature of any officer authorized hereby and the corporate seal may be affixed by facsimile to any such power of attorney or to any certificate relating thereto and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the company, and any such power so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the company in the future with respect to any bond or undertaking or other writing obligatory in nature to which it is attached. Any such appointment may be revoked, for cause, or without cause, by any said officer at any time.

In witness whereof, the West Bend Mutual Insurance Company has caused these presents to be signed by its president undersigned and its corporate seal to be hereto duly attested by its secretary this 17th day of August, 2021.

Attest Christopher C. Zwygart
Christopher C. Zwygart
Secretary



Kevin A. Steiner
Chief Executive Officer/President

State of Wisconsin
County of Washington

On the 17th day of August, 2021, before me personally came Kevin A. Steiner, to me known being by duly sworn, did depose and say that he resides in the County of Washington, State of Wisconsin; that he is the President of West Bend Mutual Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of the said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation and that he signed his name thereto by like order.



Matthew E. Carlton
Senior Corporate Attorney
Notary Public, Washington Co., WI
My Commission is Permanent

The undersigned, duly elected to the office stated below, now the incumbent in West Bend Mutual Insurance Company, a Wisconsin corporation authorized to make this certificate, Do Hereby Certify that the foregoing attached Power of Attorney remains in full force effect and has not been revoked and that the Resolution of the Board of Directors, set forth in the Power of Attorney is now in force.

Signed and sealed at West Bend, Wisconsin this 11th day of July, 2022



Heather Dunn
Vice President - Chief Financial Officer

Notice: Any questions concerning this Power of Attorney may be directed to the Bond Manager at West Bend Mutual Insurance Company.

SECTION 00310

GENERAL CERTIFICATIONS

The undersigned, as duly-authorized representative of the Contractor, hereby certifies to the City of Geneva, that regarding this project known as **2022 SANITARY SEWER REHABILITATION**.

The Following General Certifications are required:

- **Drug Free Workplace Certification and Substance Abuse Program**
 - **Certification of Compliance with Safety Regulations**
 - **Certification of No Tax Delinquency and No Tax Default**
 - **Certification of Compliance with Sexual Harassment Policies**
 - **Certification of Non-Segregated Facilities**
-

1. DRUG FREE WORKPLACE CERTIFICATION AND SUBSTANCE ABUSE PROGRAM

The Contractor ensures that they operate a drug free environment and that drugs are not allowed in the workplace or satellite locations as well as City of Geneva project locations in accordance with Public Act 095-0635 of January 2008. In addition, the Contractor must submit a written Substance Abuse Program.

2. CERTIFICATION OF COMPLIANCE WITH SAFETY REGULATIONS

The Contractor is fully aware of and able to comply with all Local, State, and Federal Safety and other Laws, Codes, and Regulations applicable for the construction of the Project.

3. CERTIFICATION OF NO TAX DELIQUENCY AND NO TAX DEFAULT

The Contractor is not currently delinquent in the payment of any tax administered by or owed to the Illinois Department of Revenue, or otherwise in default upon any such tax as defined under 65 ILCS 5/11-42.1-1, or if it is:

- a. It is contesting its liability for the tax or the amount of tax in accordance with procedures established by the appropriate Revenue Act; or
- b. It has entered into an agreement with the Department of Revenue for payment of all taxes due and is currently in compliance with that agreement.

4. CERTIFICATION OF COMPLIANCE WITH SEXUAL HARASSMENT POLICIES

The Contractor has a written sexual harassment policy in place in full compliance with all applicable state and local laws and policies.

5. CERTIFICATION OF NON-SEGREGATED FACILITIES

The federally assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term 'segregated facilities' means any waiting rooms, work areas, restrooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom or otherwise. The federally assisted construction contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certification in his files.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Subscribed and ^{affirmed} sworn to:

David A. Steffen
Notary Public



before me this 11th day of July, 2022.

Mag. Hens
Authorized Agent of Contractor

President
Title

HOERR CONSTRUCTION, INC.
Company

7/11/22
Date

END OF SECTION

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SECTION 00315

CERTIFICATION OF COMPLIANCE WITH CRIMINAL CODE OF 1961

WHEREAS, a conviction for the offense of bid-rigging or bid rotating bars a person or entity from bidding on public contracts (720 ILCS 5/33D-11), and

WHEREAS, Section 33E-11 of the Criminal Code (720 ILCS 5/33E-11) requires bidders and contractors to certify on a form provided by the unit of local government or school district that they are not barred from public contracting due to bid-rigging or bid rotating convictions.

I, Max P. Hoerr II, do hereby certify that:
Name

1. I am President of the HOERR CONSTRUCTION, INC.
Position Firm

and have authority to execute this certification on behalf of the firm;

2. This firm is not barred from bidding on or entering into public contracts due to having been convicted of bid-rigging or bid rotating under paragraphs 720 ILCS 5/33E-11 of the Illinois Criminal Code. The undersigned also certifies that no officers or employees of the bidder or contractor have been so convicted and that the bidder or contractor is not the successor company or a new company created by the offices or owners of one so convicted. It is further certified that any such conviction occurring after the date of this certification will be reported to the above named public body, in writing, with seven (7) days of such conviction, if it occurs during any bidding process, contract term or otherwise prior to entering into any contract therewith.

Name of Firm HOERR CONSTRUCTION, INC.

Signature Max P. Hoerr II

Title President

Date 7/11/22

Corporate Seal (where appropriate)

On this 11th day of July, 2022, before me appeared
(Name) Max P. Hoerff to me personally known, who, being duly
^{affirmed} sworn, did execute the foregoing affidavit, and did state that he or she was properly authorized
by HOER CONSTRUCTION, INC.
(Name of Firm)

to execute the affidavit and did so as his or her free act and deed.

Notary Public David A. Steffen

Commission Expires 7/20/23

Notary Seal

END OF SECTION



SECTION 00320

CERTIFICATION OF DEBARMENT

EPA Project Control #: _____

United States Environmental Protection Agency
Washington, DC 20460

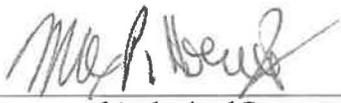
**Certification Regarding
Debarment, Suspension and Other Responsibility Matters**

The prospective participant to the best of its knowledge and belief that it and its principles:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in fine of up to \$10,000 or imprisonment for up to 5 years, or both.

MAX P. HOERR II, PRESIDENT
(Typed Name & Title of Authorized Representative)


(Signature of Authorized Representative) 7/11/22
(Date)

I am unable to certify the above statements. My explanation is attached.
EPA FORM 5700-49 (11-88)

SECTION 00330

AFFIDAVIT OF EXPERIENCE

2022 SANITARY SEWER REHABILITATION
CITY OF GENEVA
2022

STATE OF Illinois)
COUNTY OF Woodford)SS

HOERR CONSTRUCTION, INC., hereinafter called
Principal, Corporation, Partnership or Individual and which has done work for the following
parties of the general kind and approximate magnitude under this contract:

<u>Name of Owner</u>	<u>Phone #</u>	<u>Job Description</u>	<u>\$ Amount</u>
* See Attached, Following for Completed CIPP Projects in			
the last 5 years.			

and that HOERR CONSTRUCTION, INC. (Name of said Principal, Corporation, Partnership or
Individuals) available for immediate use on the proposed work the following plant and equipment:

* See Attached, Following for Equipment List



UTILITY CONTRACTORS
P.O. Box 65
1416 County Road 200 N
Goodfield, IL 61742

Office: (309) 691-8653
Fax: (309) 508-7990
Email: info@hoerr.com
Website: www.hoerr.com

COMPLETED CIPP LINING PROJECTS

CITY/STATE	CONTACT	ADDRESS	LENGTH	SIZE	COMPLETED	Water/ Ambient
Airy's / IAWG Mount Prospect Phase 3	Henry Maradiaga (630) 538-1041	1000 Internationale Parkway, Woodridge, IL 60517	18,203	8"	Dec-16	S
Eureka, IL	Neal McAllister (309) 467-6014	121 W Center St Eureka, IL 61530	2,508	8", 15"	Dec-16	S
Abingdon, IL	Greg Schister (309) 368-6951	114 E. Meek St., Abingdon, IL 61410	705	8"	Dec-16	S
Coal Valley, IL	Alan May (309) 799-3604	600 1st St., Coal Valley, IL 61240	2,137	8"	Dec-16	S
East Moline, IL	Tim Kammler (309) 762-1595	1200 13th Ave, East Moline, IL 61244	9,768	8", 10", 12", 24"	Dec-16	S
Silvis, IL	Jim Grafton (309) 782-9181	121 11th St, Silvis, IL 61282	1,060	8"	Dec-16	S
Pontiac, IL	Jake Kirkald (815) 844-5574	1024 W. Reynolds St, Pontiac, IL 61764	4,015	8", 10"	Jan-17	S
Gencin Con / Streator, IL - Praire	Jeremy Palm (815) 672-2517	204 S. Bloomington St., Streator, IL 61364	6,325	8"	Jan-17	S
Garden Home SD- Garden Homes, IL	Martin King (630) 388-8411	3701 W 116th St. Garden Homes, IL 60803	2,220	8", 12"	Jan-17	S
Streator, IL - Capacity Upgrade	Jeremy Palm (815) 672-2517	204 S. Bloomington St., Streator, IL 61364	7,773	24", 41", 48"	Feb-17	S
Crystal Lake, IL	Andrew Resek (815) 356-3700 x4041	100 W. Woodstock St. Crystal Lake, IL 60014	6,486	8"	Feb-17	S
Bloomington, IL	Ward Snarr (309) 287-3334	115 East Washington Street, Bloomington, IL 61701	18,358	10", 12", 15", 18", 24", 30"	May-17	S
Park Ridge, IL	Efren Solis (847) 384-5457	505 Butler Pl, Park Ridge, IL 60068	12,893	0", 12", 15", 18", 24", 30"	Feb-17	S
Palos Heights, IL	Carl Schramm (708) 361-1808	7607 W. College Dr, Palos Heights, IL 60463	404	12"	Feb-17	S
Laverdiere / Beardstown, IL	Jon Lundgren (309) 837-1258	4055 W. Jackson St. Macomb, IL 61455	1,239	18", 21", 24"	Feb-17	S
Marquette Heights, IL	David Ghadina (309) 453-8473	715 Lincoln Road, Marquette Heights, IL 61554	1,771	12"	Mar-17	S
Enchanted Gardens Mobile Home Park	Eric Hasselbacher (309) 303-3960	508 Reagan Drive Eureka, IL 61530	230	8"	Mar-17	S
Mount Prospect Park District	Bob Smith (815) 219-0817	1000 W. Central Rd, Mount Prospect, IL 60056	360	8"-12" transition	Mar-17	S
Glen Ellyn, IL	Jeff Ferrigo (630) 547-5512	30 S. Lambert Rd, Glen Ellyn, IL 60137	1,554	8", 8", 30"	Mar-17	S
East Peoria, IL	Dennis Barron (309) 698-4716	2232 E. Washington, East Peoria, IL 61611	2,488	8", 10"	Mar-17	S
Fulton, IL	Matt Hansen (815) 294-3381	415 11th Ave., Fulton, IL 61252	9,962	8", 12", 15"	Mar-17	S
EIK Grove TWP, IL	Mark Toll, ENG (847) 480-5757	450 Skoide Blvd # 105, Northbrook, IL 60062	5,398	8", 10"	Apr-17	S
Washington, IL	Kevin Schone (309) 745-3503 ext 303	301 Walnut, Washington, IL 61574	580	8"	Apr-17	S
Roanoke, IL	Mark Aeschleman (309) 923-3335	101 N. Main St., Roanoke, IL 61561	2,178	8"	Apr-17	S
Palatine, IL	Matthew Barry, (847) 705-5200	148 W. Illinois Ave., Palatine, IL 60067	5,756	8", 10", 12"	Apr-17	S
Montgomery Twp, IL	Art Wiegand (309) 275-1687	200 N. Eureka St Goodfield, IL 61742	50	24"	Apr-17	S
NHS Property Management	Jon Symmonds (309) 689-1700	810 W. Trailcreek Dr., Peoria, IL 61614	366	2" & 18"-15" transition	Apr-17	S
Mount Prospect, IL	Casey Botterman (847) 392-6000	50 S. Emerson St., Mount Prospect, IL 60056	10,424	8", 36"	May-17	S
IVP/Gilman, IL	Neil Piggush (815) 614-3447	586 William Latham Dr., Suite B Bourbonnais, IL 60914	847	12"	May-17	S
Evanston, IL	Hannah Goods, (847) 448-4311	2100 Ridge Ave, Evanston, IL 60201	4,351	9", 10", 12", 15", 21"	May-17	S
City of Peoria, IL	Beth Underwood, (309) 494-8814	3505 N. Dries Lane, Peoria, IL 61604	1,170	15", 18"	May-17	S
Limestone TWP, IL	Patrick Meyer, PE (309) 446-9907	15109 West Bittersweet Court, Brimfield, IL 61517	194	15"	May-17	S
Palos Heights, IL	Carl Schramm (708) 361-1808	7607 W. College Dr, Palos Heights, IL 60463	1,040	8"	May-17	S
Bensenville, IL	Mehul Patel, (630) 594-1196	717 E. Jefferson, Bensenville, IL 60106	5,113	8", 12"	May-17	S
Mackinaw, IL	Mike Schopp (309) 357-5821	100 E. East, Mackinaw, IL 61755	6,458	8"	May-17	S
Rolling Meadows, IL	Kevin Casey (847) 963-0500	3600 Kirchoff Rd., Rolling Meadows, IL 60008	11,313	0	May-17	S
IDOT - Brandt Construction	Troy Stimpson (309) 787-4644	700 4th St West, Milan, IL 61264	370	30" & 42"	May-17	S
Bellevue, IL	Patrick Meyer, PE (309) 446-9907	15109 West Bittersweet Court, Brimfield, IL 61517	146	24", 18"	May-17	S
Sycamore, IL	Mark Bushnell (815) 8954557	308 W. State St., Sycamore, IL 60178	1,037	8"	May-17	S
Gough Cons/Crown Point, IN	Steve Drabick (219) 766-2200	2200 E. 88th Dr., Merrillville, IN 46410	6,603	8"-18"	May-17	S
Lombard, IL	Ray Hoving (630) 620-3598	1051 S. Hammerschmidt Ave., Lombard, IL 60148	5,794	8", 10"	May-17	S
GPSD	Jim Sloan (309) 637-3511	2322 S. Danst St., Peoria, IL 61607-2093	8,020	8", 10", 18", 21"	Jul-17	S
Homer Glen, IL	Tom Land (708) 429-0660	7455 W. Duvan Dr., Tinley Park, IL 60477	304	15"	Jul-17	S
Arlington Heights, IL	Jeff Musinski, (847) 368-5806	222 North Ridge Ave, Arlington Heights	10,576	8", 10"	Jul-17	S
Worth TWP, IL	Ron Kiefner (309) 383-4360	524 Town Hall Rd., Metamora, IL 61548	83	18", 36"	Jul-17	S
Creve Coeur, IL	Jeff Sheffler (309) 694-4101	995 Wesley Road, Creve Coeur, IL 61610	2,363	8", 12"	Jul-17	S
Havana, IL	Jewel Bucy (309) 543-2526	107 N. High St, Havana, IL 62644	174	24"	Jul-17	S
Carol Stream, IL	Bill Cleveland (630) 665-7050	500 N. Gary Ave., Carol Stream, IL 60188	1,190	8", 10", 12"	Jul-17	S
IDOT - UCM	Dan Swisher (309) 671-3333	401 Main St # 900, Peoria, IL 61602	298	36"	Jul-17	S
Mundelein, IL	Rob Greenfield (847) 949-3264	440 E. Crystal St., Mundelein, IL 60060	4,697	8" & 10"	Aug-17	S
Oak Lawn, IL	Doug Youngblood, PE (651) 252-3782	7650 Currell Blvd., Suite 300, Woodbury, MN 55125	3,778	8", 10", 12"	Aug-17	S
Lake Forest, IL	Bernard Pondexter (847) 810-3566	800 North Field Drive, Lake Forest, IL 60045	6,438	8"	Aug-17	S

2016 Total:
373,560



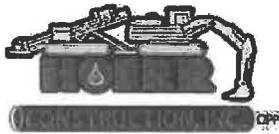
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COMPLETED CIPP LINING PROJECTS

CITY/STATE	CONTACT	ADDRESS	LENGTH	SIZE	COMPLETED	Water/ Ambient
Peru, IL	Adam Ossola (815) 223-3344	3017 5th St., Peru, IL 61354	339	24"	Aug-17	S
Montgomery Twp, IL	Art Wiegand (309) 275-1687	200 N Eureka St Goodfield, IL 61742	40	24"	Aug-17	S
Ohio TWP, IL	Ron Hartter (309) 487-5249	1427 CR 700N Eureka IL 61530	35	30"	Aug-17	S
Highland Park, IL	Wayne Bauer, (847) 926-1150	1150 Half Day Road, Highland Park, IL 60035	23,974	8",10",12",15"	Oct-17	S
Kewanee, IL	Terri Hill (309) 852-2611	401 East 3rd St., Kewanee, IL 61443	605	8"	Aug-17	S
City of Peoria, IL	Beth Underwood, (309) 494-8814	3505 N. Dries Lane, Peoria IL 61604	333	12"	Aug-17	S
Washington, IL	Kevin Schone (309) 745-3503 ext 303	301 Walnut, Washington, IL 61571	314	12"	Aug-17	S
East Peoria, IL	Dennis Barron (309) 698-4716	2232 E. Washington, East Peoria, IL 61611	201	8"	Aug-17	S
Naperville Storm	Bob Mealer (630) 420-6095	180 Fort Hill Dr, Naperville, IL 60540	16,753	8",10",12",15"	Oct-17	S
Oak Lawn / Airy's Inc.	Tom Land (708) 429-0660	7455 W. Duwan Dr., Tinley Park, IL 60477	522	8"	Sep-17	S
Buffalo Grove, IL	Darin Monaco, PE (847) 459-2523	51 Raupp Biv., Buffalo Grove, IL 60089	3,307	24"	Oct-17	S
K-Five/IDOT	Bill Jennings (630) 257-5600	999 Oakmont Plaza Dr. Suite 200 Westmont, IL 60559	392	24" 30", 36"	Oct-17	S
Elmhurst, IL	Chris Dufort (630) 530-3036	986 S. Riverside Dr., Elmhurst, IL 60126	16,466	8"-27"	Oct-17	S
Eureka, IL	Neal McAlister (309) 487-6014	121 W Center St Eureka, IL 61530	2,611	6", 18"	Oct-17	S
McLean Co.	Luke Hohulin, (309) 683-9445	102 S. Towanda Barnes Rd, Bloomington, IL 61705	78	30"	Oct-17	S
Montgomery Twp, IL	Art Wiegand (309) 275-1687	200 N Eureka St Goodfield, IL 61742	90	18"	Oct-17	S
Washington, IL	Kevin Schone (309) 745-3503 ext 303	301 Walnut, Washington, IL 61571	303	18"	Oct-17	S
Coal Valley, IL	Alan May (309) 799-3804	900 1st St., Coal Valley, IL 61240	1,317	12", 15"	Oct-17	S
Moline, IL	Mark Orey (309) 524-2341	3635 4th Ave, Moline, IL 61265	4,141	12"	Oct-17	S
East Moline, IL	Tim Kammler (309) 752-1595	1200 13th Ave, East Moline, IL 61244	10,649	8"	Oct-17	S
Glendale Heights, IL	Jeff McCumber (630) 260-6040	300 Civic Center Plaza, Glendale Heights, IL 60139	261	42"	Oct-17	S
Silvis, IL	Jim Grafton (309) 792-9181	121 11th St, Silvis, IL 61282	1,354	8"	Oct-17	S
Cambridge, IL	Ed Dale, (309) 937-3380	101 N. Pleasant St, Cambridge, IL 61238	975	12"	Nov-17	S
City of Peoria, IL	Beth Underwood, (309) 494-8814	3505 N. Dries Lane, Peoria, IL 61604	274	12", 15"	Nov-17	S
DuPage County	Ryan Singer (630) 407-6900	421 N. County Farm Rd, Wheaton, IL 60187	847	24", 42"	Nov-17	S
Lincolnshire, IL	Terry Hawkins, (847) 913-2383	One Olde Half Day Rd, Lincolnshire, IL 60069	4,767	8", 12"	Nov-17	S
Gurnee, IL	David DePino (847) 599-7550	325 N. O'Plaine Rd., Gurnee, IL 60031	208	18"	Nov-17	S
St. Charles, IL	Dave Todd (630) 762-7071	2 E. Main Street, St. Charles, IL 60174-1984	5,722	8",10",12",15",27"	Jan-18	S
Tazewell County Highway Dept.	Dave Shuermann (309) 696-0485	21308 IL Route 9, Tremont, IL 61568	1,416	24", 30", 36"	Nov-17	S
Geneva, IL	James Childress, (630) 232-1551	1800 South St. Geneva, IL 60134-2547	5,732	6" 8", 10", 12"	Dec-17	S
Bloomington, IL	Ward Snarr (309) 267-3334	115 East Washington Street, Bloomington, IL 61701	3,270	8" 10", 12", 15", 20"	Dec-17	S
Batavia, IL	Tim Grimm, (630) 454-2758	200 N. Raddant Rd, Batavia, IL 60510	5,041	6", 8", 10", 12", 24"	Dec-17	S
IDOT Various Locations	Bob Hack, (309) 671-3658	401 Main St, Peoria, IL 61602-1111	2,061	18", 24", 30", 36", 60"	Jan-18	S
Sterling, IL	Brad Schrader, (815) 632-6657	1605 Ave L, Sterling, IL 61081	198	8"	Dec-17	S
Frankfort, IL	Tony Minette, (815) 469-2177	432 W. Nebraska St, Frankfort, IL 60423	6,036	8"	Dec-17	S
Airy's/Homer Glen, IL	Tom Land (708) 429-0660	7455 W. Duwan Dr., Tinley Park, IL 60477	140	36"	Dec-17	S
IDOT Various Locations	Bob Hack, (309) 671-3658	401 Main St, Peoria, IL 61602-1111	2,061	18", 24", 30", 36", 60"	Jan-18	S
St. Charles, IL	Dave Todd (630) 762-7071	2 E. Main Street, St. Charles, IL 60174-1984	5,722	8",10",12",15",27"	Jan-18	S
Heritage Lake, Maclean IL	Ric Creasy (309) 691-0224	311 SW Water St #215 Peoria, IL 61602	236	15"	Jan-18	S
Wood Dale, IL / RJN Group	Catherine Buckley P.E. (630) 682-4700	200 W. Front Street Wheaton, IL 60187	6,859	8"	Jan-18	S
Lake Bluff, IL	Jeff Hanson, P.E. (847) 283-6884	40 E Center Ave, Lake Bluff, IL 60044	3,097	8",21",24",30"	Jan-18	S
Sandwich, IL / Strand & Associates	Glenn Tranoski (808) 251-4843 ext 1103	1170 South Houbolt Rd, Joliet, IL 60431	2,833	8"	Feb-18	S
Woodridge / NPR	Reid Ruprecht (312) 907-5292	2500 W. Arlington St Chicago, IL 60612	351	8"	Feb-18	S
Naperville, IL	Katy Librizzi (630) 305-5994	1200 W. Ogden Avenue Naperville, IL 60563	14,897	8", 10", 16"	Feb-18	S
Morrison, IL	Jason Stoll (815) 268-1877	200 W. Main St. Morrison, IL 61270-2400	6,466	6"-12"	Feb-18	S
Effingham, IL	Mike French (217) 342-5300	201 E. Jefferson, Effingham, IL 62401	14,718	6"-12", 27"	Feb-18	S
Washington, IL	Kevin Schone (309) 745-3503 ext 303	301 Walnut, Washington, IL 61571	190	8", 12"	Feb-18	S
Peoria, IL - Peoria Storm	Beth Underwood, (309) 494-8814	3505 N. Dries Lane, Peoria, IL 61604	523	10", 12", 18"	Mar-18	S
Medina Township, Mossville, IL	Frank Sturm, PE (309) 692-8500	7336 N. University St., Peoria, IL 61614	417	12", 15"	Mar-18	S
Bloomington, IL / Stark Excavating	Don Colclasure, Jr. (309) 828-5034	1605 W. Washington St., Bloomington, IL 61701	113	15"	Mar-18	S
Mundelein, IL	Rob Greenfield (847) 949-3264	440 E. Crystal St., Mundelein, IL 60060	1,498	8", 10"	Mar-18	S
Marshall, IL	Jason Goble (217) 465-5306	330 N. Central Ave., Paris, IL 61944	8,417	6"-36"	Mar-18	S

2017 Total
303,975



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COMPLETED CIPP LINING PROJECTS

CITY/STATE	CONTACT	ADDRESS	LENGTH	SIZE	COMPLETED	Water/ Ambient
South Elgin, IL	Dan Watson, PE (630) 232-0827	324 W. State St., Geneva, IL 60134	1,660	30"	Mar-18	S
Joliet, IL CN Railyard	Owen Dean, RJN/City of Joliet (815) 724-4254	150 W. Jefferson St, Joliet, IL 60432	3,259	8", 24", 30"	Mar-18	S
Mt Carroll, IL	Abby Moww (319) 536-3488	2117 State St, Suite 200, Bettendorf IA 52722	1,095	8" & 12"	Apr-18	S
Lisle IL	Eric Kucin (630) 271-4173	925 Burlington Ave, Lisle, IL 60532	2,261	8"	Apr-18	S
Morton Grove, IL	Kevin Lochner (847) 470-5235	7840 Nagle Ave, Morton Grove, IL 60053	5,109	8" & 12"	Apr-18	S
IDOT	Bob Heck, (309) 871-3658	401 Main St, Peoria, IL 61602-1111	196	24" & 36"	Apr-18	S
Mackinaw, IL	Mike Schopp (309) 357-5821	100 E. East, Mackinaw, IL 61755	3,864	8"	Apr-18	S
Bloomington, IL	Ward Snarr (309) 287-3334	115 East Washington Street, Bloomington, IL 61701	10,688	8", 10", 12", 15"	Apr-18	S
Highland Park, IL	Wayne Bauer, (847) 926-1150	1150 Half Day Road, Highland Park, IL 60035	26,100	8"-15"	Jul-18	S
PJ Hoerr Vale Church	Luke Thoele, (309) 434-2225	115 East Washington Street, Bloomington, IL 61701	127	10"	May-18	S
Washington, IL	Kevin Schone (309) 745-3503 ext 303	301 Walnut, Washington, IL 61571	335	8"	May-18	S
Champaign, IL	Jeff Crabtree (217) 403-4710	702 Edgebrook Dr., Champaign, IL 61820	398	15"	May-18	S
Montgomery Twp, IL	Art Wiepand (309) 275-1687	200 N Eureka St Goodfield, IL 61742	40	18"	May-18	S
Cat Moseville	Loyd Hum (309) 675-7471	RT 29 Reinch Rd, Bldg AC, Dock-29, P.O.BOX 810, Mossville, IL	1,172	6", 12"	May-18	S
Roanoke, IL	Mark Aeschleman (309) 923-3335	101 Main St, Roanoke, IL	1,157	8"	May-18	S
PPI / Ottawa, IL	Chad Wilson (815) 433-0080	1551 W. Norris Dr, Ottawa, IL 61350	6,937	8"-22"	Jun-18	S
Streator, IL	Jeremy Palm (815) 672-2517	204 S. Bloomington St., Streator, IL 61364	435	10", 15", 30"	Jun-18	S
Lake County, IL	Heather Galen (847) 377-7141	650 W. Winchester Rd Libertyville, IL 60048	952	10"	Jun-18	S
Naperville Storm	Dave Naley, (630) 548-2981	400 S. Eagle St, Naperville, IL 60540	63	48"	Jun-18	S
Palatine, IL	Mark Grabowski, (847) 202-6962	148 W. Illinois Ave., Palatine, IL 60067	6,563	8"-21"	Jun-18	S
Mtaint Prospect, IL	Casey Botterman (847) 392-6000	1700 West Central Road, Mount Prospect, IL 60056	24,686	8"-30"	Jun-18	S
Lombard, IL	Brian Jack (630) 620-3598	1051 S. Hammerschmidt Ave., Lombard, IL 60148	5,423	8" 10" 15"	Jun-18	S
Limestone TWP, IL	Rick Allinder (309) 697-3811	1501 W. Garfield, Bartonville, IL 61807	180	12", 18", 21"	Jun-18	S
Marquette Heights, IL	David Ghadina (309) 453-8473	715 Lincoln Road, Marquette Heights, IL 61554	181	12"	Jun-18	S
Bensenville, IL	Mehul Patel, (630) 594-1196	717 E. Jefferson, Bensenville, IL 60106	5,783	8"	Jul-18	S
Midlothian, IL	Tom Nagle, Robinson Eng (708) 210-5690	10045 W. Lincoln Highway, Frankfort, IL 60423	6,307	8", 10", 12", 15"	Jul-18	S
Plainfield, IL	Tom McGreevy, Performance Pipelining (815) 433-0080	1551 W. Norris Dr, Ottawa, IL 61350	5,659	8"-24"	Jul-18	S
Chatham, IL	Jim Michael, GMT Engineers (217) 787-8050	2750 W. Washington St, Springfield, IL 62702	1,016	12"-24"	Jul-18	S
IAWC - Washington, IL	Eric Larson (309) 566-4133	8400 N. University, Peoria, IL 61615	1,812	8"	Jul-18	S
GPSD 2561	Jim Sloan (309) 272-4850	2322 S. Darst St., Peoria, IL 61607-2093	10,185	8"-36"	Aug-18	S
Germantown Hills, IL	Rich Brecklin (309) 383-2200	216 Holland Rd, Germantown Hills, IL 61548	42	21"	Jul-18	S
Spring Valley, IL	Jeff Norton (815) 684-4221	400 W. 1st St, Spring Valley, IL 61362	107	31-23" transition	Aug-18	S
East Peoria, IL	Todd Ellis (309) 427-7653	2232 E. Washington East Peoria, IL 61611	215	12"	Aug-18	S
Arcola, IL	Josh Plstorius, Halverson Const. (217) 753-0027	620 N. 19th St, Springfield, IL 62702	676	12"	Aug-18	S
UCSD - Champaign-Urbana, IL	Mark Radi (217) 367-3409	1100 E. University Ave, Urbana, IL 61803	15,136	8"-21"	Dec-18	S
Wilmette, IL	Danielle Horn (847) 853-7828	1200 Wilmette Ave, Wilmette, IL 60091	22,752	8"-21"	Aug-18	S
Sandwich, IL / Strand & Associates.	Glenn Trankowski, Strand & Assoc. (638) 251-4843	910 W. Wings Dr, Madison, WI 53715	260	15"	Aug-18	S
Joliet Silver Cross	Owen Dean (815) 724-4254	150 W. Jefferson St, Joliet, IL 60432	782	8"-12"	Aug-18	S
Northbrook Park Dist / M & J Asphalt	Mike Novickas (708) 222-1200	3124 S. 60th Court, Cicero, IL 60804	830	8" & 10"	Aug-18	S
Limestone TWP, IL	Rick Allinder (309) 697-3521	1501 W. Garfield, Bartonville, IL 61607	150	15"	Aug-18	S
Arlington Heights, IL	Jeff Musinski, (847) 368-5806	222 North Ridge Ave, Arlington Heights	13,838	8"-21"	Sep-18	S
Joliet CN Railyard	Owen Dean (815) 724-4254	150 W. Jefferson St, Joliet, IL 60432	524	24"	Aug-18	S
Lake Forest, IL	Bernard Pondexter (847) 810-3556	800 North Field Drive, Lake Forest, IL 60045	12,897	8"-30"	Sep-18	S
Naperville Storm	Dave Naley, (630) 548-2981	180 Fort Hill Dr, Naperville, IL 60540	4,130	8"-30"	Aug-18	S
Moline, IL	Danel Preston (309) 524-2355	3635 4th Ave, Moline, IL 61285	65	8"	Sep-18	S
Rolling Meadows, IL	Dan Seveska (847) 963-0500	3900 Berdnick St, Rolling Meadows, IL 60008	11,125	8"-21"	Sep-18	S
Washington, IL	Kevin Schone (309) 745-3503 ext 303	301 Walnut St, Washington, IL 61571	74	24"	Sep-18	S
John Keno & Compant, Inc.	William Vignocchi (773) 661-4533	8608 W. Catalpa Ave Suite 808, Chicago, IL 60656	238	12" & 15"	Sep-18	S
Winnetka, IL	James Bernhal (847) 716-3281	1390 Willow Rd, Winnetka, IL 60093	5,148	8"-10"	Oct-18	S
Wheeling, IL	Jeff Wolfram (847) 279-6928	77 W. Hintz Rd, Wheeling, IL 60090	4,750	8" & 12"	Oct-18	S
Naperville Sanitary	Tony Conn (630) 305-6567	1200 W Ogden Ave, Naperville, IL 60563	21,845	8"-10"	Nov-18	S
Lake-In-The-Hills SD/ Postl-Yore & Assoc., Inc.	Brett Postl, Postl-Yore (847) 640-1010	1875 Rohlwing Road Suite B, Rolling Meadows, IL 60008	1,759	12"	Oct-18	S



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CITY/STATE	CONTACT	ADDRESS	LENGTH	SIZE	COMPLETED	Water/ Ambient
Kenilworth, IL	Donald Leicht (847) 257-2354	419 Richmond Rd, Kenilworth, IL 60043	1,869	9" - 21"	Oct-18	S
Naperville TWP	Pat Testin (630) 978-0380	31W331 N Aurora Rd, Naperville, IL 60563	52	15"	Oct-18	S
Glenview, IL	Tim Schwister (847) 904-4422	2500 E Lake Ave, Glenview, IL 60026	18,094	8" - 21"	Dec-18	S
Tazewell Co. Hwy Dept. / Heritage Lake, MacKinaw, IL	Dave Scheuermann (309) 925-5532	21308 IL Route 9 Tremont, IL 61568	506	15" & 18"	Oct-18	S
Montgomery Twp, IL	Art Wiegand (309) 275-1687	496 Cty Rd 1625 E Congerville, IL 61729	101	30" & 36"	Oct-18	S
McLean Co., IL	Luke Hohulin, (309) 663-9445	102 S. Towanda Barnes Rd, Bloomington, IL 61705	778	18" - 48"	Oct-18	S
Northbrook, IL	Ken Gardner (847) 370-7344	1225 Cedar Lane, Northbrook, IL 60062	261	10"	Oct-18	S
Lincolnshire, IL	Walter Dittich (847) 913-2387	One Old Half Day Rd, Lincolnshire, IL 60069	4,513	8" - 10"	Oct-18	S
Carpentersville, IL	Kevin Gray (224) 293-1600	1075 Tamarac Dr, Carpentersville, IL 60110	3,007	6" - 10"	Nov-18	S
PPI / Ottawa, IL	Max Succia (815) 313-6013	1551 W. Norris Dr, Ottawa, IL 61350	1,044	8" - 12"	Nov-18	S
Cambridge, IL	Ed Dole, (309) 937-3380	124 W. Exchange St, Whyoming, IL 61491	1,457	8" - 10"	Nov-18	S
Wyoming, IL	Joe Kinseffa (309) 695-4831	108 E Williams St, Whyoming, IL 61491	910	10"	Nov-18	S
Coal Valley, IL	Annette Ernst (309) 799-3604	P.O. Box 105 Coal Valley, IL 61240	1,614	8" - 12"	Nov-18	S
Batavia, IL	Jeremy Barkel (630) 454-2000	200 N Raddant Rd Batavia, IL 60510	6,249	6" - 15"	Nov-18	S
Moline, IL	Darrel Preston (309) 524-2355	3635 4th Ave, Moline, IL 61265	2,417	8"	Nov-18	S
East Moline, IL	Tim Kammler (309) 752-1595	1200 13th Ave, East Moline, IL 61244	12,863	8"	Nov-18	S
Eureka, IL/AJ Dowiat	Neal McAllister/AJ Dowiat (309) 467-8014	121 W Center St Eureka, IL 61530	2,566	8"	Nov-18	S
IAWC - Washington, IL	Eric Larson (309) 566-4133	8400 N. University, Peoria, IL 61615	2,021	8"	Nov-18	S
Limestone TWP, IL	Rick Allinder (309) 697-3521	1501 W. Garfield, Bartonville, IL 61607	174	12"	Nov-18	S
IAWC - Mount Prospect, IL	Henry Maradiaga (630) 538-1041	1000 Internationale Parkway, Woodridge, IL 60517	21,368	8" - 12"	Nov-18	S
Silvis, IL	Jim Grafton (309) 792-9181	121 11th St, Silvis, IL 61282	811	8"	Nov-18	S
Carbon Cliff, IL	Nick Gottwalt (309) 796-6045	1004 Mansur Ave, Carbon Cliff, IL 61239	429	8"	Dec-18	S
Streamwood, IL	Matt Mann, P.E. (630) 736-3850	565 S. Bartlett Rd., Streamwood, IL 60107	3,582	10" - 24"	Dec-18	S
Geneva, IL	James Childress, (630) 232-1551	1800 South St, Geneva, IL 60134-2547	4,673	6" & 8"	Dec-18	S
Danville, IL	David Snow (217) 431-2288	1155 East Voorhees, Danville, IL 61832	174	8"	Dec-18	S
Limestone Township, IL	Patrick Meyer, PE (309) 446-9907	15109 West Bittersweet Court, Birmfield, IL 61517	1,252	12" - 18"	Jan-19	S
Marquette Heights, IL	David Ghadina (309) 453-8473	715 Lincoln Road, Marquette Heights, IL 61554	642	8"	Jan-19	S
Lacon, IL	Pete Miller (309) 246-6111	406 5th St., Lacon, IL 61540	392	8"	Jan-19	S
Bloomington, IL	Ward Snarr (309) 287-3334	115 East Washington Street, Bloomington, IL 61701	25,653	6" - 42"	Mar-19	S
Streamwood, IL	Matt Mann, P.E. (630) 736-3850	565 S. Bartlett Rd., Streamwood, IL 60107	10,041	8" - 12"	Jan-19	S
Apostolic Christian Church of Roanoke	Church Board President	1570 County Road 1300N, Roanoke, IL 61561	227	8" - 12"	Jan-19	S
Montgomery Twp, IL	Art Wiegand (309) 275-1687	200 N Eureka St Goodfield, IL 61742	87	10" & 15"	Jan-19	S
St. Charles, IL	Dave Todd (630) 762-7071	2 E. Main Street, St. Charles, IL 60174-1984	17,204	8" - 21"	Mar-19	S
Washington, IL	Kevin Schone (309) 745-3503 ext 303	301 Walnut St, Washington, IL 61571	1,080	15"	Jul-19	S
East Peoria, IL	Dennis Barron (309) 698-4716	2232 E. Washington, East Peoria, IL 61611	9,170	8" - 15"	Feb-19	S
Mundelein, IL	Rob Greenfield (847) 949-3264	440 E. Crystal St., Mundelein, IL 60060	4,331	8" & 10"	Mar-19	S
Crestwood, IL / Performance Construction	Lonnie Avery (630) 918-1237	217 W John St, Plano, IL 60545	2,283	8" - 15"	Mar-19	S
Oneida, IL	Nell Smith, BCZ Engineering (309) 343-9282	188 E. Simmons St, Galesburg, IL 61401	31,519	6" - 15"	Apr-19	S
Skokie, IL	Paul Ryan (847) 933-8231	5127 Oakton St, Skokie, IL 60077	5,990	12" - 24"	Apr-19	S
Farmer City, IL	Calvin Florey (309) 928-3412	105 S. Main St, Farmer City, IL	401	32"	Mar-19	S
Glencoe, IL	Devide Mau (847) 461-1116	675 Village Court, Glencoe, IL 60022	3,539	8" & 10"	Apr-19	S
Gurnee, IL	Nick Leach (847) 599-7586	325 N. O'Plaine Rd., Gurnee, IL 60031	2,971	8" & 10"	Apr-19	S
UCSD - Champaign-Urbana, IL	Mark Radi (217) 367-3409	1100 E. University Ave, Urbana, IL 61803	3,994	15" & 21"	Apr-19	S
Mount Prospect, IL	Casey Botteman (847) 392-6000	1700 West Central Road, Mount Prospect, IL 60056	26,413	8" - 21"	Jun-19	S
Woodhull, IL	Wayne Mileham (309) 334-2500	150 N. Division St, Woodhull, IL 61490	3,063	8" & 10"	Apr-19	S
Abingdon, IL	Neil Smith, BCZ Engineering (309) 343-9282	188 E. Simmons St, Galesburg, IL 61401	13,323	8" - 15"	May-19	S
Airys/Oriand Park, IL	Tom Land (708) 429-0680	7455 Duvan Dr #3, Tinley Park, IL 60477	402	8" & 10"	Apr-19	S
Lake Bluff, IL	Jeff Hanson, P.E. (847) 283-6884	40 E Center Ave, Lake Bluff, IL 60044	185	10"	May-19	S
Medina Township, Mossville, IL	Frank Sturm, PE (309) 692-8500	10628 N. Galena Rd, Mossville, IL 61552	170	12"	May-19	S
OSF, Peoria, IL	De Hardenburg, (309) 677-0741	601 SW Water St, Peoria, IL 61602	482	8" & 15"	May-19	S
Peru, IL	Adam Ossola (815) 223-3344	3017 5th St., Peru, IL 61354	239	12"	May-19	S
Tremont, IL	Brian Hild (309) 925-5711	211 S. Samson St, Tremont, IL 61568	407	8"	May-19	S

2018 Total
408,893



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COMPLETED CIPP LINING PROJECTS

CITY/STATE	CONTACT	ADDRESS	LENGTH	SIZE	COMPLETED	Water/ Ambient
Kewanee, IL	Terri Hill (309) 852-2811	401 East 3rd St., Kewanee, IL 61443	1,161	8" & 10"	May-19	S
Pontiac, IL	Jake Kinkaid (815) 844-5574	115 W. Howard St, Pontiac, IL 61764	11,404	8" & 15"	Jun-19	S
Elgin IL / Martam Construction	James Gardner (847) 980-8557	1200 Gasket Dr. Elgin, IL 60120	3,279	15" - 24"	Jun-19	S
Peoria Park District, Peoria, IL	Rebecca Fredrickson (309) 686-3386	1314 N. Park Road, Peoria, IL 61604	185	48"	Jun-19	S
Hoopeston, IL	Tracy Fullen, Donohue & Assoc (217) 903-5092	1605 S. State St, Suite 1C, Champaign, IL 61820	7,697	8" & 10"	Jun-19	S
Bensenville, IL	Mehul Patel, (630) 594-1196	717 E. Jefferson, Bensenville, IL 60106	6,429	8"	Jun-19	S
Orland Township, IL / Airy's	Tom Land (708) 429-0660	7455 Duvan Dr. #3, Tinley Park, IL 60477	60	24"	Jun-19	S
Normal, IL	Jason Comfort (309) 433-9917	1301 Warriner St, Normal, IL 61761	4,043	8" - 36"	Jul-19	S
Oak Park, IL / K-Five	Bryan Warrick (630) 257-5600	999 Oakmont Plaza Dr. Suite 200 Westmont, IL 60559	4,491	12" - 36"	Jul-19	S
Champaign, IL	Nathan Dorfelf (217) 463-4700	702 Edgebrook Dr. Champaign, IL 61820	20,764	8" - 27"	Sep-19	S
Arlington Heights, IL	Jeff Musinski, (847) 368-5806	222 North Ridge Ave. Arlington Heights.	12,979	8" - 12"	Aug-19	S
Chillicothe Sanitary District	Dave Day (309) 274-3583	17116 N. 2nd St, Chillicothe, IL 61523	162	12"	Jul-19	S
Cincinnati Twp, Pekin, IL	Patrick Meyer, PE (309) 446-6907	15109 West Bittersweet Court, Brimfield, IL 61517	70	18"	Aug-19	S
Germantown Hills, IL	Rich Brecklin (309) 383-2200	216 Holland Rd, Germantown Hills, IL 61548	50	12"	Aug-19	S
Worth TWP, IL	Ron Kiefner (309) 383-4360	524 Town Hall Rd., Metamora, IL 61548	233	18" - 30"	Aug-19	S
Rolling Meadows, IL	Dan Seveska (847) 963-0500	3900 Berdnick St, Rolling Meadows, IL 60008	7,178	8" - 21"	Aug-19	S
Palatine, IL	Mark Grabowski, (847) 202-6962	148 W. Illinois Ave., Palatine, IL 60067	4,969	8" - 12"	Aug-19	S
IAWC - Mount Prospect, IL	Henry Maradlaga (630) 538-1041	1000 Internationale Parkway, Woodridge, IL 60517	16,048	8" - 12"	Aug-19	S
LeRoy, IL	Scott Bryant (309) 962-3211	710 E. Maple, LeRoy, IL 61752	692	30"	Aug-19	S
UCSD - Champaign-Urbana, IL	Mark Radl (217) 367-3409	1100 E. University Ave, Urbana, IL 61803	8,433	8" - 24"	Sep-19	S
Wheaton, IL	Russell Peacock (630) 260-2040	303 W. Wesley St., Wheaton, IL 60187	5,283	8" - 30"	Sep-19	S
Roselle, IL	John LaRocca (830) 980-2000	31 S. Prospect St, Roselle, IL 60172	3,633	8"	Sep-19	S
Fox Lake, IL	Aaron Berry, Trotter, Assoc. (630) 587-0470	40W201 Wasco Road, Suite D, St. Charles, IL 60175	3,842	8" - 12"	Sep-19	S
Champaign, IL / Stark Co.	Nathan Dorfelf (217) 403-4700	702 Edgebrook Dr., Champaign, IL 61820	5,649	8" - 27"	Dec-19	S
Lake Forest, IL	Bernard Pondexter (847) 810-3556	800 North Field Drive, Lake Forest, IL 60045	9,187	8" - 15"	Sep-19	S
Tazewell County Highway Dept.	Dave Shuermann (309) 696-0495	21308 IL Route 9 Tremont, IL 61568	838	18" - 54"	Sep-19	S
Des Plaines, IL	Tim O'Malley (847) 774-3018	111 Joseph Schwab Road, Des Plaines, IL	10,229	8" - 12"	Sep-19	S
Pekin, IL	Mike Guerra (309) 477-2300	111 S. Capitol St., Pekin, IL 61554	1,144	30" & 33"	Sep-19	S
Naperville, IL	Dave Naley, (630) 548-2981	400 S. Eagle St., Naperville, IL 60540	13,777	8" - 48"	Oct-19	S
Wheeling, IL	Karol Glorkas, RJN Group, (630) 964-4362	200 W. Front Street Wheeling, IL 60187	8,152	8" - 30"	Oct-19	S
Airy's Inc - Elmhurst McDonalds	Tom Land (708) 429-0660	7455 W. Duvan Dr., Tinley Park, IL 60477	145	6" - 8"	Oct-19	S
IAWC - Bollingbrook	Henry Maradlaga (630) 538-1041	1000 Internationale Parkway, Woodridge, IL 60517	350	8"	Oct-19	S
Highland Park, IL	Wayne Bauer, (847) 926-1150	1150 Half Day Road, Highland Park, IL 60035	15,522	8" - 30"	Oct-19	S
UCM - Dirksen Parkway Bartonville, IL	Keith Murter, Peoria County Highway, (309) 697-6400	6915 W. Plank Road, Peoria, IL 61604	300	18", 24" & 36"	Oct-19	S
Limestone TWP, IL	Rick Allinder (309) 697-3521	1501 W. Garfield, Bartonville, IL 61607	590	15" & 18"	Oct-19	S
East Peoria, IL	Dennis Barron (309) 698-4716	2232 E. Washington, East Peoria, IL 61611	2,084	8"	Oct-19	S
Gildner Inc - Normal H2O Quality Liner	Doug Gildner (309) 663-8458	2031 Ireland Grove Rd, Bloomington, IL 61704	350	12"	Oct-19	S
IAWC - Washington	Eric Larson (309) 566-4133	8400 N. University, Peoria, IL 61615	389	8"	Oct-19	S
Eureka, IL	Shane Larson, Hutchison Eng, (309) 691-1633	2015 W. Glen Ave, Suite 210, Peoria, IL 61614	2,431	6" - 8"	Oct-19	S
Morton Grove, IL	Kevin Lochner (847) 470-5235	7840 Nagle Ave, Morton Grove, IL 60053	6,946	8"	Nov-19	S
D&L Excavating/Industry, IL	Alex Rakera (217) 645-3701	1958 IL-104, Liberty, IL 62347	1,012	8"	Nov-19	S
Cambridge, IL	Ed Dole, (309) 937-3380	101 N. Pleasant St, Cambridge, IL 61238	1,485	8"	Nov-19	S
Cosi Valley, IL	Annette Ernst (309) 799-3604	P.O. Box 105 Coal Valley, IL 61240	2,239	8"	Nov-19	S
Woodhull, IL	Wayne Mileham (309) 334-2500	190 N. Division St, Woodhull, IL 61490	105	12"	Nov-19	S
Buffalo Grove, IL	Darin Montico, PE (847) 459-2523	51 Raupp Blv., Buffalo Grove, IL 60089	14,132	8"	Dec-19	S
Silvis, IL	Jim Grafton (309) 792-9181	121 11th St, Silvis, IL 61282	877	12"	Dec-19	S
East Moline, IL	Tim Kammler (309) 752-1595	1200 13th Ave, East Moline, IL 61244	9,181	8" - 12"	Dec-19	S
Spoon Valley Sanitary District, IL	Neil Smith, BCZ Engineering (309) 343-9282	188 E. Simmons St, Galesburg, IL 61401	8,209	8" - 12"	Dec-19	S
IAWC - Mount Prospect, IL	Henry Maradlaga (630) 538-1041	1000 Internationale Parkway, Woodridge, IL 60517	24,297	8" - 10"	Dec-19	S
Roanoke, IL	Mark Aeschleman (309) 923-3335	101 Main St, Roanoke, IL	1,818	8"	Dec-19	S
Medina Township, Moxsville, IL	Frank Sturm, PE (309) 692-8500	10628 N. Galena Rd, Moxsville, IL 61552	187	15"	Dec-19	S
GPSD - Peoria, IL	Jim Sloan (309) 637-3511	2322 S. Darst St., Peoria, IL 61607-2093	154	8" - 10"	Dec-19	S



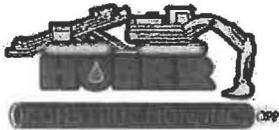
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COMPLETED CIPP LINING PROJECTS

CITY/STATE	CONTACT	ADDRESS	LENGTH	SIZE	COMPLETED	Water/ Ambient
Campanella / Lake County Highway	Austin Zupec (847) 336-9698	39207 N. Magnetos Blvd, Wadsworth, IL 60083	62	30"	Dec-19	S
Palos Heights, IL	Karl Schramm (708) 361-1806	7607 W. College Dr, Palos Heights, IL 60463	306	8"	Dec-19	S
Woodridge, IL	Jeff Moline (630) 719-4754	1 Plaza Dr, Woodridge, IL 60517	2,138	15"-60"	Apr-20	S
Galesburg - School District	Ted Bailey, Roto-Rooter, (309) 343-6913	1310 Monmouth Blvd, Galesburg, IL 61401	120	10"	Dec-19	S
Lombard, IL	Ray Hoving (630) 620-3598	1051 S. Hammerschmidt Ave., Lombard, IL 60148	1,977	8"-24"	Jan-20	S
Lincolnshire, IL	Walter Dittrich (847) 913-2387	One Olde Half Day Rd, Lincolnshire, IL 60069	2,894	8"	Jan-20	S
PPI / Kingman, IN	Chad Wilson (815) 433-0080	1551 W. Norms Dr, Ottawa, IL 61350	8,021	8"	Jan-20	S
Pekin, IL	Joe Wuellner (309) 477-2300	111 S. Capitol St., Pekin, IL 61554	2,293	14"-34"	Feb-20	S
Tremont, IL	Brian Hild (309) 925-5711	211 S. Samson St, Tremont, IL 61568	515	15"	Feb-20	S
Limestone TWP, IL	Rick Allinder (309) 697-3811	1501 W. Garfield, Bartonville, IL 61607	99	18"	Feb-20	S
Mundelein, IL	Rob Greenfield (847) 949-3264	440 E. Crystal St., Mundelein, IL 60060	2,262	6"-8"	Mar-20	S
Creve Coeur, IL	Jeff Sheffler (309) 994-4101	995 Wesley Road, Creve Coeur, IL 61610	3,358	15"	Mar-20	S
ICGI - IDOT #89713 Creve Coeur, IL	Scott Reiese (309) 694-4224	420 Pinecrest Drive, East Peoria, IL 61611	825	12"-18"	Mar-20	S
Crystal Lake, IL	Andrew Resek (815) 356-3700 x4041	100 W. Woodstock St, Crystal Lake, IL 60014	14,121	8"-18"	Apr-20	S
Marshall, IL	Jason Goble (217) 455-5306	330 N. Central Ave., Paris, IL 61944	7,140	6"-48"	Apr-20	S
Berkeley, IL	Joe Wagner (708) 234-2624	5819 Electric Ave., Berkeley, IL 60163	5,022	10"-24"	Apr-20	S
Galesburg Sanitary District	Marshal Schraeder (309) 347-0131	2700 W. Main St, Galesburg, IL 61401	60	8"	Apr-20	S
Lake Bluff, IL	Jeff Hanson, P.E. (847) 283-6884	40 E Center Ave, Lake Bluff, IL 60044	4,059	6"-10"	Apr-20	S
Bartlett, IL	Dan Dinges (630) 837-0811	228 S. Main St., Bartlett, IL 60103	12,945	8"	May-20	S
IDOT (#68E16)	Ed Schenck III (309) 370-7521	401 Main St, Peoria, IL 61602-1111	1,319	18"-72"	May-20	S
Bloomington, IL FY20	Ward Snarr (309) 287-3334	115 East Washington Street, Bloomington, IL 61701	0	8"-48"	Dec-20	S
Plote Construction - IL Tollway	Nick Porter (847) 560-1077	2755 Church Rd., Aurora, IL 60502	352	15"-36"	May-20	S
Montgomery Twp, IL	Art Wiegand (309) 275-1687	200 N Eureka St Goodfield, IL 61742	78	15"	May-20	S
McLean Co.	Luke Hohulin, (309) 663-9445	102 S. Towanda Barnes Rd, Bloomington, IL 61705	166	36"-48"	May-20	S
Limestone Twp, IL	Rick Allinder (309) 697-3811	1501 W. Garfield, Bartonville, IL 61607	448	12"-15"	May-20	S
Limestone Twp, IL	Rick Allinder (309) 697-3811	1501 W. Garfield, Bartonville, IL 61607	36	15"	Jun-20	S
Bushnell, IL	Megan Crook, Engineer (309) 833-4594	McClure Engineering, 714 E. Jackson St., Macomb, IL 61455	1,167	12"	May-20	S
Des Plaines, IL	Tim O'Malley (847) 774-3018	111 Joseph Schwab Road, Des Plaines, IL	9,101	8"	Jun-20	S
Medina Township, Dunlap, IL	Frank Sturm, PE (309) 692-8500	7336 N. University St., Peoria, IL 61614	260	15"	Jun-20	S
Airy's	Tom Land (708) 429-0660	7455 W. Duvan Dr., Tinley Park, IL 60477	225	6"	Jun-20	S
East Peoria, IL	Cord Crisler (309) 397-1034	2232 E. Washington, East Peoria, IL 61611	427	8"	Jun-20	S
Peoria County	Jeff Gilles (309) 697-8400 ext. 127	6915 W. Plank Road, Peoria, IL 61604-5246	190	36"-54"	Jun-20	S
Deer Creek, IL	Gordon Robertson (309) 273-4472	P.O. Box 38, Deer Creek, IL 61733	289	8"	Jun-20	S
Joel Kennedy Construction - Fox Lake, IL	Michael Patti (847) 360-8080	40 Nol) St., Waukegan, IL 60085	224	12"-15"	Jun-20	S
GPSD - Peoria, IL	Jim Sloan (309) 637-3511	2322 S. Darst St., Peoria, IL 61607-2093	9,776	8"-10"	Jun-20	S
Chillicothe Sanitary District	Dave Day (309) 274-3583	17116 N. 2nd St, Chillicothe, IL 61523	1,173	12"-21"	Jun-20	S
Lake Forest, IL	Bernard Pondexter (847) 810-3556	800 North Field Drive, Lake Forest, IL 60045	3,678	8"-12"	Jul-20	S
IAWVC - Fisher, IL	Matt White (217) 649-7797	1406 Cardinal Ct., Urbana, IL 61801	3,717	8"-12"	Jul-20	S
Komatsu	Keith Schroeder (309) 672-7170	2300 NE Adams St, Peoria, IL 61639	946	24"	Jul-20	S
Highland Park, IL	Wayne Bauer, (847) 926-1150	1150 Half Day Road, Highland Park, IL 60035	14,144	6"-15"	Jul-20	S
PPI / Kewanee, IL	Tom McGreevy, Performance Pipelining (815) 433-0080	1551 W. Norris Dr, Ottawa, IL 61350	11,752	8"-12"	Jul-20	S
Wheeling, IL	Lana Rudnik (847) 279-6912	2 Community Blvd., Wheeling, IL 60090	3,804	8"-12"	Jul-20	S
Washington, IL	RJ (309) 231-5573	301 Walnut St, Washington, IL 61571	378	8"-18"	Jul-20	S
Nestle	Chad Wurmnest (309) 319-3372	216 N. Morton Ave., Morton, IL 61550	81	8"	Jul-20	S
Limestone Twp, IL	Rick Allinder (309) 697-3811	1501 W. Garfield, Bartonville, IL 61607	66	24"	Jul-20	S
Genoa, IL	Janice Melton (815) 784-2327	333 E. First St., Genoa, IL 60135	2,793	8"	Aug-20	S
Arlington Heights, IL	Mike Nolan (847) 840-9828	33 S. Arlington Heights Rd., Arlington Heights, IL 60005	12,514	8"-10"	Aug-20	S
Pekin, IL	Josie Esker (309) 478-5399	111 S. Capitol St., Pekin, IL 61554	182	62"	Aug-20	S
IAWVC - Washington, IL	Eric Larson (309) 566-4133	8400 N. University, Peoria, IL 61615	983	8"	Aug-20	S
Washington, IL	RJ (309) 231-5573	301 Walnut St, Washington, IL 61571	1,217	8"-12"	Aug-20	S
Limestone TWP, IL	Rick Allinder (309) 697-3811	1501 W. Garfield, Bartonville, IL 61607	154	15"	Aug-20	S
Woodridge, IL	Jeff Moline (630) 719-4754	1 Plaza Dr, Woodridge, IL 60517	22,618	8"-24"	Aug-20	S

2019 Total
434,927



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COMPLETED CIPP LINING PROJECTS

CITY/STATE	CONTACT	ADDRESS	LENGTH	SIZE	COMPLETED	Water/ Ambient
Bensenville, IL	Mehul Patel, (633) 594-1196	717 E. Jefferson, Bensenville, IL 60106	220	12"-36"	Aug-20	S
Winnetka, IL	James Bernhal (847) 716-3261	1390 Willow Rd, Winnetka, IL 60093	6,322	8"-18"	Aug-20	S
Northfield, IL	Dick Knudson (847) 441-3810	361 Happ Road Northfield, IL 60093	642	8"-18"	Aug-20	S
Chuck Schaidte - Metamora, IL	0	1309 Lourdes Rd, Metamora, IL 61548	112	24"	Aug-20	S
Evergreen Park, IL	Gavin Yeaman, (708) 768-2539 (708) 229-3350	9418 S Kedzie Ave, Evergreen Park, IL 60805	5,889	10"	Aug-20	S
Normal, IL	Jason Comfort, (309) 433-9917	1301 Warriner St, Normal, IL 61761	8,447	8"-24"	Sep-20	S
Buffalo Grove, IL	Darin Monaco, PE (847) 459-2523	51 Raupp Biv., Buffalo Grove, IL 60089	7,636	8"-12"	Sep-20	S
IAWC - Washington, IL	Albert Huff, (309) 883-6045	110 W. Front St, Fisher, IL 61843	3,623	8"-12"	Sep-20	S
Ladd, IL	Doug Englehaupt (815) 878-5506	121 N. Main Ave, Ladd, IL 61329	505	15"	Sep-20	S
Bushnell, IL	Megan Crook, Engineer (309) 833-4594	McClure Engineering, 714 E. Jackson St., Macomb, IL 61455	7,248	8"-15"	Sep-20	S
Mount Prospect	Casey Botterman (847) 392-6000	1700 West Central Road, Mount Prospect, IL 60056	27,691	8"-21"	Oct-20	S
IAWC - Mount Prospect, IL	Henry Maradiaga (630) 538-1041	1600 Internationals Parkway, Woodridge, IL 60517	31,728	8"-12"	Dec-20	S
Limestone Twp, IL	Rick Allinder (309) 697-3811	1501 W. Garfield, Bartonville, IL 61607	331	12"-18"	Sep-20	S
IAWC - Glasford, IL	Albert Huff, (309) 883-6045	8400 N. University, Peoria, IL 61615	4,809	8"	Sep-20	S
Marion, IL	Steve Sondag, (773) 469-1365	109 North Broadway, Marion, IL 61546	122	10"	Sep-20	S
Limestone Twp, IL	Rick Allinder (309) 697-3811	1501 W. Garfield, Bartonville, IL 61607	59	15"	Sep-20	S
Tazewell Co. Hwy Dept. / Tazewell County, IL	Dave Scheuermann (309) 925-5532	21308 IL Route 9 Tremont, IL 61568	332	24"-42"	Oct-20	S
Shorewood, IL	Brian Fuoch, R.J.N, (630) 682-4700	950 Essington Rd, Joliet, IL 60435	10,579	8"-12"	Oct-20	S
IAWC - Washington, IL	Albert Huff, (309) 883-6045	8400 N. University, Peoria, IL 61615	492	8"	Oct-20	S
IAWC - Fisher, IL	Matt White (217) 649-7797	1406 Cardinal Ct., Urbana, IL 61801	4,767	8"-12"	Oct-20	S
Spring Valley, IL	Jeff Norton (815) 664-4221	215 N. Greenwood St, Spring Valley, IL 61362	158	48"	Oct-20	S
Germantown Hills, IL	Rich Brecklin (309) 383-2200	216 Holland Rd, Germantown Hills, IL 61548	.56	36"	Oct-20	S
Naperville, IL	Dave Naley, (630) 548-2881	400 S. Eagle St, Naperville, IL 60540	10,420	10"-30"	Oct-20	S
GPSD #2623 - Peoria, IL	Emily Ambrosio (309) 637-3511	2322 S. Darst St, Peoria, IL 61607-2093	11,780	8"-24"	Nov-20	S
Mundelein, IL	Paul Cacoppo, (847) 875-2554	1610 S. Milwaukee Ave, Libertyville, IL 60048	3,099	8"-15"	Nov-20	S
Rolling Meadows, IL	Dan Seveska (847) 963-0500	3900 Berdnick St, Rolling Meadows, IL 60008	9,323	8"-24"	Nov-20	S
Tremont, IL	Brian Hild (309) 925-5711	211 S. Samson St, Tremont, IL 61568	500	10"-12"	Nov-20	S
Cambridge, IL	Ed Dole, (309) 937-3380	124 W. Exchange St, Whyoming, IL 61491	1,135	8"	Nov-20	S
Coal Valley, IL	Annette Ernst (309) 799-3604	P.O. Box 105 Coal Valley, IL 61240	1,849	8"-12"	Nov-20	S
Havana, IL	Jewel Buoy (309) 543-2526	107 N. High St, Havana, IL 62644	55	48"	Nov-20	S
East Peoria, IL	Patrick Meyer, PE (309) 448-9907	2232 E. Washington, East Peoria, IL 61611	55	15"	Nov-20	S
East Moline, IL	Tim Kammler (309) 752-1595	1200 13th Ave, East Moline, IL 61244	10,836	8"-18"	Dec-20	S
Bloomington, IL FY20 (BNWRD pipe bid on this job)	Ward Snarr (309) 287-3334	115 East Washington Street, Bloomington, IL 61701	1,139	48"	Dec-20	S
Lincolnshire, IL	Walter Dittrich (847) 913-2387	One Olde Half Day Rd, Lincolnshire, IL 60069	3,455	8"-12"	Dec-20	S
Lake County, IL	Heather Galen (847) 377-7141	650 W. Winchester Rd, Libertyville, IL 60048	9,941	8"	Dec-20	S
Hanna City, IL	Brian Baylor, (309) 565-7411	313 N. First St, Hanna City, IL 61536	298	8"	Dec-20	S
Galesburg Sanitary District	Marshal Schraeder (309) 342-0131	2700 W. Main St, Galesburg, IL 61401	3,170	8"-24"	Dec-20	S
Wood Dale, IL / R.J.N Group	Patrick Hulsebosch, R.J.N (224) 425-1014	200 W. Front Street Wheaton, IL 60187	2,470	8"	Dec-20	S
Medina TWP, IL	Frank Sturm, PE (309) 692-8500	P.O. Box 170, Mossville, IL 61552	671	12"-15"	Dec-20	S
Silvis, IL	Jim Grafton (309) 792-9181	121 11th St, Silvis, IL 61282	606	8"-18"	Dec-20	S
Knoxville, IL	Kevan Cooper, BCZ (309) 343-9282	188 E. Simmons St, Galesburg, IL 61401	2,941	6"-8"	Dec-20	S
Glenview, IL	Tim Schwister (847) 904-4422	2500 E Lake Ave, Glenview, IL 60026	6,588	8"-24"	Jan-21	S
UCSD	Brad Bennett (217) 367-3409, ext 1226	1100 E. University Ave, Urbana, IL 61803	6,120	8"-38"	Jan-21	S
Effingham, IL	Mike French (217) 342-5300	201 E. Jefferson, Effingham, IL 62401	6,885	8"-15"	Jan-21	S
Prospect Heights, IL	Patrick Glenn, GHA (847) 478-9700	625 Forest Edge Drive Vernon Hills, IL 60061	4,294	8"-15"	Jan-21	S
Streamwood, IL	Matt Mann, P.E. (630) 736-3850	565 S. Bartlett Rd, Streamwood, IL 60107	14,847	8"-30"	Mar-21	S
Spoon Valley Sanitary District, IL	Neil Smith, BCZ Engineering (309) 343-9282	188 E. Simmons St, Galesburg, IL 61401	21,988	8"-12"	Mar-21	S
Northbrook, IL	Erik Jensen (847) 664-4129	655 Huehl Road, Northbrook, IL 60062	6,475	8"-15"	Mar-21	S
Washington, IL	Cerek Hackney (309) 208-8596	301 Walnut St, Washington, IL 61571	853	8"-8"	Mar-21	S
Peoria, IL	Joelle Esker (309) 478-5399	111 S. Capitol St, Peoria, IL 61554	296	8"	Mar-21	S
Bloomington, IL	Ward Snarr (309) 287-3334	115 East Washington Street, Bloomington, IL 61701	4,940	12"-18"	Mar-21	S
Limestone Township, IL	Patrick Meyer, PE (309) 446-9607	1501 W. Garfield, Bartonville, IL 61607	39	15"	Mar-21	S

2020 Total
365,618



UTILITY CONTRACTORS
 P.O. Box 65
 1416 County Road 200 N
 Goodfield, IL 61742

Office: (309) 691-6653
 Fax: (309) 508-7990
 Email: info@hoerr.com
 Website: www.hoerr.com

COMPLETED CIPP LINING PROJECTS

CITY/STATE	CONTACT	ADDRESS	LENGTH	SIZE	COMPLETED	Water/ Ambient
Westporte Apartments - NHS Property Management Peoria, IL / GPSD	Jon Symmonds (309) 689-1700	810 W. Trailcreek Dr., Peoria, IL 61614	195	12"	Mar-21	S
Farmer City, IL	Josh Auxier (309) 272-4842	2322 S. Darst St., Peoria, IL 61607-2093	369	8"	Mar-21	S
Peoria, IL / GPSD	Sue McLaughlin (309) 928-3412	105 S. Main St. Farmer City, IL	483	10"-12"	Apr-21	S
Washington, IL	John Boyle (309) 678-9035	2322 S. Darst St., Peoria, IL 61607-2093	281	8"	Apr-21	S
Limestone Township, IL	Derek Hackney (309) 208-8586	301 Walnut St, Washington, IL 61571	475	12"	Apr-21	S
IAWC - Glasford, IL	Patrick Meyer, PE (309) 446-9907	1501 W. Garfield, Bartonville, IL 61607	42	12"	Apr-21	S
IAWC - Fisher, IL	Albert Huff, (309) 883-6045	8400 N. University, Peoria, IL 61615	7,553	8"	Apr-21	S
Wheeling, IL	Justin Swinford (217) 384-2343	1406 Cardinal Ct., Urbana, IL 61801	6,937	8"	Apr-21	S
IAWC - Mount Prospect, IL	Jeff Wolgram (847) 279-6928	2 Community Blvd., Wheeling, IL 60090	4,439	8" & 10"	Apr-21	S
IAWC - Bolingbrook, IL	Henry Maradiaga (630) 538-1041	1000 Internationale Parkway, Woodridge, IL 60517	16,968	6" - 16"	Apr-21	S
IAWC - Washington, IL	Henry Maradiaga (630) 538-1041	1000 Internationale Parkway, Woodridge, IL 60517	1,811	8"-24"	Apr-21	S
BNWRD Bloomington, IL	Albert Huff, (309) 883-6045	8400 N. University, Peoria, IL 61615	3,221	8"	May-21	S
Bartlett, IL	Duane Lindeman (309) 827-4396	2015 W. Oakland Ave. Bloomington, IL 61701	4,232	30" & 36"	May-21	S
Macomb, IL	Tyler Isham (224) 339-0224	1150 Bittersweet Dr., Bartlett, IL 60103	13,722	8" & 10"	May-21	S
University of IL / A&R Services, Inc. Quincy, IL	Megan Crook, Engineer (309) 833-4594	McClure Engineering, 714 E. Jackson St., Macomb, IL 61455	4,085	8" & 15"	May-21	S
Mount Prospect, IL	Justin Weidner (217) 357-4227	711 E. Kettering Park Drive, Urbana, IL 61801	126	6"-10"	May-21	S
Elizabeth, IL / Fischer Exc.	Jeffrey Conte (217) 228-4527	730 Maine St. Quincy, IL 62301	10,914	8" - 36"	Jun-21	S
Woodford County Hwy Dept	Casey Botterman (847) 392-6000	1700 West Central Road, Mount Prospect, IL 60056	18,433	8" - 48"	Jun-21	S
Universal Asphalt & Excavating, Inc./Streator, IL	Wayne Fischer (815) 233-3232	1567 Heine Road Freeport, IL 61032	1,685	8" & 12"	Jun-21	S
Town of Normal, IL	Doug Mullen (309) 923-2891	301 South Main Street Roanoke, IL 61561	194	18" & 36"	Jul-21	S
McLean County, IL	Mandy Tomaseski, Universal Asphalt, (615) 223-3000	PO Box 1636 LaSalle, IL 61301	263	15"	Jul-21	S
Farmer City, IL	Jason Comfort (309) 433-9917	1301 Warriner St, Normal, IL 61761	10,825	8" - 42"	Jul-21	S
Knox County, IL	Luke Hohulin (309) 663-9445	102 S. Towanda Barnes Rd, Bloomington, IL 61705	75	30"	Jul-21	S
Roselle, IL	Sue McLaughlin (309) 928-3412	105 S. Main St, Farmer City, IL	707	33"	Jul-21	S
Batavia, IL	Duane Ratermann (309) 289-2514	1214 U.S. Hwy 150 E. Knoxville, IL 61448	179	24" & 30"	Jul-21	S
Knox County, IL	Erik Lanphier (630) 980-2436	720 Rush Street Roselle, IL 60172	7,870	8"	Aug-21	S
Highland Park, IL	Tim Grimm, (630) 454-2756	200 N Raddant Rd Batavia, IL 60510	11,309	6" - 27"	Aug-21	S
Rolling Meadows, IL	Duane Ratermann (309) 289-2514	1214 U.S. Hwy 150 E, Knoxville, IL 61448	179	24" & 30"	Aug-21	S
Aurora, IL	Ron Bannon (847) 926-1146	1150 Hal Day Road, Highland Park, IL 60035	14,443	6" - 24"	Sep-21	S
Lake Forest, IL	Kevin Casey (847) 963-0500	3900 Berdnick St, Rolling Meadows, IL 60008	7,126	8" - 27"	Sep-21	S
Eureka, IL	Kurt Muth (630) 256-3200	44 Ease Downer Pl, Aurora, IL 60507	1,022	24" & 30"	Sep-21	S
Mundelein, IL	Bernard Pondexter (847) 810-3556	800 North Field Drive, Lake Forest, IL 60045	4,221	8" - 27"	Sep-21	S
Harvard, IL	Rusty Klaus (309) 467-2113	111 West Court St, Eureka, IL 61530	3,811	6" & 8"	Sep-21	S
J.W. Ossola - Spring Valley, IL	Paul Cacioppo, (847) 875-2554	1610 S. Milwaukee Ave, Libertyville, IL 60048	1,779	8"	Sep-21	S
Spring Valley, IL	Jim Kruckenberg (815) 943-4161	900 W Brink St, Harvard, IL 60033	2,883	8" & 18"	Sep-21	S
Metamora Township Road District	Robert Ossola (815) 339-6112	PO Box 346 Granville, IL 61326	860	12"	Sep-21	S
Limestone Township, IL	Jeff Norton (815) 664-4221	215 N. Greenwood St, Spring Valley, IL 61362	247	12"	Sep-21	S
Naperville, IL	Kyle Schertz (309) 696-4383	500 North Niles Street, Metamora, IL 61548	305	15"	Sep-21	S
Arlington Heights, IL	Patrick Meyer, PE (309) 446-9907	1501 W. Garfield, Bartonville, IL 61607	145	15"-24"	Oct-21	S
Performance Pipelining, Inc. / City of Joliet, IL (Twin Oaks)	Dave Naley (630) 548-2981	180 Fort Hill Dr. Naperville, IL 60540	12,176	10"-36"	Oct-21	S
Performance Pipelining, Inc. / City of Joliet, IL (Idylside)	Jim Zaharopoulos (847) 368-5832	33 S Arlington Heights Rd, Arlington Heights, IL 60005	9,124	8"-18"	Oct-21	S
Washington, IL	Max Sucilla, PPI (815) 313-6013	1551 W Norris Drive, Oltawa, IL 61350	8,275	8"-10"	Sep-21	S
Saint Charles, IL	Max Sucilla PPI, (815) 313-6013	1551 W Norris Drive, Oltawa, IL 61350	9,597	8"-18"	Sep-21	S
Morton Grove, IL	Brian Rittenhouse (903) 745-3503	301 Walnut St, Washington, IL 61571	7,929	6"-10"	Oct-21	S
East Peoria, IL	Dave Todd (630) 762-7071	2 E. Main Street, St. Charles, IL 60174	16,161	8"-21"	Oct-21	S
Tazewell Co. Hwy Dept. / Tazewell County, IL	Kevin Lochner (847) 470-5235	7840 Nagle Ave, Morton Grove, IL 60053	8,508	8"-12"	Nov-21	S
Bloomington Township Road District / Bloomington, IL	Ric Semonski (309) 698-4716	2232 E Washington, East Peoria, IL 61611	322	21"	Nov-21	S
Coal Valley, IL	Dave Scheuemann (309) 925-5532	21308 IL Route 9 Tremont, IL 61568	176	30"-36"	Nov-21	S
Milton Township Highway Department / Glen Ellyn, IL	Robert Nogan (630) 529-5221	6N030 Rosedale Ave, Bloomington, IL 60108	100	56" x 37"	Nov-21	S
IAWC - Washington, IL	Penny Mullen (309) 799-3604	816 1st Street, Coal Valley, IL 61240	2,038	8"-12"	Dec-21	S
	Gary Muehlfelt (630) 682-4270	23 West 040 Poss Street, Glen Ellyn, IL 60137	50	60" x 37"	Nov-21	S
	Albert Huff (309) 883-6045	8400 N. University, Peoria, IL 61615	5,158	8"	Nov-21	S



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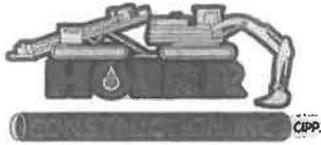
COMPLETED CIPP LINING PROJECTS

CITY/STATE	CONTACT	ADDRESS	LENGTH	SIZE	COMPLETED	Water/ Ambient
IAWC - Glasford, IL	Albert Huff (309) 883-6045	8400 N. University, Peoria, IL 61615	11,315	8" & 18"	Nov-21	S
IAWC - Fisher, IL	Justin Swinford (217) 384-2343	1406 Cardinal Ct., Urbana, IL 61801	4,867	8" & 12"	Dec-21	S
IAWC - Andalusia, IL	Albert Huff (309) 883-6045	8400 N. University, Peoria, IL 61615	10,501	8" & 10"	Dec-21	S
East Moline, IL - don't have billing info yet 12-28-21	Joseph Miller (309) 752-1573	1200 13th Ave, East Moline, IL 61244	0	0	Jan-00	0
Performance Pipelining, Inc. / City of Joliet, IL (Raynor Pa	Max Sucilla PPI (815) 313-6013	1551 W Norris Drive, Ottawa, IL 61350	11,896	8"-15"	Dec-21	S
Winnetka, IL	Emily Grimm (847) 716-3532	1390 Willow Rd, Winnetka, IL 60093	8,374	6"-27"	Dec-21	S
Oak Lawn, IL	Aaron Osmani, (708) 499-7847	9446 South Raymond Ave, Oak Lawn, IL 60453	15,985	8"-12"	Dec-21	S
Des Plaines, IL	Rob Greenfield (847) 949-3264	1111 Joseph Schwab Rd, Des Plaines, IL 60016	7,140	8"-15"	Dec-21	S

2021 Total
 387,229

Project dollar amounts may be obtained by
 request from project owners or a Hoerr
 Construction representative

Total: 3,636,477 feet
688.7 miles
Date of report: 12/28/2021



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List of Major Sewer Rehab Equipment

A. Combination Jetter/Vacuum Trucks

- 2005 International 4000 Jetting Only Truck (#58)
 - 1" Jetter: 2000psi @ 60gpm
 - ½" Jetter: 4000psi @ 14gpm
- 2008 Tandem axle Vector – Sterling Chassis (#96)
 - Vacuum: PD blower capable of pulling 27 inches of Hg
 - Jetter: 2500psi @ 100gpm
- 2012 Tandem axle GapVax - Peterbilt Chassis (#77)
 - Vacuum: PD blower capable pulling 18 inches of Hg
 - Jetter: 2500psi @ 80gpm
- 2014 Tandem axle Vector – Kenworth Chassis (#27)
 - Vacuum: PD blower capable pulling 18 inches of Hg
 - Jetter: 2500psi @ 80gpm
- 2014 Tandem axle Vector – Freightliner Chassis (#97)
 - Vacuum: PD blower capable pulling 18 inches of Hg
 - Jetter: 2500psi @ 80gpm
- 2015 Tandem axle Vector – Freightliner Chassis (#78)
 - Vacuum: PD blower capable pulling 18 inches of Hg
 - Jetter: 2500psi @ 80gpm
- 2016 Tandem axle Vector – Kenworth Chassis (#74)
 - Vacuum: PD blower capable pulling 18 inches of Hg
 - Jetter: 2500psi @ 80gpm
- 2017 Tandem axle Vector – Kenworth Chassis (#70)
 - Vacuum: PD blower capable pulling 18 inches of Hg
 - Jetter: 2500psi @ 80gpm
- 2018 Tandem w/ drop axle Vector – Kenworth Chassis (#76)
 - Vacuum: PD blower capable pulling 18 inches of Hg
 - Jetter: 2500psi @ 80gpm
 - Sewer Water Recycling System

B. Jetting Accessories

- Wide assortment of nozzles for all pipe sizes and cleaning applications
 - Includes penetrating, grenade, spinner, and "bottom feeder" nozzles
- Root saws that configure from 6" to 24" pipe
- Chain cutters that configure from 8" to 30" pipe
- Barrel cutters for 8" to 12" pipe

C. Televising Equipment

- 2000 Cues camera/cutter/lateral launch camera truck- Ford F550 chassis (#95)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Cues LAMP II lateral inspection system, new in 2012
 - Granite Net software



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- 2006 Cues camera/cutter truck - Chevrolet 5500 chassis (#86)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Granite Net software
- 2006 Cues camera/lateral launch camera truck - Chevrolet C4500 chassis (#67)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Cues LAMP II lateral inspection system,
 - Granite Net software
- 2008 Cues camera/cutter truck - Ford F550 chassis (#61)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Granite Net software
- 2010 Cues camera/cutter truck - Ford F550 chassis (#22)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Granite Net software
- 2013 Cues camera/cutter truck - Ford F650 chassis (#59)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Cues LAMP II lateral inspection system, new with truck
 - Schwalm Talpa 1330 & 2060 Rehabilitation Robots
 - Granite Net software
- 2015 Cues camera/cutter truck - Ford F650 chassis (#50)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Granite Net software
- 2015 Cues camera/cutter truck - Ford F650 chassis (#60)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Granite Net software
- 2018 Cues camera/cutter truck - Ford F750 chassis (#89)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Granite Net software
- 2019 Cues camera/grout truck - Kenworth T370 chassis (#17)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Granite Net software
- 2019 Cues camera/cutter truck - Kenworth T370 chassis (#53)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Granite Net software
- 2019 Cues camera/cutter truck - Ford F750 chassis (#55)
 - Cues OZII pan & tilt camera with wheel, track & skid transporters
 - Granite Net software
- Multiple Rigid push cameras & locators to work in 2" – 8" pipes

D. General Construction Equipment

- As a sewer and water contractor we maintain a fleet of construction vehicles and equipment that includes: backhoes, excavators, dump trucks, directional boring rigs, etc. that can be used in the event they are needed for any project.



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E. Boilers

- 2000 Freightliner Chassis / 2013 Iowa Manufacturing Brand Boiler (#42)
 - 100 HP diesel fired hot water & steam low pressure boiler
- 2006 Volvo Chassis / 2015 Hurst Brand Boiler (#54)
 - 100 HP diesel fired hot water & steam high pressure boiler
- 2006 Kenworth Chassis / 2012 Hurst Brand Boiler (#29)
 - 25 HP diesel fired steam boiler for lateral lining
- 2012 Semi Trailer / 2012 Hurst Brand Boiler (#122)
 - 150 HP diesel fired hot water & steam high pressure boiler
- 2012 Mack Chassis / Kewanee Brand Boiler (#63)
 - 150 HP diesel fired hot water & steam high pressure boiler
- 2016 Volvo Chassis / 2015 Hurst Brand Boiler (#44)
 - 100 HP diesel fired hot water & steam high pressure boiler

F. Refrigerated Box Trucks

- 1991 Semi Trailer with new 2015 Thermo-King Refrigerator Unit and liner handling system (#1004)
- 2000 Sterling Tandem Axle Box (#45)
- 2003 Semi Trailer with new 2019 Thermo-King Refrigerator Unit and liner handling system (#1007)
- 2006 Freightliner M106 Tandem Axle Reefer Box (#87)
- 2007 International Tandem Axle Box (#88)
- 2007 Freightliner M106 Tandem Axle Reefer Box (#82)
- 2011 Peterbilt Tandem Axle Reefer Box (#47)
- 2013 Freightliner M2 Tandem Axle Reefer Box (#51)
- 2020 Freightliner M2106 Tandem Axle Reefer Box (#68)
- 2020 Volvo VHD84B300 Tandem Axle Reefer Box (#90)

G. Other Rehabilitation Equipment

- Mainline Cured In Place Pipe (CIPP) Lining
 - Capable of putting a new pipe within a pipe in the 6" – 60" diameter range
 - Requires access to both ends of the line segment
- LMK T-Liner and Lateral Cured In Place Pipe (CIPP) Lining
 - Capable of putting a T or Y connection liner in 8" – 15" mainline
 - Capable of lining from only one access point
- LMK Vac-A-Tee cleanouts
 - Installation of lateral cleanouts with minimal excavation
- Pipeline Renewal Technologies Veri-Cure DTS Version 2
 - Pipe Temperature Computer

H. Wet Out Facilities

- Our wet-out facility is located at 1416 County Road 200 N in Goodfield, IL 61742. The building is 80' x 160' and was built in 2007. It is 100% climate controlled with geothermal heating and air conditioning.

Updated: 4/28/20

CERTIFICATION:

CONTRACTOR

BY:



NAME:

Max P. Hoyer

(PRINCIPAL)

TITLE:

President

ADDRESS:

1416 County Road 200 N, Goodfield, IL 61742



ATTEST

BY:



NAME:

DAVID A. STEFFEN

(NOTARY PUBLIC)

ADDRESS:

105 Steffen Ct., Congerville, IL 61729

END OF SECTION



CERTIFICATION:

CONTRACTOR

BY: Max P. Hoerr II
(PRINCIPAL)

NAME: Max P. Hoerr II

TITLE: President

ADDRESS 1416 County Road 200 N, Goodfield, IL 61742



ATTEST

BY: Max P. Hoerr II
(PRINCIPAL SECRETARY)

NAME: Max P. Hoerr II

TITLE: Secretary

ADDRESS: 1416 County Road 200 N, Goodfield, IL 61742

SUBSCRIBED AND SWORN TO
Before me this 11th day of July, 2022.

David A. Steffen
Notary Public



END OF SECTION

File Number

5761-511-7



To all to whom these Presents Shall Come, Greeting:

I, Jesse White, Secretary of State of the State of Illinois, do hereby certify that I am the keeper of the records of the Department of Business Services. I certify that

HOERR CONSTRUCTION, INC., A DOMESTIC CORPORATION, INCORPORATED UNDER THE LAWS OF THIS STATE ON DECEMBER 29, 1993, APPEARS TO HAVE COMPLIED WITH ALL THE PROVISIONS OF THE BUSINESS CORPORATION ACT OF THIS STATE, AND AS OF THIS DATE, IS IN GOOD STANDING AS A DOMESTIC CORPORATION IN THE STATE OF ILLINOIS.



In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois, this 14TH day of APRIL A.D. 2022 .

Jesse White

SECRETARY OF STATE

Authentication #: 2210401526 verifiable until 04/14/2023

Authenticate at: <http://www.ilsos.gov>

CITY OF GENEVA
2022 SANITARY SEWER REHABILITATION

AGREEMENT AND BONDS

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SECTION 00400

AGREEMENT

**2022 SANITARY SEWER REHABILITATION
CITY OF GENEVA
2022**

This Agreement, made this 1 day of August, 2022 by and between the City of Geneva, hereinafter called "Owner", and Hoerr Construction, Inc., doing business as a Corporation, hereinafter called "Contractor."

Witnesseth: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The Contractor will commence and complete the construction of the **2022 Sanitary Sewer Rehabilitation**.
2. The Contractor will furnish all of the material, supplies, tools, equipment, labor, and other services necessary for the construction and completion of the Project described herein.
3. The Contractor will commence the work required by the Contract Documents within ten (10) calendar days after the date of the Notice to Proceed. The Contractor will Substantially Complete the Work by **February 1, 2023** and will meet Final Completion by **March 1, 2023**, unless the period for completion is extended otherwise by the Contract Documents.
4. The Contractor agrees to perform all of the Work described in the Contract Documents and comply with the terms therein for the sum of \$ 651,792.00, as shown in the Bid Form - Section 00300.
5. The term "Contract Documents" means and includes the following:
 - A. Advertisement for Bids
 - B. Instructions for Bidders
 - C. Bid Form
 - D. This Agreement
 - E. Notice of Award
 - F. Notice to Proceed
 - G. Change Order Form
 - H. Performance Bond
 - I. Payment Bond
 - J. Certificates of Insurance
 - K. Certifications (various)
 - L. Specifications prepared or issued by Fehr Graham Engineering and Environmental.
 - M. Drawings prepared by Fehr Graham Engineering and Environmental.

- N. Addenda:
No. 1, dated July 6, 2022
No. _____, dated _____, 202
No. _____, dated _____, 202
No. _____, dated _____, 202
No. _____, dated _____, 202
- O. Any modification, including Change Orders, duly delivered after execution of Agreement.
6. The Owner will pay to the Contractor in the manner and at such times as set forth in the Special Provisions, such amounts as required by the Contract Documents.
7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.
8. Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in paragraph 3 above, plus any extensions thereof allowed in accordance with the Contract Documents. The Contractor also recognizes the difficulties involved in proving the actual loss suffered by the Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Contractor shall pay the cost of engineering time, construction observation time, construction management time and any other costs associated with such delay for each day that expires after the time specified in paragraph 3 for Substantial Completion until the work is substantially complete. After Substantial Completion, if contractor shall neglect, refuse or fail to complete the remaining Work within the time specified in paragraph 3 for completion and readiness for final payment, contractor shall pay the cost of engineering time, construction observation time, construction management time and any other costs associated with such delay for each day that expires after the time specified in paragraph 3 for completion and readiness for final payment.

In witness whereof, the parties hereto have executed or caused to be executed by their duly authorized officials this Agreement in **quadruplicate** each of which shall be deemed an original on the date first above written.



Owner:

City of Geneva

By:

Stephanie K. Dawkins

Title:

City Administrator

Attest:

Name:

Title:

Jayne Linn
Deputy Clerk

Contractor:

Hoerr Construction, Inc

By:

Name:

Title:

Max P. Hoerr II.
President

(Seal)

Attest:

Name:

Title:

Janel Hillman
Janel Hillman
Administrator

END OF SECTION

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SECTION 00410

NOTICE OF AWARD

2022 SANITARY SEWER REHABILITATION
CITY OF GENEVA
2022

To: Hoerr Construction, Inc.
P.O. Box 65
Goodfield IL 61742

Date: August 1, 2022

The Owner has considered the Bid submitted by you for the above described **WORK** in response to its Advertisement for Bids and Instructions for Bidders.

You are hereby notified that your Bid has been accepted in the amount of \$ 651,792.00.

You are required by the Instructions for Bidders to execute the Agreement and furnish the required Contractor's Performance Bond, Payment Bond, and certificates of insurance within ten (10) calendar days from the date of this Notice of Award to you.

If you fail to execute said Agreement and to furnish said Bonds and certificates of insurance within ten (10) days from the date of this Notice of Award, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the Owner.

City of Geneva

NAME: Robert Van Dyke

TITLE: Superintendent Water & Wastewater

DATE: August 2, 2022

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO AWARD is hereby acknowledged:

CONTRACTOR: Hoerr Construction, Inc

NAME: Mr. P. Hoerr

TITLE: President

DATE: 8-5-22

END OF SECTION

SECTION 00420
NOTICE TO PROCEED

2022 SANITARY SEWER REHABILITATION
CITY OF GENEVA
2022

To:

Hoerr Construction, Inc.
P.O. Box 65
Goodfield, IL 61742

Date: August 25, 2022

You are hereby notified to commence WORK in accordance with the Agreement dated August 1, 2022 and you are to have the WORK Substantially Complete by **February 1, 2023** and meet Final Completion by **March 1, 2023**.

City of Geneva

NAME: Bob VanGyseghem Robert VanGyseghem

TITLE: Superintendent of Water & Wastewater

DATE: August 25, 2022

ACCEPTANCE OF NOTICE

Receipt of the above **NOTICE TO PROCEED** is hereby acknowledged:

CONTRACTOR: Hoerr Construction, Inc.

NAME: Mr. P. Wentz

TITLE: President

DATE: 8-5-22

END OF SECTION

SECTION 00605

PAYMENT BOND

Bond Number 2525394

KNOW ALL MEN BY THESE PRESENTS that:

NAME OF CONTRACTOR Hoerr Construction Inc.

ADDRESS OF CONTRACTOR P O Box 65
Goodfield, IL 61742

a Corporation, hereinafter called Principal, and

NAME OF SURETY West Bend Mutual Insurance Company

ADDRESS OF SURETY 1900 South 18th Avenue
West Bend, WI 53095

hereinafter called Surety, are held and firmly bound unto the CITY OF GENEVA, hereinafter called OWNER, in the penal sum of \$651,792.00, in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the 1 day of August, 2022, a copy of which is hereto attached and made a part hereof for the construction of the 2022 SANITARY SEWER REHABILITATION.

NOW, THEREFORE, if the Principal shall promptly make payment in all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

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

In witness whereof, this instrument is executed in four (4) counterparts, each of which shall be deemed an original, this the 5 day of August, 2022.

CONTRACTOR

BY:

NAME:

TITLE:

ADDRESS:

Max P. Hoerr FF.
President
P O Box 65 Goodfield, IL 61742

CONTRACTORS CORPORATE SEAL

ATTEST

BY: _____
NAME: Janel Hillman
TITLE: Janel Hillman
TITLE: Administrator
ADDRESS: P O Box 65 Goodfield, IL 61742

WITNESS AS TO PRINCIPAL

BY: _____
NAME: Stephanie martin
NAME: Stephanie Martin
TITLE: Project Administrator
ADDRESS: P O Box 65 Goodfield, IL 61742

SURETY

BY: *Ashlyn Tucker*
NAME: Ashlyn Tucker (ATTORNEY IN FACT)
(ATTACH VERIFICATION OF POWER OF ATTORNEY)

ADDRESS: 1900 South 18th Avenue West Bend, WI 53095



WITNESS AS TO SURETY

BY: *Catherine L Ater*
NAME: Catherine L Ater
ADDRESS: 1090 S Route 51 Forsyth, IL 62535

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all Partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

END OF SECTION

SECTION 00610

PERFORMANCE BOND

Bond Number 2525394

KNOW ALL MEN BY THESE PRESENTS that:

NAME OF CONTRACTOR Hoerr Construction Inc.

ADDRESS OF CONTRACTOR P O Box 65
Goodfield, IL 61742

a Corporation, hereinafter called Principal, and

NAME OF SURETY West Bend Mutual Insurance Company

ADDRESS OF SURETY 1900 South 18th Avenue
West Bend, WI 53095

hereinafter called Surety, are held and firmly bound unto the CITY OF GENEVA hereinafter called OWNER, in the penal sum of \$ 651,792.00, in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the 1 day of August, 2022, a copy of which is hereto attached and made a part thereof for the construction of the 2022 SANITARY SEWER REHABILITATION.

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

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the **WORK** to be performed thereunder or the **SPECIFICATIONS** accompanying the same shall in any wise affect its obligation on this **BOND**, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the **WORK** or to the **SPECIFICATIONS**.

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

IN WITNESS WHEREOF, this instrument is executed in 4 counterparts, each of which shall be deemed an original, this the 5 day of August, 2022.

Any suit under this bond must be instituted before the expiration of the Statute of Limitations applicable to any claim against the contractor named herein.

CONTRACTOR

BY:

Max P. Hoerr II

NAME:

Max P. Hoerr II.

TITLE:

President

ADDRESS:

P O Box 65 Goodfield, IL 61742

CONTRACTORS CORPORATE SEAL

ATTEST

BY: Janel Hillman
NAME: Janel Hillman (PRINCIPAL SECRETARY)
TITLE: Administrator
ADDRESS: P O Box 65 Goodfield, IL 61742

WITNESS AS TO PRINCIPAL

BY: Stephanie Martin
NAME: Stephanie Martin
TITLE: Project Administrator
ADDRESS: P O Box 65 Goodfield, IL 61742

SURETY

BY: Ashlyn Tucker
NAME: Ashlyn Tucker (ATTORNEY IN FACT)

(ATTACH VERIFICATION OF POWER OF ATTORNEY)

ADDRESS: 1900 South 18th Avenue West Bend, WI 53065



WITNESS AS TO SURETY

BY: Catherine Ater
NAME: Catherine L Ater
ADDRESS: 1090 S Route 51 Forsyth, IL 62535

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all Partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

END OF SECTION

State of Illinois

} ss:

County of Macon

On _____ before me, a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared Ashlyn Tucker

known to me to be Attorney-in-Fact of West Bend Mutual Insurance Company the corporation described in and that executed the within and foregoing instrument, and known to me to be the person who executed the said instrument in behalf of the said corporation, and he duly acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year stated in this certificate above.

Catherine L. Ater
(Notary Public)





POWER OF ATTORNEY

Know all men by these Presents, That West Bend Mutual Insurance Company, a corporation having its principal office in the City of West Bend, Wisconsin does make, constitute and appoint:

Ashlyn Tucker

lawful Attorney(s)-in-fact, to make, execute, seal and deliver for and on its behalf as surety and as its act and deed any and all bonds, undertakings and contracts of suretyship, provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed in amount the sum of:

Ten Million Dollars (\$10,000,000)

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of West Bend Mutual Insurance Company at a meeting duly called and held on the 21st day of December, 1999.

Appointment of Attorney-In-Fact. The president or any vice president, or any other officer of West Bend Mutual Insurance Company may appoint by written certificate Attorneys-In-Fact to act on behalf of the company in the execution of and attesting of bonds and undertakings and other written obligatory instruments of like nature. The signature of any officer authorized hereby and the corporate seal may be affixed by facsimile to any such power of attorney or to any certificate relating therefore and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the company, and any such power so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the company in the future with respect to any bond or undertaking or other writing obligatory in nature to which it is attached. Any such appointment may be revoked, for cause, or without cause, by any said officer at any time.

In witness whereof, the West Bend Mutual Insurance Company has caused these presents to be signed by its president undersigned and its corporate seal to be hereto duly attested by its secretary this 17th day of August, 2021.

Attest Christopher C. Zwygart
Christopher C. Zwygart
Secretary



Kevin A. Steiner
Chief Executive Officer/President

State of Wisconsin
County of Washington

On the 17th day of August, 2021, before me personally came Kevin A. Steiner, to me known being by duly sworn, did depose and say that he resides in the County of Washington, State of Wisconsin; that he is the President of West Bend Mutual Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of the said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation and that he signed his name thereto by like order.



Matthew E. Carlton
Senior Corporate Attorney
Notary Public, Washington Co., WI
My Commission is Permanent

The undersigned, duly elected to the office stated below, now the incumbent in West Bend Mutual Insurance Company, a Wisconsin corporation authorized to make this certificate, Do Hereby Certify that the foregoing attached Power of Attorney remains in full force effect and has not been revoked and that the Resolution of the Board of Directors, set forth in the Power of Attorney is now in force.

Signed and sealed at West Bend, Wisconsin this ___ day of _____



Heather Dunn
Vice President - Chief Financial Officer

Notice: Any questions concerning this Power of Attorney may be directed to the Bond Manager at West Bend Mutual Insurance Company.

CITY OF GENEVA
2022 SANITARY SEWER REHABILITATION

SPECIAL PROVISIONS

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2022 SANITARY SEWER REHABILITATION
City of Geneva

SPECIAL PROVISIONS

The following Special Provisions supplement the General Conditions, Supplementary Conditions, “Standard Specifications for Water and Sewer Construction in Illinois, 7th Edition” (hereinafter referred to as the “Standard Specifications”), the “Standard Specifications for Road and Bridge Construction”, adopted January 1, 2012, and “Supplemental Specifications and Recurring Special Provisions”, adopted January 1, 2015 by the Illinois Department of Transportation (hereinafter referred to as the “I.D.O.T. Specifications”), the “Manual on Uniform Traffic Control Devices”, and the “Illinois Urban Manual”, included herein by reference which apply to and govern the proposed improvement.

In case of conflict with any part or parts of said General Conditions, Supplementary Conditions, Standard Specifications and I.D.O.T. Specifications, these Special Provisions shall take precedence and shall govern. In case of conflict between the Standard Specifications and the I.D.O.T. Specifications, the Standard Specifications shall take precedence and shall govern.

SP-1 EXECUTION OF CONTRACT

1. Contractor warrants that it has reviewed the Contract Documents, including any plans, specifications and reports, has inspected the project site, and has satisfied itself as to the conditions under which the Work is to be performed, including any subsurface or otherwise latent conditions. Contractor understands that the conditions it encounters may differ from those anticipated and agrees to bear the risk of such difference in conditions. Neither the time in which the Work is to be performed, nor the cost of performing such Work, shall be increased because of unforeseen or unanticipated site or project conditions.
2. The procedures, methods, and materials agreed to in the Contract Documents shall not be deviated from without the written consent of the Owner.
3. The Owner reserves the right of approval over all procedures, methods, and materials to be employed by the Contractor or its subcontractors for this Work.
4. In performing the Work hereunder, it is understood that the Contractor is acting as an independent Contractor and that its employees, agents, and representatives and those of any and all subcontractors which it retains in the Work hereunder shall not be deemed, for any purpose, to be agents, servants, and/or employees of the Engineer or Owner.

Contractor shall perform the Work as an independent Contractor and all of its employees engaged in the performance of the Work shall be supervised and controlled exclusively by the Contractor.

Contractor shall not delegate or assign the obligation of this Contract without prior written approval of the Owner.

5. Contractor warrants that its Work shall be free from defects and shall be suitable for the use intended. In the event that any deficiencies in the Contractor's Work are discovered within one year after completion of the project, Contractor shall, at its sole cost, repair or replace any defective work, including repair of any portion of the project or property damaged by repair, replacement or repetition of defective work. This warranty is in addition to any other remedy which Engineer may have for any defective work of Contractor.
6. The individual or individuals signing this Contract on behalf of the Contractor warrants that they are authorized to bind Contractor to this Contract and guarantee Contractor's performance of the Work set forth under this Contract.
7. The Owner, without prejudice to any other remedy, may correct any defects or deficiencies in the Work of Contractor at the expense of Contractor. Should any tests not otherwise required by this Contract be necessary to inspect or test the Work of Contractor, Contractor shall pay for the cost of the tests if the Work is found not to be in accordance with the requirements of this Contractor, or is otherwise defective.
8. Time is of the essence. Contractor shall schedule its work and that of its Subcontractors to meet requirements of Owner.
9. Contractor shall not divulge information concerning any portion of the Work or the results of any tests, nor shall it provide copies of any reports made pursuant to this Contract, without prior written approval of the Owner, or as required by law.
10. This Contract may be terminated by Owner on fourteen days written notice to Contractor. Contractor shall be paid for all Work performed prior to termination, less the cost of remedying any defective work performed by Contractor. The indemnification, insurance liens, and job site safety obligations survive termination of this Contract.
11. Contractor agrees to defend, indemnify and hold harmless Owner, its officials, trustees, employees, Engineer, and agents from and against any and all claims, damages, liability, suits, actions and expenses, including reasonable attorney's fees, relating to any and all losses or damages sustained by or alleged to have been sustained by any person, including employees of parties hereto, and arising or allegedly arising from Contractor's performance or failure to perform the services set forth in this Agreement and/or the Work regardless of whether or not concurrently caused by the negligence of Owner, except that Contractor shall not be required to defend, indemnify and hold harmless and indemnified Party from claims, damages or liability caused by the sole negligence or willful misconduct of the indemnified Party. In the event that any such claim, action, cause of action or lawsuit is brought or filed, the indemnified Party and its officials, trustees, employees, Engineer and agents sued thereunder, shall have the right to determine the attorney of its, his, hers or their choice to present and defend their interests in any legal or administrative action, all at the Contractor's expense pursuant to this Contract. The duration of the

indemnification hereunder shall be indefinite.

12. Contractor shall be solely responsible for the safety of persons or property on, or adjacent to, the job site. Contractor shall be responsible for his/her activity and that of any of its Subcontractors, employees or agents on the job site with respect to job site safety. Neither the professional activities nor the presence of Engineer or its employees and Subcontractors shall be understood to control the operations of others.

The Contractor shall arrange for all of its employees who will be working on the site to take any appropriate safety and health training courses applicable for the site conditions. The costs and expenses of the employees taking such course shall be paid by Contractor.

Contractor is responsible for providing, at its own expense, all personal protective clothing and equipment required for its employees to perform their Work in a safe manner and in compliance with all applicable local, state, and federal laws and regulations including, but not limited to Occupational Safety and Health Administration (OSHA) standards. Contractor is responsible for ensuring that such equipment is in good condition and is properly inspected and maintained. In cases where a Job Safety Plan or equivalent document (e.g., Health and Safety Plan) has been prepared and adopted by the Owner, Contractor must, at a minimum, use the equipment and follow the procedures described in that plan. This does not relieve the Contractor of the responsibility to provide equipment and institute procedures affording a greater degree of protection than those specified in the Job Safety Plan, if such equipment and procedures are necessary for the Contractor to perform its tasks in a safe manner and in compliance with applicable local, state, and federal regulations.

13. Contractor shall discharge at once or bond otherwise secure against all liens and attachments which are filed in connection with the services, and Contractor shall indemnify and save Engineer, and the Owner of the premises on which the services are performed, or to which the services relate, harmless from and against any and all loss, damage, liability and claims thereof resulting from such liens and attachments.
14. This is the final and complete Contract Documents between Contractor and Owner and supersedes any prior Contract Documents, whether written or oral. Should any portion of these Contract Documents be held invalid, the remaining portions shall continue as if the invalid portions had not been part of these Contract Documents.
15. The Instructions to Bidders, the Specifications and amendments thereto, the Addenda, the Proposal as accepted by the Owner, the Special Provisions, the Project Plans or Drawings, Contract, Contractor's Bonds, Notice to Proceed, Notice of Award, Advertisement for Bids, Certificates of Insurance and all certifications of Contractor regarding eligibility to enter into public contracts, certifications regarding maintenance of sexual harassment policy and certifications regarding absences of tax delinquencies shall form part of this Contract and the provision thereof shall be as binding upon the parties as if they were fully set forth herein. The Index, titles, headings, running headlines and marginal notes contained herein and in said Contract Documents are solely to facilitate various provisions of the Contract Documents and in no way affect, limit or cast light upon the interpretations

of the provisions to which they refer. Whenever the term "Contract Documents" is used, it shall mean and include this Contract, the Instructions to Bidders, the enumerated plans, specifications and amendments thereto, the Addenda, the Proposal, the Special Provisions, Insurance certificates, written Change Orders, and the Contractor's proposal incorporating all post-bid discussions and all other documents set forth herein and in the Specifications.

16. The Contract Documents are complementary, and any Work called for by any part thereof shall be executed as part of the Contract in the same manner as if called for in all parts. Therefore, all Work that may be called for in the Specifications and not shown on the Plans, shall be executed and furnished by the Contractor as if described in both of these documents. Should any work or material be required which are not denoted in the Plans, Specifications, or other Contract Documents either directly or indirectly, but which are necessary for the proper carrying out of the intent thereof, the Contractor shall perform all Work and furnish all materials as fully as if they were particularly described. Likewise, any contradictory clauses between any of the Contract Documents shall be resolved by the Engineer or Owner. The Engineer or Owner's interpretation of these contradictory clauses shall be final.
17. All work covered by the Contract is to be performed under the general direction, supervision, and responsibility of the Contractor but shall be subject to inspection and final acceptance by the Owner.

The Contractor agrees that it shall carry on said Work at its own risk until the same is fully completed and accepted, and shall, in case of any accident, destruction, or injury to the Work and/or materials before its final completion and acceptance, repair, or replace forthwith the Work and/or materials so injured, damaged, or destroyed, at its own expense and to the satisfaction of the Owner.

18. Contractor shall not subcontract the whole or any part of said Work without the written consent of the Owner having been first obtained, which consent shall not be unreasonably withheld by the Owner.
19. Contractor shall cooperate with others performing services for the Owner in connection with any Work in the same location.
20. The Contractor shall be responsible for obtaining all permits necessary for moving equipment over the city or county streets and state highways. The Contractor shall pay all charges and fees, the cost of which will be included in the Contract price for the Work.
21. The Contractor shall comply with all laws, ordinances, rules, and regulations of governmental authorities affecting the conduct of the proposed Work. Before the completion of the Contract, the Contractor shall furnish to the Owner any and all certificates of approval resulting from required inspections.
22. Contractor shall warrant that all services under this Contract will be performed in accordance with the Contract Documents and in a professional manner with the skill and care which would be exercised by qualified contractors. Contractor will perform again, at

- its own cost and expense, any portion of the services provided herein that do not meet the standards set forth in this paragraph. Contractor warrants that all equipment it provides will be in good condition when consigned to the job and that its personnel will be capable of performing the tasks to which they are assigned. Contractor further warrants that it understands the risks of exposure to waste, which are presented to persons, property, and the environment by the tasks encompassed by the Contract and that it will fully comply with all applicable federal, state, and local laws.
23. The adequacy of all safeguards is the responsibility of the Contractor. All material and services furnished by the Contractor shall be in compliance with the provisions of the Federal Occupational Safety and Health Act (OSHA) and the regulations and standards promulgated by the Secretary of Labor thereunder.
 24. The Contractor agrees that due care shall be used throughout the Work; and that whenever plans, drawings, or specifications, or any of them for any part of the Work, are in its opinion faulty or at variance with each other or with any applicable rules, regulations, or ordinances, or are such as will, if followed, result in construction which is or will be unsafe, imperfect, insecure, or violative of any applicable rules, regulations, or ordinances, the Contractor shall promptly stop Work on the part of the Work affected thereby and notify the Engineer in writing of such opinion and in what respect said plans, drawings, or specifications are insufficient or improper, and shall not proceed with the part of the Work so criticized until a written order has been received from the Engineer directing what is to be done and when to proceed. Additionally, the Contractor shall:
 - A. Be responsible for repairing any damage to any man-made structure, walkway, etc. arising in connection with the Work performed.
 - B. Bear the responsibility for repairing and/or replacing any equipment or materials damaged by the Contractor or any of its Subcontractors.
 - C. Post warning signs adjacent to all Work areas indicating any hazards as the construction progresses.
 - D. Provide necessary temporary lighting, wiring, globes, guard lights, barricades, or any other items required by regulations, standards, or laws established for public protection and safety or to facilitate the Work.
 25. The Contractor shall be responsible for providing a level of security that will ensure control, accountability, and protection to the Work area, tools, materials, and equipment involved in the execution of this Contract.
 26. The Contractor, its employees, agents, representatives, and Subcontractors shall not discuss, offer comment, or opinions concerning the Work, or disclose results without the consent of the Owner. This requirement shall apply to the Contractor with regard to disclosures to members of the general public and public and private media.
 27. The Contractor shall not display any signs, posters, or other advertising matter in or on the

- Work or on or around the Site thereof without the specified approval in writing by the Owner.
28. In addition, no advertising copy mentioning the Owner or Engineer or quoting the opinions of any of its employees may be released unless such copy is approved by the Owner or Engineer before release.
 29. Contractor in performing Work shall comply and shall require compliance by its Subcontractors with all applicable laws and regulations. Contractor shall not take and is not authorized to take any action in the name of or otherwise on behalf of the Owner which would violate applicable laws or regulations. If Contractor or its Subcontractors perform any part of the Work contrary to applicable laws or regulations, any additional costs resulting therefrom shall be for Contractor's account.
 30. Contractor shall make reasonable efforts to discover any conflicts between applicable laws or regulations and job specification and shall promptly notify the Engineer of any conflicts it discovers. Contractor shall not proceed with the part of the Work in conflict without prior written notice from the Engineer that (1) the job specification has been revised to comply with the applicable laws and regulations, or (2) the Contractor has negotiated an approval or variance in the law or regulation with the appropriate governmental authority or agency. Additional costs resulting from Contractor's proceedings without such notice shall be for the Contractor's account.
 31. Contractor shall not enter into negotiations with any governmental authority or agency to develop variances or revisions to laws or regulations without the Owner's prior written approval.
 32. Contractor shall defend the Engineer and Owner from all claims, suits, or proceedings brought against the Engineer or Owner and which arise or occur by reason of any alleged violation or violations of applicable law or regulation by Contractor or its Subcontractors in the performance of Work. Contractor shall indemnify and hold the Engineer and Owner harmless from liability or penalty imposed by reason of such alleged violation or violations of applicable law or regulation.
 33. If there is a conflict between any provision of the Contract and applicable law, the latter shall prevail; but, in such event, the provisions of the Contract affected shall be curtailed and limited only to the extent necessary to conform with applicable law.
 34. If a conflict between plan sheets and special provisions arise, the special provisions shall take precedence.
 35. The Contractor shall withhold 10% retainage from each invoice. The retainage will be paid out upon final completion of the contract.

SP-2 GENERAL

All work shall conform to the Ordinances and Regulations of the City of Geneva, the Illinois Environmental Protection Agency, and other regulatory agencies having jurisdiction over this project, the Standard Specifications, and these Special Provisions. Copies of the plans and specifications must be kept on the job site. Failure to comply with this provision shall be considered cause to stop the job.

All materials used in construction shall be certified as to type and quantity by ticket, invoice, or other written means from the source of supply, except as otherwise provided for by these Special Provisions.

All work shall be constructed in accordance with the limits as shown on the drawings or as given by the Engineer. Responsibility for keeping alignment shall belong to the Contractor. Limits shall be set by the Engineer as construction progresses. The Contractor shall use limit references, as established by the Engineer, to establish his own working or construction limits as required at his own expense and shall be solely responsible for the accuracy thereof. The Contractor's work shall be subject to check and review of the Engineer. The Contractor shall safeguard all property corners, monuments, and bench marks adjacent to but not related to the work, and if required shall bear the cost of restoring these if damaged or moved during construction.

Specified coating products shall meet the minimum volatile organic compound (VOC) content limits for Architectural Coatings as specified by the Architectural Coatings Rule found at 40 CFR Part 59 (Table 1) published September 11, 1998 by the United States Environmental Protection Agency.

Both The City of Geneva and Fehr Graham are to be named as additional insured on a primary not contributory basis on any permits or other documents required to be submitted.

SP-3 PRECONSTRUCTION CONFERENCE

Following the award of the Contract, the Contractor will be required to attend a Preconstruction Conference prior to beginning work. At this time, the Contractor will be required to furnish and discuss the following:

- Written progress schedule and beginning of work
- Names of Project Manager and Field Superintendent including the name and phone number of a responsible individual who can be reached 24 hours a day
- Names of subcontractors and material suppliers
- Traffic Control
- Temporary By-Pass Pumping
- Management of groundwater

- Phasing of the Work; Access to Residents; Completion Time; Restoration
- Trench backfill material, type and source, method and compaction equipment
- Documentation of excess material disposal
- Protection of pavement and property
- Location of construction trailer and materials.

SP-4 INCIDENTAL WORK

All work shown or called for on the Plans and in the Specifications shall be incidental to the various bid items in the Proposal even though a specific item is not shown, and no additional compensation shall be made to the Contractor, unless it is indicated in the Special Provisions that additional payment will be allowed, or a unit price is provided for said work in the Bid Proposal.

SP-5 SAFETY

Add the following paragraphs to Section 7.19 of the Standard Specifications:

“The general contractor, and all subcontractors employed on this project by the general contractor, shall at all times observe safe working conditions as outlined in the Safety and Health Regulations for Construction, Department of Labor, Bureau of Labor Standards, as published in Volume 36 Number 75 of the Federal Register dated Saturday, April 17, 1971; the Occupational Safety and Health Act of 1970 (PL 91-596) and the Rules and Regulations promulgated thereunder.”

“All subcontractors employed by the general contractor, shall also observe the provisions of the Illinois Occupational Safety and Health Laws.”

“The Contractor shall be responsible for the cost of any fines levied against the Owner or the Engineer due to the Contractor’s failure to comply with any safety regulations.”

SP-6 FINAL COMPLETION

The completion date is specified on page 3 of the Bid Form (00300-03). The Contractor shall complete all Work on or before the stipulated completion date, otherwise the Owner may proceed to collect liquidated damages described herein, and as per Section 8.11 of the Standard Specifications.

Liquidated damages shall also apply for the correction of any defective work lasting past the final completion date.

When a delay occurs causing stoppage of the Work due to unforeseen causes beyond the control and without the fault or negligence of the Contractor, including, but not restricted to acts of the public enemy, governmental acts, fires, floods, epidemics, strike, extraordinary delays in delivery of materials caused by strikes, lockouts, wrecks, freight embargoes, governmental acts, or acts of God, the completion date may be extended by the Owner.

An "Act of God" means an earthquake, flood, cyclone, or other cataclysmic phenomena of nature beyond the power of the Contractor to foresee or make preparation in defense against. Storms or other natural phenomenon of normal intensity, based on U.S. Weather Bureau reports, for the particular locality and for the particular season of the year in which the Work is being prosecuted, shall not be construed as an "Act of God" and no extension of Contract time will be granted for the delays resulting therefrom.

Rain shall be granted as a delay if more than 2.0 inches of rain per 24 hours is collected by Deuchler Engineering Corp.'s rain gage.

It shall be the responsibility of the Contractor to request in writing an extension of time for each delay event. Contractor shall make no claim against Owner, and no claim shall be allowed, for any damages which may arise out of any delay caused by Owner, its agents, employees or other contractors or Subcontractors. Contractor's sole remedy for delay from Owner shall be an extension in the Contract Time.

SP-7 HOURS OF WORK

The regular 8-hour day shall be considered to begin at 7:00 A.M. and end at 3:30 P.M. with a one-half (½) hour lunch period, or such other 8-hour period as may be mutually agreed upon by the Owner and the Contractor. It is further agreed that the regular 8-hour day, as established, shall apply to all subcontractors employed on the project.

No work will be permitted to start prior to 7:00 A.M. or after 8:00 P.M. on any day including the start up of heavy equipment, without prior approval from the Owner. The normal working day shall be Monday through Friday. Work on Saturday will be allowed only after formal permission from the Owner is obtained.

No work will be permitted on Sundays and/or Holidays.

At the request of the owner, this work may be conducted at night. If the work takes place at night, the "NIGHT WORK CONTINGENCY" pay item shall be paid to the contractor.

SP-8 WORK ON PRIVATE PROPERTY

The Contractor shall provide and hang notices on doors of all residences / businesses that will be affected by the repairs. Notices shall be distributed 48 hours in advance of the work. The Contractor shall include the contact information for the onsite foreman as the primary contact for affected

residents. The Contractor shall customize the notice to include the City of Geneva logo and contact information. The City shall review and approve the notice format and text at the beginning of the project prior to distribution. All work required for notification to residents shall be incidental to the contract.

The Contractor may have to access and dig on private property to properly excavate the trench. It is unknown if easements exist to enter said private properties for the rehabilitation of the sanitary sewer. It is the responsibility of the Contractor to coordinate construction activities with the property owners.

SP-9 NOISE RESTRICTIONS

All engines and engine driven equipment used for construction shall be equipped with a sound restrictor device to prevent excessive or unusual noise during normal work hours (7 a.m. to 5 p.m.). Construction operation performed between the period of 7:00 A.M. to 5:00 P.M. on weekdays and all weekends shall be limited to the maximum of 55 dBA noise levels at a distance of 23 feet from the equipment.

SP-10 ACCESS TO RESIDENTS AND BUSINESSES

Contractor shall provide access to residents and businesses at all times, except in an unavoidable circumstance where Contractor may limit the length of closure to four (4) hours during normal working hours, and shall notify the residents, business owners, Owner and Engineer a minimum of 24 hours in advance.

The Contractor shall not close any street or driveway without prior notification and consent of the controlling agency and shall provide at least twenty-four (24) hours notice to the affected residents and businesses. In-the-event of an emergency, the Contractor shall provide immediate access to closed driveways or streets. All work must be coordinated with the businesses whos service connection is directly affected.

The Contractor shall provide to residents, businesses and motorists twenty-four (24) hours advance notice of parking restrictions with appropriate signs and/or barricades placed meeting the approval of the Engineer and controlling agency.

If the Contractor does not provide access to residents and businesses within 3 hours of notification by the Owner, the Owner shall make the necessary arrangements to construct an access to said residence and/or businesses. The cost of such access work will be deducted from any monies due to or to become due to the Contractor.

SP-11 USE OF CITY WATER

The first sentence of Section 7.12, "Use of Fire Hydrants", of the Standard Specifications shall be

deleted and revised as follows:

The City will provide all water necessary for the project at no cost to the Contractor. The City will provide one hydrant meter for this project. The Contractor shall coordinate with the City for the hydrant locations and meter setup.

The Contractor must ensure that the meter / backflow prevention device is installed between the hydrant and the jet truck supply hose. Additionally, the Contractor's vehicle must have a fixed air gap, or one fabricated, in order to pass inspection. The Contractor will be held responsible for damages done to hydrants, water mains and other water appurtenances while securing water. Weekly meter readings are required to be provided to the Engineer.

SP-12 LOCATING OF EXISTING UTILITIES; NOTIFICATION TO UTILITIES

Locations of all utilities shown on the Plans are approximate and are not necessarily complete. The Contractor shall make his own investigations as to the locations of all existing underground structures, cables, and pipelines. Prior to construction, the Contractor shall contact all utility companies and arrange for location of any utilities they may have in the various areas.

The Contractor shall notify all utility companies (JULIE) including the local electrical, telephone, gas Cable T.V., City of Geneva, a minimum of 48 hours prior to beginning any construction or taking any preliminary borings. The Contractor shall then have the responsibility to determine from the public utilities the locations of underground pipes, conduits, or cables adjoining or crossing the construction area.

At the locations wherein detailed positions of these facilities become necessary to the new construction, the Contractor shall at his own expense, furnish all labor and tools either to verify and substantiate the record drawing locations or establish the position of the facilities.

SP-13 TRAFFIC CONTROL AND WORKSITE PROTECTION

The Contractor shall provide all temporary enclosures, coverings, etc. for protection of the work and workmen until completion of the work; and shall provide all barricades, guards, and overhead protection in connection with the work and maintain them in satisfactory condition so long as they shall be required.

While working on Rt. 38, the Contractor must adhere to the guidelines outlined in Division 700 of IDOT's *Standard Specification for Road and Bridge Construction (Adopted April 2016)*.

The Contractor shall provide and install any other protection required to properly safeguard the Owner's property, equipment, employees and the public, including obstruction lights, as required by conditions, on equipment or structures in connection with this Contract.

Barricades, lights, signs, arrow boards and flagmen shall be provided by the Contractor in

accordance with the Manual on Uniform Traffic Control Devices as printed by the Illinois Department of Transportation. Particular attention shall be given to Part VI, "Traffic Controls for Street and Highway Construction and Maintenance Operations". A copy of this document shall be in the possession of the Contractor on the job site at all times. It shall be the responsibility of the Contractor to follow the procedures on traffic control contained therein at all times.

At the preconstruction meeting the Contractor shall furnish the name of the individual in his direct employ who is to be responsible for the installation and maintenance of the traffic control for this project. If the actual installation and maintenance are to be accomplished by a subcontractor, approval of said subcontractor shall be obtained from the owner at the time of the preconstruction meeting. This shall not relieve the Contractor of the foregoing requirement for a responsible individual in his direct employ to supervise this work. The Contractor shall provide a manned telephone on a continuous 24-hour-a-day basis to receive notification of any deficiencies regarding traffic control and protection and shall dispatch men, materials and equipment to correct any such deficiencies. The Contractor shall respond to any call from the Owner concerning any request for improving or correcting traffic control devices and begin making the requested repairs within two hours from time of notification.

The Contractor shall be responsible for the proper location, installation, and arrangement of all traffic control devices. Special attention shall be given to advance warning signs during construction operations in order to keep lane assignment consistent with barricade placement at all times. The Contractor shall ensure that all traffic control devices are operational 24 hours a day, including Sundays and Holidays.

Traffic control and protection shall not be limited to the Public right-of-way, but may also be used on private properties, if necessary, upon written authorization from property owner.

Traffic Control and Worksite Protection shall be incidental to the contract.

SP-14 PROTECTION OF PROPERTY AND SURFACE STRUCTURES

The Contractor shall be responsible to take all necessary precautions to prevent surcharging or any other damage to private residences / businesses. Any damage to public or private property shall be the sole responsibility of the Contractor. Any repairs, restoration, or cleaning that is necessitated by project shall be the sole responsibility of the Contractor and shall not be paid for separately.

The Contractor is also responsible for any damage caused by their vehicles, including ruts in unpaved areas.

Shrubbery, fences, poles and all other property and surface structures not in direct conflict with the pipe laying operations shall be protected during construction operations. Any fences, poles or other manmade surface improvements not in direct conflict with the pipe laying operations which are moved or disturbed by the Contractor shall be restored to the original conditions, after construction is completed, at the contractor's expense. Any shrubbery or other vegetation beyond the limits of the right-of-way lines, easements, or construction limits shown on the Plans which are removed in

order to facilitate construction operations shall be removed completely, including stumps and roots, by the Contractor and shall be replaced by the same species and size at no additional cost to the Contract. Responsibility for any damage or claims for damage caused by construction operations to shrubbery or other landscape improvements shall be assumed by the Contractor.

The Contractor is responsible for back filling the excavation to grade, spreading of pulverized topsoil, and cleaning the area of work.

SP 15 PRECONSTRUCTION SURFACE VIDEO RECORDING

The Contractor shall prepare pre-construction video documentation of all features in the areas affected by construction, including areas adjacent to the right-of-way and construction easements. All video cameras, recorders, tapes, accessories and appurtenances shall be high quality and submitted via USB 2.0 portable hard drive. Pre-construction video documentation shall consist of a series of high-resolution color audio-video tapes showing all areas affected by construction.

All pertinent exterior and interior features within the construction's zone of influence shall be shown in sufficient detail to document its pre-construction condition. Features to be shown shall include but not be limited to pavements, curbs, driveways, sidewalks, retaining walls, mailboxes, buildings, landscaping, trees, shrubbery, fences, light posts, signs, interior features and equipment, etc. Viewer orientation shall be maintained by audio commentary on the audio track of each videotape to help explain what is being viewed. The pre- construction videotaping shall be completed after the initial walkthrough and two copies of the tape(s) submitted to the City of Geneva before commencing with any construction activities, including material delivery. This work shall be included in the cost of the contract. The videos shall be submitted via hard drive and must be playable on windows media player and VLC.

SP 16 GRASS RESTORATION

All grass areas that are disturbed due to installation of the new sanitary sewers shall be restored in accordance with Articles 21-2.05 of the Standard Specifications and with the details shown on the Plans. The work shall include the grading of trench backfill material, the spreading of pulverized top soil, the grading to obtain positive drainage, fertilizing, seeding, installing loose straw blanket, stabilizing with hydraulic mulch.

- Seed mix with 25% increased rate:
- 24.93% ASAP Perennial Ryegrass
 - 24.46% Caddieshack Perennial Ryegrass
 - 24.33% Goalkeeper Perennial Ryegrass
 - 12.37% Geronimo Kentucky Bluegrass
 - 12.29% Kentucky Bluegrass
 - 1.34% Inert Matter
 - 0.28% Crop
 - 0.00% Weed

The Contractor shall replace all topsoil to the depth as it now exists. If the topsoil is less than 6" thick, the Contractor shall provide additional top soil so that a minimum of 6" is replaced. The Contractor shall seed all disturbed grass areas.

Each resident/business shall be responsible for watering after the application.

Grass restoration shall be incidental to other pay items and shall include all items identified in this special provision.

SP-17 COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT

This item shall include all labor, equipment, and material necessary for the removal and replacement of combination concrete curb and gutter in accordance with the applicable portions of Sections 606 and 440 of the "Standard Specifications" at the locations as designated by the plans or as directed by the Engineer. This item shall include the removal of the existing concrete curb and gutter and roadway necessary to install new combination concrete curb and gutter, of the same type as removed, or Type B-6.12, as directed by the Engineer. All new curbs shall be placed on a three inch (3") sub-base of coarse aggregate material gradation CA-6, which shall be considered incidental to this item. The aggregate sub-base shall extend to a point six inches (6") beyond the back of curb. Hot Mix Asphalt replacement will be required as a result of this work and shall be considered incidental to this item, 3" or as specified.

Curb and Gutter replacement shall be incidental to the contract, of the size and class specified, which shall include excavation, bedding, backfill, compaction, testing, and all other appurtenances.

SP-18 SIDEWALK (BRICK PAVER OR PCC) REMOVAL AND REPLACEMENT

This work includes furnishing all materials, equipment and labor necessary to remove and install P.C. Concrete Sidewalk at locations indicated by the Engineer and in accordance with Section 424 and Section 440 of the "Standard Specifications."

All sidewalks except driveway sidewalks shall match the current condition and thickness. All residential driveway sidewalks shall be six inches (6") thick and reinforced with 6" X 6" #10/ #10 welded wire fabric. All sidewalks through alley and commercial aprons shall be eight inches (8") thick with 6" X 6" #10/ #10 welded wire fabric. The additional concrete and fabric shall be considered incidental to the cost of this item. All sidewalks shall be placed on a three inch (3") thick sub-base aggregate material meeting Gradation CA-6, which shall be considered incidental to this item.

All sidewalks shall be installed with a 1/4 inch per foot slope toward the street. Sidewalk elevations shall be set so as to maintain a slope of 1/2 inch per foot between the sidewalk and to top of the curb

whenever possible. Ramps for the handicapped shall be installed at all intersections as per State Standards.

Under no circumstance shall the Contractor stamp their name, phone number, or any other information in newly constructed concrete work.

All removal of sidewalk must be approved by the Owner or Engineer on site during construction. The cost of removing and replacing sidewalk shall be incidental to the Chimney Rehabilitation pay item. This shall include all saw-cutting and disposal of material as needed and all other incidental items required complete the work. All saw cutting shall be completed using a wet saw to control dust.

SP-19 TREE PROTECTION

The Contractor shall protect existing trees and other vegetation to remain in place against cutting, breaking or skinning of roots, skinning or bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within the root zone, excess foot or vehicular traffic, or parking of vehicles within the root zone. To accomplish this, the Contractor shall provide temporary fencing to protect said trees as shown on the Plans. Any tree roots cut during excavation shall be compensated for by trimming the upper tree branches, as directed by a certified Landscape Tree Consultant approved by the Owner.

Contractor shall erect a temporary fence at tree locations around the construction area, as necessary or as directed by the Engineer. The fence shall be similar to wood lath snow fence (48 inches) high, plastic polytype or any other type of highly visible barrier approved by the Engineer. The fence shall be supported by steel posts spaced not more than six (6) feet on center. This fence shall be properly maintained and shall remain in place until all improvements and surface restoration have been completed, unless the Engineer directs removal otherwise. All costs of this work shall be incidental to the various unit prices bid.

SP 20 ROCK EXCAVATION

No rock excavation is anticipated on this project. If rock excavation is required, payment shall be made at the unit price per cubic yard of \$100.00 and in accordance with Article 20-5.01 of the Standard Specifications. Blasting will not be permitted.

SP-21 SOIL EROSION AND SEDIMENT CONTROL

The erosion and sediment control measures shall be in accordance with the most recent edition of the Illinois Urban Manual and the standards and ordinances of the local, state and/or federal government agencies having jurisdiction over such matters. The Contractor is responsible for the for the proper implementation of, and compliance with the Storm Water Pollution Prevention Plan (SWPPP). Upon award of the contract, the Contractor must immediately submit all necessary paperwork with the IEPA modifying the Notice of Intent (NOI) and the SWPPP. The

Contractor is responsible for all monitoring, maintenance and reporting required by the State of Illinois and any local governmental subdivisions. Please refer to the Special Provision regarding Site Clearing and Grubbing requirements.

1. Dewatering:

- a. Dewatering may be required to construct this project. The Contractor shall provide Dandy Products from each individual trash dewatering pump placed in or along the trench, unless other acceptable methods are approved by the Engineer.
- b. Approval of the groundwater control method plan from the Engineer, as set forth in Section 20-4.04 of the Standard Specifications, will be required before construction starts. In order to obtain approval, acceptable means of erosion control shall be provided at the discharge point of each dewatering well or discharge pipeline system such as but not limited to silt basins, rock dams, etc. or a combination of such devices, if needed. As a minimum, the erosion and sediment control measures shall be in accordance with the latest editions of the IEPA's Standards and Specifications for Soil Erosion and Sediment Control and the Illinois Urban Manual.

2. Storm Inlet Protection

- a. This system consists of a filter cloth installed across the opening of inlets (beneath the frame grate) to interceptor water borne silt and prevent the siltation of storm water structures and pipes. Storm drain inlet protection shall be installed at all storm water structures having open grates within the construction area.
- b. The Contractor shall be required to address any and all concerns of the City and to correct any deficiencies to the erosion control facilities immediately upon notification.
- c. Contractor shall be required to remove, replace, and clean the erosion control facilities, during the course of the project, so as to keep same in acceptable working condition. All erosion control facilities shall be checked by the Contractor on a weekly basis and after each rain event of 1/2" or greater magnitude. Upon completion of the improvements, the Contractor shall remove all erosion and sediment controls installed and restore the areas to their original condition.

3. Silt Fence

- a. This system consists of a continuous barrier adjacent to the area of construction to intercept water borne silt and prevent it from leaving the area of construction. The barrier shall be of sufficient length and height to capture all construction runoff. The silt fence shall be supported on posts at least 3 ft. in length and spaced on 10 ft. centers maximum. The fabric shall be embedded a minimum of 8 inches into the ground and shall be securely attached to the posts by any approved method. Silt fence shall be installed as shown on the Plans.

Contractor shall be required to remove, replace, and clean the erosion control facilities, during the course of the project, so as to keep same in acceptable working condition. All erosion control facilities shall be checked by the Contractor on a weekly basis and after each rain event of 1/2" or greater magnitude. Upon completion of the improvements, the Contractor shall remove all erosion and sediment controls installed and restore the areas to their original condition.

The compliance and maintenance of soil erosion and sediment control shall be incidental to the contract. This item shall include all forms and compliance actions to meet the satisfaction of the Owner and other governing agencies.

SP-22 RECORD DRAWINGS

The Contractor shall keep one (1) record copy of all Specifications, Drawings, Addenda, Modifications and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. These documents shall be kept current at all times and will be subject to the Engineer's review prior to approval of partial payments. These shall be available to the Engineer and shall be delivered to him for the Owner upon the completion of the Project. The Contractor's request for final payment will not be approved until said "record drawings" have been delivered to the Engineer.

The Contractor shall provide level, rod, etc. and laborer in assisting Engineer to verify changes.

SP-23 PRE-CONSTRUCTION CLEANING AND TELEVISIONING

General

This section governs all work required for sewer cleaning and sewer inspection by closed circuit televising done in preparation for cured-in-place pipelining, and grouting. Cleaning and televising shall be performed on the entire section of sewer between upstream and downstream manhole structures and shall be completed to the industry standard of 95% clean.

Notice to Residents

The Contractor shall provide and hang notices on doors of all residences / businesses with service lines connected to sewer mains to be cleaned. Notices shall be distributed 48 hours in advance of the work. The Contractor shall include the contact information for the onsite field supervisor as the primary contact for affected residents. The Contractor shall customize the notice to include City of Geneva logo and contact information. The notice shall be written in both English and Spanish. The City shall review and approve the notice format and text at the beginning of the project prior to distribution. All work required for notification to residents shall be incidental to the contract.

Damage to Property

The Contractor shall be responsible to take all necessary precautions to prevent surcharging or other damage to private residences / businesses. Any damage to public or private property caused by the cleaning or televising operation shall be the sole responsibility of the Contractor. The Contractor

shall be responsible for cleaning needed as the result of sewer backups caused by the jetting operation. any repairs, restoration, or cleaning that is necessitated by project shall be the sole responsibility of the Contractor.

Equipment

The Contractor is responsible to provide and maintain all industry-standard equipment required to complete the project. Each crew shall have a vacuum / jetter combination truck equipped with a high velocity gun for washing and scouring manholes and a TV truck capable of seating a minimum of 4 people including the City and Engineer. For easement work, the Contractor shall be required to have off-road equipment as necessary to access off-street sewer areas.

A camera-mounted locating sonde, capable of operation at depths up to 20 feet, shall be required to be available each day to locate buried manholes and other defects as required by the Contract and / or as directed by the City. To accomplish the work in a timely manner, it is anticipated that two (2) complete crews will be needed for some duration of the project.

Each vactor truck must be equipped with a flexible hose in order to reach manholes located at a maximum distance of 8 feet off the edge of pavement.

If any equipment gets stuck in the sewer and needs to be dug up, the Contractor is solely responsible for the cost of the dig, complete restoration and repair of sewer and any other costs associated with the retrieval of the equipment.

1. Hydraulic Sewer Cleaning Equipment Requirements:

- a. Hydraulic sewer cleaning equipment shall be the movable dam type constructed such that a portion of the dam may be collapsed during cleaning to prevent flooding of the sewer.
- b. The movable dam shall be the same diameter as the pipe being cleaned and shall provide a flexible scraper around the outer periphery to ensure total removal of grease.
- c. The Contractor shall take special precautions against flooding prior to using sewer cleaning balls or other equipment that cannot be collapsed instantly.

2. High Velocity Hydro-Cleaning Equipment Requirements:

- a. A minimum of 700 feet of high pressure hose.
- b. Two or more high velocity nozzles capable of producing a scouring action from 10 degrees to 45 degrees in all size lines to be cleaned.
- c. A high velocity gun for washing and scouring manhole walls and floor with the capability of producing flows from a fine spray to a long distance solid stream.
- d. A 1,500-gallon minimum water tank, auxiliary engines and pumps, and a hydraulically driven hose reel.

- e. Equipment operating controls located above ground.
- f. Minimum working pressure of 1,000 pounds per square inch at a 50 gpm rate.

3. Mechanical Cleaning Equipment Requirements:

- a. Bucket Machines:
 - 1) Furnish with buckets in pairs and with sufficient dragging power to perform the work efficiently.
 - 2) Use V-belts for power transmission or have an overload device. No direct drive machines will be permitted.
 - 3) Be equipped with a take up drum and a minimum of 500 feet of cable.
- b. Rodding Machines:
 - 1) Either sectional or continuous.
 - 2) Hold a minimum of 750 feet of rod.
 - 3) The rod shall be specifically heat-treated steel.
 - 4) The machine shall be fully enclosed and have an automatic safety throw out clutch or relief valve.
- c. Lumberjack & Impact Cutters
 - 1) Lumberjack high speed low torque multi-purpose cutters
 - 2) Speeds up to 50,000 rpm
 - 3) Paikert low-speed, high-torque auger cutter

4. Closed Circuit Television Equipment

- a. Television equipment shall include television camera, television monitor, cables, power source, lights and other equipment necessary to the televising operation. The television camera shall be specifically designed and constructed for operation in connection with sewer inspection and pipe joint sealing and testing. A camera-mounted locating sonde, capable of operation at depths up to 20 feet, shall be required to be available each day to locate buried manholes and other defects as required by the Contract and / or as directed by the City.
- b. Camera and lighting quality shall be suitable to provide a clear, continuously in-focus picture of the entire inside periphery of the sewer pipe for all conditions encountered during the work. The camera shall be able to operate efficiently in 100% humidity conditions.
- c. The TV camera shall have a rotating head with a high-resolution lens, capable of spanning 360-degrees circumference and 270-degrees on horizontal axis to televise sewer lines 6-inch diameter and larger. Focal distance shall be adjustable through a range of 1 inch to infinity. The purpose of the rotating head camera is to view all service connections, and to locate all defects, as well as any questionable problem areas. The camera shall be zoom capable.
- d. The TV camera shall be equipped with remote control devices to adjust the light intensity and at a minimum one thousand (1,000) feet of continuous cable shall be provided. The camera shall be able to transmit a continuous image to the television

monitor as it is being pulled through the sewer segments. Lighting system shall be adequate for quality pictures. A reflection in front of the camera may be required to enhance lighting.

- e. For manholes that may be difficult to access or where lamp holes are present in the place of manholes, the Contractor shall have available a self-propelled crawler transporter on which to mount the color television camera so as to be able to inspect the sewer as required.
- f. The TV camera shall be able to provide a continuous image of not less than ninety fivepercent (95%) of the internal pipe surface at all times for sewers 8" through 18" in diameter and not less than eighty percent (80%) of the internal pipe surface for sewers over 18" through 48" in diameter. Maximum acceptable speed of camera through sewer shall be thirty (30) feet per minute.
- g. The camera, television monitor and other components of the video system shall be capable of producing a minimum 500 line resolution color video picture.
- h. Electronic media shall visually display and include a narrative noting:
 - 1) Date, time of day, and depth of flow;
 - 2) Sewer segment number "from manhole to manhole";
 - 3) Distance from upstream manhole'
 - 4) Locations of service connections into sewer;
 - 5) Location of obstructions, structural defects, joint deterioration, leakage or evidence thereof, and other abnormalities with respect to the sewer condition and distance in feet from the upstream manhole centerline.
- i. The remote reading footage counter shall be accurate to two-tenths of a foot over the length of the particular section being inspected and shall be mounted over the television monitor. At the ENGINEER'S discretion, the CONTRACTOR shall provide an above-ground verification of the counter's accuracy if requested.
- j. Digital images should be provided in the common format accessible by Windows Media Player and VLC Media Player viewable in a continuous format.

Sewer Cleaning

The sewer manhole sections designated for Sewer Cleaning shall be cleaned using hydraulically propelled, high-velocity jet, or mechanically powered equipment. Selection of the equipment used shall be based on the conditions of the sewer lines at the time the work commences. The equipment and methods selected shall be satisfactory to the Engineer. This item shall include the cleaning of sewer and adjacent manholes, and shall consist of root cutting, removal of dirt, grease, rocks, sand and other materials and obstructions from sewer lines and manhole troughs. If cleaning of an entire section cannot be successfully performed from one manhole, the equipment shall be set on the other manhole and cleaning again attempted. Should dirt or debris be observed and/or detected, in a manhole or sewer after cleaning, the Contractor shall re-clean said manhole and the adjacent downstream sewer segment(s) at no additional cost.

The Contractor shall perform all work in accordance with the latest OSHA confined space entry regulations.

Satisfactory precautions shall be taken to protect the sewer segments and sewer manholes from damage that might be inflicted by the improper use of cleaning equipment. Whenever hydraulically propelled cleaning tools, which depend upon water pressure to provide their cleaning force, or any tools which retard the flow of water in the sewer segment are used, precautions shall be taken to ensure that the water pressure created does not cause any damage or flooding to public or private property being served by the sewer segment involved.

The use of a vactor truck or debris catcher is required in each downstream manhole to remove the debris and prevent it from passing further downstream.

If conditions such as broken pipe and major blockages are encountered that prevent cleaning from being accomplished or where damage would result if cleaning were attempted or continued, the Contractor shall immediately notify the Engineer. The Engineer shall be notified of any conditions which warrant termination of cleaning activities.

Heavy Cleaning

Heavy cleaning shall be required where it has been determined that large deposits of debris remain in the sewer lines and complete cleaning of the segment would require more than the industry standard three (3) passes through the line with high pressure water jetting equipment. The heavy cleaning equipment to be used shall facilitate the removal of such accumulation of sediment, debris, blockages, mineral deposits, bricks, grease, etc. The pipe must be free flowing with no obstructions, in order to permit a thorough and complete examination of the condition of the sewer through internal closed-circuit color television inspection.

Bucket machines, rodding machines, lumberjacks, augers and 120 gpm or higher hydro jetting equipment can be utilized in this heavy-duty cleaning. Where bucket machines and buckets are to be used, caution should be taken that a proper sized flexible cable be used so that breakage will not occur hanging the cleaning equipment up within the sewer lines. No debris shall be allowed to pass into downstream segments during the cleaning operation.

The video inspection must begin before the heavy cleaning takes place, in order to get visual confirmation of the initial pipe condition.

Heavy cleaning will be considered incidental to this Contract item and will not be paid for separately.

Root Cutting

Root cutting shall be required where it has been determined that root growth is substantial and cutting would be required to facilitate a thorough and complete examination of the condition of the sewer through internal closed-circuit color television inspection.

The root cutting tools shall be the industry standard concave saws, flat saws, water blasters or chain knockers and shall be carefully selected to ensure no damage is caused to the sewer main or any portion of the lateral including protruding laterals. Extreme caution should be taken when operating root cutters in the sewer and a video inspection shall be on the root cutter at all times to ensure damage is not caused from root cutting.

Root cutting will be considered incidental to this Contract item and will not be paid for separately.

Cut Protruding Taps

For break-in service connections that protrude more than one inch into the sewer, the Contractor shall remove the protruding portion of the tap in preparation for cured-in-place pipelining, grouting or other rehabilitation work. Cutters used shall be power-driven cutting devices (lateral cutters) designed to remove protruding taps. Cutters shall be capable of slicing laterally through cast iron, 3/4" rebar and anchors, clay tile, and concrete protruding into sewer lines.

The Contractor shall cut protruding taps so that protrusions are no greater than 1/2 inch. While using a protruding tap cutter, slow RPM will cut more effectively than rapid RPM. The Contractor shall maintain a steady flow and RPM while cutting and shall hydro-flush cut and broken pieces out of the sewer before proceeding to the next protruding tap. The TV operator shall pan up the service before the tap is cut to show the existing conditions of the service. All tap cutting shall be performed during televising operations. After the tap is cut, the TV operator shall pan up the service to show the extents of the cutting. If a protruding tap cannot be removed by the cutting device, then the Engineer shall be notified to determine if a point repair will be necessary. Obtain authorization from the Engineer before proceeding.

Cutting protruding taps will be considered incidental to this contract item and shall not be paid for separately.

Debris Removal and Disposal

The Contractor shall remove all sludge, dirt, sand, rocks, grease and other solid or semisolid material resulting from the cleaning operation from the downstream manhole of the sewer segment being cleaned prior to beginning television inspection. Passing material from sewer segment to sewer segment shall not be permitted. In the event that sludge, dirt, sand, rocks, grease and other solid or semisolid material resulting from the cleaning operation are observed and/or detected, as passing to downstream sewer segment(s), the Contractor shall clean such sewer segment(s) at no additional cost.

Debris catchers or baskets will be required to be set in the channel of the downstream manhole during all cleaning operations. Additionally, a "Vactor" or similar vacuum truck must be onsite during all cleaning operations and will be required to be setup on the downstream manhole to pull debris out of the sewer during all cleaning operations. As the sewer jet or other cleaning equipment is in use, the vacuum equipment shall be running in order to prevent debris from moving further downstream. The use of the vacuum truck does not constitute heavy cleaning.

When bucket machines are being used, a suitable container shall be provided to receive the materials dumped from the buckets. The Contractor at his discretion may use an approved container (roll off) for the storage of debris removed from the line segments. All material resulting from the cleaning operations shall be removed from the site when the container has reached 3/4 of its volume, or at least once each working day and disposed of at the permitted disposal site.

Disposal of all sewer debris shall be the responsibility of the Contractor and shall be done in accordance with the Illinois Environmental Protection Agency (IEPA) and all other regulating

agencies. Under no circumstances shall the removed sewage or solids be dumped onto streets or into ditches, catch basins, storm drains, sanitary, combined sewer manholes or otherwise improperly disposed. Improper disposal of sewage or solids removed from the sewers may subject the Contractor to fines imposed by the City. In addition, the Contractor may be subject to civil and/or criminal penalties for improper disposal under the law.

Removal and disposal of all sewer debris shall be incidental to this Contract item and will not be paid for separately.

All dirt, debris, roots and other material removed from the **sanitary sewers** shall be hauled away by the Contractor to a dump site **furnished by the City at no additional cost (located at 584 Kautz Road, Geneva IL)**.

Internal Closed-Circuit TV Inspection

The Inspection of sewer lines by CCTV shall be performed on all lines prior to and after all rehabilitation work by trained experienced PACP certified personnel. The Contractor shall take all necessary measures to televise the internal surface of each sewer segment in its entirety.

The Contractor shall furnish all labor, electronic equipment and technicians schooled and licensed in PACP 7.0.3 format, to perform the closed-circuit television inspection of the sewers. Operation of the equipment is to be controlled from above ground with a skilled technician at the control panel in the television studio, controlling the movement of the television camera through the sewer in either direction one segment at a time.

The video operator(s) shall be Pipeline Assessment Certification Program (PACP) certified by the National Association of Sewer Service Companies (NASSCO) and will be required to show proof of PACP ID or certification before performing work on this project. Certification dates must be current including renewal every three years. Operators with expired PACP ID numbers will not be allowed to work on the project until they have undergone the renewal process. The Contractor shall provide copies of each equipment operator's Certification Number at the preconstruction conference.

The Contractor shall begin each inspection with an onscreen written and verbal explanation of the project name, a detailed description of the location, the manhole to manhole segment, the direction of flow, the direction of camera setup and date. The depth (rim-invert) measurement of each manhole shall be recorded on the PDF report as well. A continuous footage counter shall be provided during the entire inspection, and shall be used to accurately record the locations of defects, connections, or objects in the pipe. The counter shall be accurate to two tenths of a foot. Maintain verbal commentary to identify any item that is called out on the report.

All inspections shall begin and end in the center of the manhole. The start of the video shall NOT begin already in the pipe segment. At the end of each inspection, the Contractor shall pan the camera around the ending manhole to get a view of what it looks like for identification purposes as well as documenting all incoming pipes.

The camera shall be moved through the line in either direction at a uniform rate of 30 feet per minute, stopping when necessary to ensure proper documentation of the sewer's condition. The Contractor shall take all necessary measures to televise 95% of the internal surface of each sewer

segment in its entirety. If dewatering with the jet truck is required to see 95% of the pipe, this shall be done at no additional charge to the City. Lighting system shall be adequate for quality pictures. A reflection in front of the camera may be required to enhance lighting.

If any obstruction in the sewer segment such as a protruding building lateral prohibits the passage of the television camera, the Contractor shall remove the protruding portion of the tap, and shall complete the inspection of the sewer. In case the Contractor must abandon the survey due to any obstructions in the sewer segment that cannot be removed, the Contractor shall attempt to inspect the remainder of the sewer segments by making a reverse set up at the next downstream manhole. No additional payment shall be made for reverse setups. Reverse set ups shall be easily distinguishable from ordinary setups, and must be labeled as such in the header of the PDF report.

All obstructions in the sewer segment that prohibit passage of the television camera shall be immediately reported to the Engineer by the Contractor referencing the location and nature of the obstruction.

The jetter nozzle shall accompany the camera at all times. This will ensure that the maximum area of pipe is visible.

The Contractor shall be responsible for any damage to public or private property resulting from televising activities and shall repair or otherwise make whole such damage at no cost to the City.

Digital Video & Report Deliverables

Electronic media of all sections shall be provided to City together with the respective television inspection reports. TV reports shall legibly show the location of each point of significance in relation to an identified manhole. Points of significance are, but not limited to the following: private service connections, unusual conditions, roots, storm sewer connections, sags, grease, broken pipe, presence of scale and corrosion, structural failures and other discernable features.

The Contractor shall provide a color digital video of all pipe line segments in “.mpeg” format on four (4) external hard drives with USB 2.0 connections. **Each video shall be named according to the “upstream manhole number – downstream number.mpg” format. For example, a pipe segment video with an upstream manhole of 12345 and downstream manhole 67890 would be named “12345 - 67890.mpg”.** Separate MPEG files and PDF reports shall be created for each manhole to manhole pipe segment inspected.

Video recordings shall be one file per sewer line section and shall be included on the external hard drives submitted. Total drives submitted for final acceptance at the end of the project shall be three (3).

All video files shall be viewable on both VLC Media Player and Windows Media Player in a continuous manner.

The hard drives shall include a master Excel spreadsheet with hyperlinks to each video file and associated PDF report as well as a master digital database of all observation data. Two (2) copies of the digital video data and logs shall become the property of the City.

- The Master Spreadsheet shall have a record for each line segment televised to date. The spreadsheet shall be in MS Excel format and shall have hyperlinks to both the video files and the associated “.pdf” of the PACP & Pipe Segment View report for each section of sewer televised. The spreadsheet shall include the following information for each record - Upstream and Downstream Structure Numbers, Date Televised, Televised Length, Pipe Size, work performed, and links to both the Video and the “.pdf” report files.
- The Database in PACP 7.0.3 format shall detail location, type, and severity of all defects and shall be Microsoft Access V07 Database files with all tables linked by appropriate I.D. numbers, and links to video and “.pdf” report files. **All data shall be linked to the pipe segment ID number.**

The pipeline inspection shall consist of identifying a location both within the pipe segment (physical location) and within the digital recording (video frame location) for each defect or observation. The use of time codes for defect location shall NOT be deemed equivalent or acceptable. The digital recording and inspection data is to be cross-referenced for instant access to any point of interest within the digital recording. The inspection information shall include the digital recording of video and audio, segment identification information (starting manhole, date, time, etc.) including a pointer from each observation to the digital recording (video frame number), and any accompanying digital still images (JPEG or BMP).

Any out-of-focus video recordings, or portions thereof, shall be cause for rejection of the video recording and will necessitate re-televising at the Contractor’s expense. Televising shall be done one section at a time. Inspections shall be performed using NAASCO’s PACP version 7.0.3. The sewer pipe video inspection reports must be saved with the PACP overview report.

Audio and video observation documentation is to be provided in NASSCO PACP (V7.0.3) coding methodology database. The PACP Version 7.0.3 data base shall include all header information as well as any observations recorded. Links to the videos and the “.pdf” format of the reports shall be included within the data base. This data base shall be updated monthly and shall contain every observation from the beginning of the project through current delivery date.

The deliverable video files shall be full-color, high-resolution, and shall include all pipe surfaces above the water line. At each lateral and connected **service line**, the camera shall stop, rotate, and record a clear image of the lateral or service line to determine condition and if it is active or inactive. The inspection and database shall be fully compatible with PACP V 7.0.3 format.

Contractor shall record inspection in a PACP format. Video recordings and inspection shall visually display and include a narrative noting:

1. Date, time of day, and depth of flow
2. Sewer segment number "from manhole to manhole"
3. Direction of Flow
4. Distance from upstream manhole'
5. Locations of service connections into sewer;

6. All other information encountered during the inspection i. e obstructions, structural defects, leakage, sags, collapses etc.

The television inspection reports shall be provided both electronically in Adobe Acrobat Reader “.pdf” format as well as two bound hardcopies of the printed paper report. The file naming format shall follow a similar format to the video naming format. **Each inspection report shall be named according to the “upstream manhole number – downstream manhole number.pdf” format. For example, a pipe segment with an upstream manhole of 12345 and downstream manhole 67890 would be named “12345 - 67890.pdf”.**

The final report files, in paper and electronic “.pdf” formats, shall include a still shot image of every observation. These detailed reports shall include the following information at a minimum:

- Project Name
- System Owner Name
- Survey Customer Name
- Contractor Name, Phone Number & Address
- Surveyor’s Name & PACP Certification Number
- Date and Time of Televising
- Location (Street Name and Number)
- Address (nearest to each manhole)
- Rim to Invert Measurements (for both Upstream & Downstream Manholes)
- Pipe Segment ID Number
- Upstream Manhole Number & Downstream Manhole Number
- Drainage Area
- Weather
- Segment Length
- Joint Length
- Pipe Material
- Pipe Height (and Width if not Circular)
- Total Pipe Length
- Total Length Surveyed
- Flow Control
- Tape/Media Number
- Pre-Cleaning / Cleaning method
- Pipe condition observations (i.e. grease, roots, deposits, cracks, fractures, sags voids etc.)
- Location of all service connections (description of active vs. inactive)
- Location of all manholes
- Still shot photos of each observation
- NASSCO – Structural, O&M and Overall Ratings

Measurement:

The Contractor shall measure from center of upstream manhole to center of downstream manhole.

Basis of Payment:

Sewer cleaning and television inspection in preparation for rehabilitation work shall be paid for at the Contract Unit Price per Linear Foot for PRE-CONSTRUCTION CLEANING AND TELEVISIONING and PRE-CONSTRUCTION CLEANING AND TELEVISIONING, RAILROAD SEGMENT and shall include all labor and material required for cleaning sanitary sewer prior to liner installation, including all cleaning, televising, root cutting, removal and disposal of debris, removal of mineral deposits and sewerage solids, and all appurtenances required to complete the work.

SP-24 PRE-CONSTRUCTION CLEANING AND TELEVISIONING, 15" RAILROAD SEGMENT

All details and specifications required for CURED IN PLACE PIPELINING shall apply the same to CURED IN PLACE PIPELINING, 15" RAILROAD SEGMENT.

This special provision covers the sewer segment that runs beneath the Union Pacific Railroad.

The City has obtained an Agreement with Union Pacific for the work to be conducted. The permit shall be present with the contractor while working on the segment at all times. The Agreement is included with the bid documents.

The Contractor is responsible for following all protocols outlined in the permit and agreement. This includes proper notification prior to the start of work for the project, or a given day.

The Contractor is responsible for coordinating with RailPros on this segment as well. RailPros is required by Union Pacific to flag and observe the work conducted. The Contractor will be responsible for payment to RailPros for the flagging and observing services. This cost shall be included in the bid price, and will not be compensated for separately. A copy of the RailPros rate structure is included within these bid documents.

Basis of Payment:

Sewer cleaning and television inspection in preparation for rehabilitation work shall be paid for at the Contract Unit Price per Linear Foot for PRE-CONSTRUCTION CLEANING AND TELEVISIONING, 15" RAILROAD SEGMENT and shall include all labor and material required for cleaning sanitary sewer prior to liner installation, including all cleaning, televising, root cutting, removal and disposal of debris, removal of mineral deposits and sewerage solids, and all appurtenances required to complete the work.

SP-25 LATERAL CLEANING AND TELEVISIONING

Description: Contractor shall furnish all equipment, supplies, and personnel to perform cleaning and internal television inspection of sanitary laterals. Each lateral receiving a T-Liner shall be cleaned and televised prior to lining. The purpose of the lateral televising is to record the before lining

conditions and ensure that the lateral will be able to receive the liner. Lateral televising is limited to the amount necessary to ensure the proper installation of the designated length of liner. For properties requiring additional lateral TV in preparation for either a full-length T-Liner or additional lateral liner, the Contractor shall televise the additional lateral footage necessary for additional liner.

All data shall be collected per NASSCO specifications using current PACP and LACP codes and NASSCO trained and certified inspectors. Prior to start of inspections, Contractor shall provide crew training and certification documentation.

Locate all service lateral connections along the main line per PACP, including the modifiers capped, live, break-in, etc. Only direction of flow, direction of survey, start and end point information, and service lateral connections (their type, clock position, modifiers, and distance from manhole) need to be coded – no other main line pipe observations require identification.

Contractor shall perform lateral televising from the main or manhole first. Any lateral that can clearly be seen as capped or not receiving a T-liner is not to be inspected. If a blockage is encountered during inspection of the lateral, televising will be attempted from upstream structure such as cleanout. If televising cannot be complete from the main or cleanout the Contractor shall notify the Engineer.

At any time, if a collapse, cross bore, or other significant defect type is encountered in the lateral, the TV operator will immediately notify the Engineer and the City of the observation.

In accordance with Pre-Construction Cleaning and Televising, debris catchers or vacuum trucks shall be used at the downstream manhole during all cleaning operations. All dirt, debris, roots and other material removed from the sewers shall be hauled away by the Contractor to a dump site furnished by the City at no additional cost. Under no circumstances shall solids or semi-solids removed from the sewers be dumped into the street, catch basin, or manhole. For mainline televising the Pre-Cleaning and Televising specification govern the work and deliverables.

Temporary plugging of sanitary sewers as needed to sufficiently reduce flows for proper inspection, shall be considered incidental and shall be provided at no additional compensation. Extended plugging and or bypass pumping shall proceed only upon approval by the City.

Equipment: The Contractor shall have necessary playback equipment readily accessible for review by Resident Engineer Project Manager on site.

1. Lateral CCTV shall be required to have the following features.
 - a. Color Video Camera.
 - b. Camera, Television Monitor, and Other Components: Capable of producing a minimum of 470H-line resolution color video picture.
 - c. Ability to inspect laterals as small as 3-inches up to 120 feet in length from mainline sewer.
 - d. Lateral Camera must be able to be launched from the mainline.
 - e. Televising equipment must be capable of laterally launching in mainline sewers with diameters ranging from 8-inches to 30-inches

- f. Lighting: Suitable to allow clear picture of entire periphery of the pipe extending at least 10 feet in front, including when the pipe material is black High-Density Polyethylene (HDPE).
 - g. Operative in 100 percent humidity conditions.
 - h. Image: Capable of self-righting during inspections.
 - i. Push Camera equipment must available on site to complete reverse setups from cleanouts if there is blockage encountered in the lateral from the mainline.
2. Initial mainline sewer TV
 - a. Record view of manhole prior to starting mainline sewer TV.
 - b. Record view of manhole upon completion of mainline sewer TV.
 - c. Record position of lateral in mainline sewer or manhole and lateral connection prior to entering lateral.
 - d. Refer to Pre-Cleaning and Televising specification for this work.
 3. Lateral Cleaning and Obstructions
 - a. If the TV camera cannot access all the designated laterals along a section of sewer main from the initial direction (the preferred direction for mainlines with wye connections is upstream) then an attempt must be made to access the laterals traveling in the reverse direction.
 - b. All roots, sludge, or sediment material impedes inspection of the lateral from the sewer main must be removed from the lateral and sewer.
 - c. Lateral cleaning will be performed from the sewer main using high velocity jetting type equipment and will not disrupt flow in adjacent laterals. The lateral cleaning shall be sufficient for subsequent televising as well as rehabilitation
 - d. If the lateral cannot be sufficiently cleaned the cleaning operation must be attempted by the use of existing cleanout at no additional cost to the owner. If a cleanout does not exist, the City will have the option to install one.
 - e. If obstructions in either the mainline sewer or the lateral are impassible, cannot be resolved as listed above and cannot be removed by sewer cleaning, reaming or other approved methods, notify the City for follow-up.
 - f. The Contractor will implement steps to reduce the likelihood of a backup into the building connected to the lateral being cleaned. Cleanup that is necessary due to backflow into a building resulting from cleaning will be the responsibility of the Contractor. The City will be notified of any occurrence of backup into a building.
 - g. Pre-televising for each service lateral shall be performed after cleaning operations to ensure that the lateral has been sufficiently cleaned for rehabilitation

Deliverables: All electronic media and field logs will become property of the City. The Contractor shall provide data on mutually agreed upon electronic media. The video shall be viewable on any personal computer equipped with Windows software. The video shall be supplied with footage and upstream to downstream manhole numbers displayed continuously on the computer screen along with all data and comments being displayed on the computer screen at the same time.

The Contractor shall provide video and audio format. An audio description of each line segment video recording shall be performed by the Contractor which identifies critical information such as date, location, including manhole numbers, direction of travel, and major defects.

The Contractor shall verbally describe or show on screen the location of the manholes that correspond to each line segment. This description must include a street address, street intersection, or a physical land mark that would enable someone to find these manholes without the manhole numbering system and the manhole atlas.

The Contractor shall supply an electronic copy of video data, database export containing all data to date and pdfs of observation reports and PACP/LACP reports to the Engineer before scheduling the service for T-lining or invoicing for lateral televising. The contractor shall also report quantities of the completed televising daily.

The Contractor shall provide data in standard NASSCO export, version 6.0.1.

The Contractor shall provide a color digital video of all pipe line segments in “.mpeg” format on four (4) external hard drives with USB 2.0 connections. All video files shall be viewable on both VLC Media Player and Windows Media Player in a continuous manner. The hard drives shall include a master Excel spreadsheet with hyperlinks to each video file and associated PDF report as well as a master digital database of all observation data. Two (2) copies of the digital video data and logs shall become the property of the CITY and two (2) copies shall remain with the Engineer.

- The Master Spreadsheet shall have a record for each line segment and lateral televised to date. The spreadsheet shall be in MS Excel format and shall have hyperlinks to both the video files and the associated “.pdf” of the PACP/LACP & Pipe Segment View report for each section of sewer televised. The spreadsheet shall include the following information for each record - Upstream and Downstream Structure Numbers, Date Televised, Televised Length, Pipe Size, location of each lateral, work performed, and links to both the Video and the “.pdf” report files.
- The Database in PACP 6.0.1 format shall detail location, type, and severity of all defects and shall be Microsoft Access V07 Database files with all tables linked by appropriate I.D. numbers, and links to video and “.pdf” report files. **All data shall be linked to the pipe segment.**

The Contractor shall label all video and report deliverables for Laterals as USMH-DSMH_DIR_FOOTAGE_CLOCK where USMH is upstream manhole number, DSMH is downstream manhole number, DIR will be either US for upstream or DS for downstream, FOOTAGE is the length in feet down the pipe from the upstream manhole, CLOCK is to indicate where the lateral is located relative to the mainline pipe from the downstream setup. The video must be a separate video from the mainline video.

For Laterals located within a manhole the label shall be MH_CLOCK where MH is the manhole number and the CLOCK is position based on MACP nomenclature with the main outgoing sewer pipe being in the 6 o'clock position.

The Contractor shall prepare and update an index of pipe segments on a weekly basis in a fashion to be determined by the Engineer.

1. Clearly label all electronic media as approved by City.

2. Videos displaying poor quality (includes but not limited to; grease or debris on lens, camera under water, image too dark, washed out, distorted or out of focus, lines improperly cleaned or poor/no audio), may be rejected and the contractor may be required to re-televising line and resubmit at no additional cost.

Public Relations: It is the responsibility of the Contractor to notify all residents and businesses that could be affected by the lateral televising work. This notification shall consist of written information that outlines the process and the timing of the project. The Contractor shall include the contact information for the onsite field supervisor as the primary contact for affected residents. The Contractor shall customize the notice to include City of Geneva logo and contact information. The notice shall be written in both English and Spanish. The City shall review and approve the notice format and text at the beginning of the project prior to distribution. All work required for notification to residents shall be incidental to the contract.

Notification shall be given prior to the start of the televising as follows:

1. 24 hours prior to televising – with estimate of time (4-hour window) for work on their lateral.
2. Notify the City and Engineer of all interactions with building owner and/or resident.

Exceeding quantities listed in the Bid Tabulation for Additional Lateral Cleaning will require approval of the City.

Basis of Payment:

Lateral cleaning and televising shall be paid for at the Contract Unit Price per Each for LATERAL CLEANING AND TELEVISIONING and shall include all labor and material including cleaning lateral, root cutting and removal/disposal of debris, mineral deposits, grease and sewerage solids, reverse setup (if needed) televising and submission of digital database prior the liner or grout installation.

SP-26 DYE TESTING OF SERVICES

Only one active lateral reinstatement per property shall be allowed during cured-in-place pipelining unless otherwise approved in advance by the City. Any properties with more than one lateral shall be identified during PRE-CONSTRUCTION CLEANING AND TELEVISIONING and shall be dye tested by the Contractor to verify active or abandoned connections to the sewer, **prior to cured-in-place pipelining**. This work includes contacting the homeowners, coordinating and performing the dye test, as well as video recording the test and presenting the findings to the Engineer and the City. If the property cannot be dye tested, the Contractor shall laterally launch and locate the service from the mainline to determine if it is active or not. If a required dye test was unable to be completed and the contractor must laterally launch from the main, the contractor will be paid for a dye test with no additional compensation. Additional lateral connections with visible caps shall not warrant dye testing and shall be left closed without reinstatement.

In addition to dye testing properties with more than one lateral, the Contractor shall layout the locations of all services for any sewer segments that have more active lateral connections than number of houses on the same stretch. The Contractor shall utilize a measuring wheel or tape to measure from the manhole and locate each service lateral point based on camera reel counter

footage. This layout shall aid in confirmation that the correct service location is marked and being re-instated. The Contractor shall paint the location of services in an oil-based white paint for paved or non-paved areas. Layout of services shall be considered incidental.

All video, layout, dye test and other pertinent information shall be presented to the Engineer and the City **prior to cured-in-place pipelining**. All dye testing and layout results shall be presented to the Engineer and the City in a PDF document showing pipe segment layouts including notes and addresses for each service to verify results.

Basis of Payment:

All videos and PDF document layout information shall be provided to the Engineer and City prior to payment.

This item of work shall be paid for at the Contract Unit Price per Each for DYE TESTING OF SERVICES and shall include all labor, materials, and equipment necessary to complete the work.

SP-27 CURED – IN – PLACE PIPELINING

This work shall include the repair of defective sewer by the installation of a resin impregnated flexible felt tube in all segments as shown on the plans. The tube shall be saturated with a thermosetting resin and installed into the existing sewer using an inversion process. Curing shall be accomplished by circulating hot water or steam to cure the resin into a hard impermeable cured-in-place pipe. When cured, the liner shall be a continuous tight fitting watertight pipe-within-a-pipe.

This specification references American Society for Testing and Materials (ASTM) standard specifications, Insituform of North America, Inc. (INA), and Inliner USA, Inc., or the City approved equal, manufacturer's standards which are made a part hereof by such reference and shall be the latest edition and revision thereof.

Materials

The Tube shall consist of one or more layers of a flexible needled felt or an equivalent nonwoven or woven material, or a combination of nonwoven and woven materials, capable of carrying resin and withstanding the installation pressures and curing temperatures. The tube should be compatible with the resin system to be used on this project. The material should be able to stretch to fit irregular pipe sections and negotiate bends.

The tube should be fabricated to a size that, when installed, will tightly fit the internal circumference and the length of the original conduit. Allowances should be made for the longitudinal and circumferential stretching that occurs during placement of the tube. The tube shall be uniform in thickness and when subjected to the installation pressures will meet or exceed the designed finish wall thickness. The tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 feet. Such markings shall also include the lining manufacturer's name or identifying symbol.

Any plastic film (including polyethylene, polyurethane, and polypropylene layers) applied to the tube on what will become the interior wall of the finished CIPP shall be compatible with the resin system used, translucent enough that the resin is clearly visible, firmly bonded to the felt material, and shall be capable of withstanding installation pressures and curing temperatures.

The resin system shall be a corrosion resistant polyester, vinyl ester, or epoxy and catalyst system that when properly cured meets the minimum requirements given herein or those that are to be utilized in the design of the CIPP for this project. The manufacturer shall be Insituform, Inliner USA, National Liner or an approved equal.

Sizing of the Liner

The liner shall be fabricated to a size that when installed will neatly fit the internal circumference of the sewer to be lined. Allowance for circumferential stretching of the liner during insertion shall be made as per manufacturer’s standards. The length of the liner shall be that deemed necessary by the Contractor to effectively carry out the insertion and seal the liner at the inlet and outlet points. The Contractor shall verify the lengths in the field. Individual installation runs can be made over one or more access points as determined in the field by the Contractor and approved by the Engineer.

The liner thickness shall be based on the condition of the existing pipe which shall be classified as fully deteriorated pipe and structurally unsound. The liner shall be designed to withstand all imposed loads. The liner thickness shall have sufficient wall thickness to withstand the anticipated external pressures and loads which will be imposed after installation. The design of the liner shall include considerations for ring bending, deflection, combined loading, buckling, and ovality. Liner thickness shall be based on the use of the standard flexible pipe equations, as detailed in ASTM F-1216 and shall account for the effects of ovality. A minimum cured wall thickness of 6 mm (+/- 10%) shall be used for pipes up to and including 15” and a minimum cured wall thickness of 7 mm shall be used for pipes 18” and above. The Contractor shall use wall thickness appropriate to the depth of pipe being lined. A safety factor of at least 2.0 shall be utilized.

Structural Requirements

The materials properties of the finished CIPP shall meet or exceed the following structural standards:

MINIMUM PHYSICAL PROPERTIES

Property	ASTM Test Method	Polyester System	Filled Polyester System	Vinyl Ester System
Flexural Strength	D790	4,500 psi	4,500 psi	5,000 psi
Flexural Modulus (Initial)	D790	250,000 psi	400,000 psi	300,000 psi
Flexural Modulus (50 Yr)	D790	125,000 psi	200,000 psi	150,000 psi
Tensile Strength	D638	3,000 psi	3,000 psi	4,000 psi

Execution

Installation shall be in accordance with standard practice for rehabilitation of existing pipelines and

conduits and curing of a resin – impregnated tube ASTM F-1216. The Contractor may use either hot water or steam cure as deemed necessary for the installation, however specific installations may warrant the designation of a certain curing method and the Contractor is to allow for the installation using either technique.

The Contractor when required shall provide for the transfer of flow around the section or sections of pipe that are to be lined. The bypass shall be made by diversion of the flow at an existing upstream access point and pumping the flow into a downstream access point or adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the flow. The proposed bypassing system shall be approved in advance by the City.

NO LINING WILL BE PERMITTED DURING PERIODS OF HIGH FLOW.

Prior to any lining of designated sanitary sewer line segments, the Contractor shall remove internal deposits and roots as necessary to assure proper liner installation. Television inspection shall be performed to verify extent of damage, and location of service connections. Cleaning and inspection shall be in accordance with these specifications

Public Notice

A public notification program shall be implemented, and shall as a minimum, require the Contractor to be responsible for contacting each home or business connected to the sanitary sewer and informing them of the work to be conducted, and when the sewer will be off-line.

The Contractor shall also provide the following:

1. Written notice to be delivered to each home or business describing the work, schedule, how it affects them, and a local telephone number of the Contractor they can call to discuss the project or any problems that could arise. The Contractor shall include the contact information for the onsite field supervisor as the primary contact for affected residents. The Contractor shall customize the notice to include City of Geneva logo and contact information. The notice shall be written in both English and Spanish. The City shall review and approve the notice format and text at the beginning of the project prior to distribution. All work required for notification to residents shall be incidental to the contract.
2. Personal contact and attempted written notice 24-48 hours prior to the beginning of work being conducted on the section of sewer relative to the residents affected.
3. Personal contact with any home or business that cannot be reconnected within the time stated in the written notice.

Flexible Liner Installation

The Contractor shall designate a location where the uncured resin in the original containers and the un-impregnated fiber felt tube will be vacuum impregnated prior to installation. The Contractor shall allow the City to inspect the materials and procedure. A resin and catalyst system compatible with the requirement of this method shall be used. The quantities of the liquid thermosetting materials shall be per manufacturer's standards to provide the lining thickness specified and shall be sufficient to fill the volume of air voids in the tube with additional allowances being made for polymerization shrinkage and the anticipated loss of any resin through cracks and irregularities in the original pipe

wall.

The wet out (inversion) fiber felt tube shall be inserted through an existing manhole or other approved access point. The manufacturer's standards shall be closely followed during the elevated curing temperatures so as not to over stress the felt fiber and cause damage or failure during the cure.

If the Contractor installs a shot through an existing manhole, it is the City's intention for the Contractor to provide a liner through the manhole channel. The Contractor shall extend the liner to cover as much of the manhole channel as possible. The liner seam, along the manhole bottom, between bench and trough, shall be sealed with an epoxy compatible with CIPP resin.

The finished cured-in-place pipe shall be continuous over the entire length of the insertion run and be as free as commercially practicable from significant defects. Any defects which will affect, in the foreseeable future, or warranty period, the integrity, maintenance, or strength of the cured-in-place pipe, including foreign inclusions, dry spots, pinholes, delaminations, wrinkles, bubbles and blisters shall be repaired at Contractor's expense, in a manner mutually agreed upon by the City and the Contractor.

End Seal

All pipes shall be fitted with a hydrophilic gasket, the "Insignia" as manufactured by LMK or equivalent, at both ends of each segment prior to installation of the liner. In addition, the liner shall be neatly cut at least 4-inches from the manhole wall to allow for filling of the annular space at the manhole opening with an epoxy resin compatible to CIPP. This epoxy resin filling, along with a hand brushed hydraulic cement topcoat, shall be applied at all manhole wall to CIPP joints to ensure a water tight seal at the manhole. The cost for this work shall be incidental to the cured-in-place pipelining.

All end seals shall be photographed in place before the CIPP liner is installed in order to receive payment. Photos shall be submitted to Owner and Engineer at time of invoicing.

Lateral Reinstatements

After the cured-in-place pipe has been cured, the Contractor shall reconnect the existing active branch or service lines as designated by the City. This shall be done without excavation and in the case of non-man entry pipes, from the interior of the pipelines by means of a television camera and a remote cutting device that re-establishes them to not less than 90 percent capacity and not more than 100% of the internal diameter of the lateral pipe. The surface of the opening shall be wire brushed to remove extraneous material and provide a smooth edge at each lateral connection. The intent of this project is to provide structural repairs and reduce inflow and infiltration. Only live active services shall be re-instated after lining. Dye testing as described hereinafter shall be required to determine which services shall be reinstated prior to lining. Any additional non-active laterals reinstated, shall be repaired with a minimum 3-foot length CIPP spot liner including LMK end seals at both ends on the mainline.

Testing

The Contractor shall prepare a sample for each installation of CIPP. The samples shall be restrained samples for diameters of CIPP less than 18"; and flat plate samples for diameters of CIPP 18" and larger. The flat plate samples shall be taken directly from the wet-out tube, clamped between flat

plates, and cured in the downtube. The restrained samples shall be tested for thickness and initial physical properties; flat plate samples shall be tested for initial physical properties only. The Contractor shall be responsible for providing one data set for each week of installation (testing sample to be determined by the Engineer). If that data set does not meet the testing criteria, then all remaining samples for that week shall be tested for compliance and the liners not meeting the design criteria shall be rejected for payment and/or removed at the Contractor's expense.

The post-installation television inspection shall be used to confirm tightness of fit of the CIPP to the host pipe and to identify any imperfections; the finished liner shall be continuous over its entire length and to be free from visual defects such as foreign inclusions, dry spots, pinholes, delaminations, wrinkles, bubbles and blisters. All defects discovered during the post-installation television inspection shall be corrected by the Contractor at no additional cost, prior to completion of work. After defects are corrected, the sewer shall be televised again to show effectiveness of repairs.

Basis of Payment:

Lining shall be paid for at the Contract Unit Price per Linear Foot for CURED-IN-PLACE PIPELINING of diameter specified as indicated on the Bid Schedule and designated on plans and shall include all labor, materials, and equipment, installation, curing and testing of liner, end seals and all appurtenances required to complete the work. Measurement shall be made from center of upstream manhole to center of downstream manhole. Payment for sewer televising post-liner installation shall be included in the contract bid price for the cured-in-place bid items.

Lateral reinstatements shall be paid for at the Contract Unit Price per Each for LATERAL REINSTATEMENTS and shall include all labor, materials, and equipment including verification of the lateral location, cutting of the liner, brushing of liner and all appurtenances necessary to perform the work.

SP-28 CURED IN PLACE PIPELINING, 15" RAILROAD SEGMENT

All details and specifications required for CURED IN PLACE PIPELINING shall apply the same to CURED IN PLACE PIPELINING, 15" RAILROAD SEGMENT.

This special provision covers the sewer segment that runs beneath the Union Pacific Railroad.

The City has obtained an Agreement with Union Pacific for the work to be conducted. The permit shall be present with the contractor while working on the segment at all times. The Agreement is included with the bid documents.

The Contractor is responsible for following all protocols outlined in the permit and agreement. This includes proper notification prior to the start of work for the project, or a given day.

The Contractor is responsible for coordinating with RailPros on this segment as well. RailPros is required by Union Pacific to flag and observe the work conducted. The Contractor will be responsible for payment to RailPros for the flagging and observing services. This cost shall be

included in the bid price, and will not be compensated for separately. A copy of the RailPros rate structure is included within these bid documents.

Basis of Payment:

Lining shall be paid for at the Contract Unit Price per Linear Foot for CURED-IN-PLACE PIPELINING, 15" RAILROAD SEGMENT of diameter specified as indicated on the Bid Schedule and designated on plans and shall include all labor, materials, and equipment, installation, curing and testing of liner, end seals and all appurtenances required to complete the work. Measurement shall be made from center of upstream manhole to center of downstream manhole. Payment for sewer televising post-liner installation shall be included in the contract bid price for the cured-in-place bid items.

SP-29 AIR TEST AND GROUT (GENERAL)

The intent of joint and connection testing is to identify those sewer joints that are not watertight and that can be successfully sealed by packer injection grouting.

The Contractor shall provide all labor, materials, tools, equipment, and incidentals as shown, specified, and required to grout pipeline joints using a packer injection method. If pipe joint lengths are different than specified in the rehabilitation schedules, the Contractor shall notify the Engineer immediately.

References

National Association of Sewer Service Companies (NASSCO) prepared Pipeline Assessment and Certification Program (PACP), TV inspection form and sewer condition codes.
ASTM F2304 Standard Practice for Rehabilitation of Sewers using Chemical Grouting
ASTM F2454 Standard Practice for Sealing Lateral Connections and lines from the Mainline Sewer Systems by Lateral Packer Method, Using Chemical Grouting

Contractor Requirements

The Contractor shall be trained in appropriate and satisfactory safety methods regarding the grouts used under this contract. These methods shall include handling, mixing, and transporting of chemical grouts. These safety procedures and measures should be provided by the grout supplier (hereinafter referred to as the Supplier or the Manufacturer(s)).

Notice to Residents

The Contractor shall provide and hang notices on doors of all residences / businesses with service lines connected to sewer mains to be grouted. Notices shall be distributed 48 hours in advance of the work. The Contractor shall include the contact information for the onsite field supervisor as the primary contact for affected residents. The Contractor shall customize the notice to include City of Geneva logo and contact information. The notice shall be written in both English and Spanish. The City shall review and approve the notice format and text at the beginning of the project prior to distribution. All work required for notification to residents shall be incidental to the contract.

Submittals

- Equipment operating procedures and systems.
- Chemical Grout information.
 1. Description of chemical grout materials to be used (please refer hereinafter to grout characteristics);
 2. MSDS sheets for all materials to be used.
- Identification of the Manufacturers of the packers to be utilized on the project.
- Upon completion of each pipe segment, the Contractor shall submit to the Engineer a report showing the following data for each joint tested, grouted or attempted to be grouted:
 1. Identification of the sewer pipe section tested;
 2. Type of pipe material, diameter and depth of pipe to the surface at manholes;
 3. Length of pipe sections between joints;
 4. Test pressure used and duration of test;
 5. Pass/fail results for each joint/connection tested;
 6. Location stationing of each joint tested and location of any joints not tested with an explanation for not testing;
 7. Volume of grout material used on each joint;
 8. Gel set time used (cup test results from tanks);
 9. Grout mix record of the batches mixed including amount of grout and catalyst, additives and temperature of the grout solution in tanks; and
 10. Video recordings that include:
 - i. Testing and sealing operations for each joint (including inflation and deflation over the joint) displaying the final air test of joints or laterals; and
 - ii. An additional final recording, if specified, that includes inspection of the pipe after all grouting work is complete.

Testing and Grouting Equipment

The basic equipment shall consist of the following:

1. Remotely operated color television (CCTV) camera capable of pan and tilt;
2. Joint testing device referred to hereafter as a packer; and
3. Test monitoring equipment.

The equipment shall be constructed in such a way as to provide a means for introducing air under pressure into the void area created by the expanded ends of the packer pushing against the host pipe. The equipment shall also provide a means for continuously measuring, viewing and recording the actual static pressure of the test medium and grout within the void area only. The packer shall be of a diameter size nominally less than the internal diameter of the pipe, with cables at either end used to pull it through the line. The packer should be constructed in such a manner as to allow a restricted amount of sewage to flow at all times. The packer shall be expandable by air pressure. Packers shall be of low void space construction with void volume given by the packer manufacturer.

Void pressure data shall be transmitted from the void area directly to the monitoring equipment in the grouting truck or to the grouting truck via a video picture of a pressure gauge mounted on

the packer and connected to the void area. All test monitoring shall be above ground and in a location to allow for simultaneous and continuous observation of the televising monitor and test monitoring equipment.

Grouting equipment shall consist of the packer and appropriate pumping and hosing systems capable of supplying an uninterrupted flow of sealing materials to completely fill the voids. Grout pumping systems shall be sized to deliver a mixed volume of grout at a minimum of three gallons per minute (3 GPM) and thirty (30) gallons of uninterrupted flow within ten (10) minutes.

The volume of mixed grout pumped must be measured and recorded for each grouted joint or connection.

The equipment shall be capable of performing the specified operations in sewers where flows do not exceed twenty-five percent (25%) of internal pipe diameter.

Grout(s) – General requirements

All grout materials must have the following features or capabilities:

1. During injection, the grout must react or otherwise perform in the presence of water (groundwater).
2. The ability to increase grout mix viscosity, density and gel strength by increased concentration of constituents or the use of approved additives.
3. The cured grout must withstand submergence in water without degradation.
4. The resultant grout formation must be homogeneous and prevent the passage of water (infiltration) through the pipe joint.
5. The grout must not be biodegradable.
6. The cured grout should be chemically stable and resistant to organics found in sewage.
7. Residual grout shall be easily removable from the sewer line to prevent blockage of the sewage flow.

Grouting materials should be handled, mixed, and stored by the Contractor in accordance with the Manufacturers' recommendations. The grouting materials shall be delivered to the site in unopened original Manufacturers' containers.

Grout(s) characteristics

Base grouts shall have the following characteristics:

1. Base grouts shall have the following characteristics:
2. A minimum of ten percent (10%) acrylamide base material by weight in the total grout mix. A higher concentration of acrylamide base material is recommended to increase strength or offset dilution during injection.
3. The capacity to tolerate some dilution and react in moving water during injection.
4. A viscosity of approximately two (2) centipoise shall be attainable. This viscosity shall also be increasable with approved additives.
5. A controllable reaction time from ten (10) seconds to one (1) hour.

6. A reaction (curing) process or method that produces a homogenous, chemically stable, non-biodegradable, firm and flexible gel.
7. The capacity to increase mix viscosity or density and gel strength by increased concentrations of the mix constituents or by the use of approved additives.
8. Product(s) and Manufacturer(s):
 - i. Avanti AV-100;
 - ii. Avanti AV-118; or
 - iii. Approved equal(s).

Additives

At the Contractors discretion according to field conditions, additives may be selected and used within the Manufacturers' recommended quantities.

Strengthening Agents

1. For joint grouting, a latex or diatomaceous earth additive may be added to increase compressive and tensile strength. The quantity of strengthening agent additive shall be as recommended by the Manufacturer and approved by the Engineer.
2. Product Manufacturer(s):
 - i. Avanti AV-257 ICOSSET; or
 - ii. Approved equal(s).

Root Inhibitors

1. When roots are present, for joint grouting, a root deterrent chemical shall be added to control root re-growth. The quantity of inhibitor shall be as recommended by the Manufacturer and approved by the Engineer.
2. Product Manufacturer(s) – Approved project Manufacturer(s) are:
 - i. Avanti AC-50W; or
 - ii. Approved equal(s).

Gel Time Modifier

A gel time extending agent may be used in accordance with the Manufacturer(s)' recommendations to extend gel time as necessary.

Miscellaneous Additive Requirements - When using non-soluble additives, the grout tanks must have mechanical mixing devices to keep the additives in suspension and maintain a uniform solution of grout and additive.

Control Tests

Packer Tests – The Contractor shall demonstrate the acceptable performance of air test(s), including:

1. To ensure the accuracy, integrity and performance capabilities of the testing equipment, a demonstration test (barrel test) shall be performed by the Contractor. The test procedures shall be as follows: After entering each pipeline segment with the test equipment, but prior to the commencement of joint testing, the Contractor shall position the test equipment on a section of sound sewer pipe between pipe joints, and perform a test as specified. The equipment shall hold

a seven to ten PSI (7-10 PSI) test pressure for a period of fifteen (15) seconds with a pressure drop of less than one PSI (<1 PSI). In the event of a failed test, the Contractor shall repair any defective equipment and re-test to verify proper operation of all equipment.

Pump Tests – At the beginning of the contract, prior to application of grout, the Contractor shall perform a pump test. This test shall determine if proper ratios are being pumped from the grout component tanks at the proper rates and shall also measure pump rates. The Contractor shall use separate containers to capture the discharges from each of the grout component hoses to simulate the actual volumes of each component through the interconnect hoses, hose reel and length of grout hose, and to confirm accuracy of the grout pump totalizer. The Contractor shall take corrective action if ratios or rates are not within the Manufacturers' recommended standards.

Grout Tests – The Contractor shall perform and record a grout gel test in the presence of the Engineer. This test shall include the recording of the grout tank solution temperature, catalyst tank solution temperature, ambient air temperature in truck, and gel time of the sample. The test shall be performed whenever the following conditions occur:

At the beginning of each day. The material in the hoses shall be recycled to the tanks and a sample shall be taken;

Whenever new batches of grout are mixed; and

Whenever the temperature in the tanks or ambient temperature have changed by more than plus or minus ten degrees Fahrenheit (+/- 10°F) from the previous gel test.

Pipe Preparation

Prior to the application of the chemical grouting materials, the Contractor shall thoroughly clean the sewer designated to receive the chemical grouting. Cleaning shall constitute removal of all loose debris and solids including which shall inhibit proper seating of the packer. If mineral deposits or protruding taps are present, said obstructions shall be removed and paid for as described elsewhere in these provisions.

The Owner shall have cleared the designated sewer line(s) of obstructions such as offset joints, protruding lateral connections, and broken pipe or crushed pipe which might otherwise prevent the use of the grouting equipment. If the CCTV inspection reveals such an obstruction, the Owner shall be notified immediately so that the obstruction can be removed.

Grout Preparation

The Contractor shall follow the Manufacturer(s)' recommendations for mixing and safety procedures.

Gel time shall be adjusted as necessary to compensate for changes in temperature in grout component tanks or hoses. The addition of dilution water to extend gel times is not acceptable unless the resulting base material exceeds ten percent (10%) by weight for solution grouts.

During the grouting process, the Contractor's grouting technician shall monitor the grout component tanks to make sure that proper ratios are being pumped. If unequal levels are noted in the tanks, the technician shall repeat the pump test as described above and correct any defective equipment.

Gel times shall be within the following formula calculations unless the Contractor's experience and/or field conditions dictate otherwise:

$$Gel\ Time = \left(\frac{Volume\ of\ Pipe\ Packer\ Void\ Space\ (gal)}{Pumping\ Rate\ (gpm)} \right) \left(\frac{60\ sec}{1\ min} \right) + 20\ sec (+/-\ 5\ sec)$$

Packer/Pipe void shall be defined as the volume between the inflated packer and the inside pipe wall when the packer is inflated per manufacturer recommendations.

For example: an 8" pipe with a pack void space of .3 gallons would provide:

$$Gel\ Time = \left(\frac{.3\ (gal)}{3\ (gpm)} \right) \left(\frac{60\ sec}{1\ min} \right) + (20\ sec) = 26\ sec (+/-\ 5\ sec)$$

Testing and Grouting Defects

All sewer joints on a segment shall be tested with the following exceptions:

1. Longitudinally fractured or broken pipe, as classified by PACP, unless specifically shown or specified or directed by the Engineer;
2. Sections of the pipe with structural defects between joints; and
3. Any sections of pipe or joints that are in such poor structural condition that in the judgment of the Engineer or the Contractor, significant structural damage of the pipe would occur as a result of the pressure test.

Any structurally undamaged joint that structurally fails or breaks during testing and grouting (said tests and grouting being documented on video to have been done under normal pressure conditions) shall be the Contractor's responsibility and cost to repair.

Testing Procedure for Mainlines

Joint testing pressure shall be equal to one half (0.5) PSI per vertical foot (VF) plus two PSI (0.5 PSI per/VF + 2.0 PSI). However, test pressures shall not exceed ten (10.0) PSI without the approval of the Engineer.

The Contractor shall individually test each sewer pipe joint at the above-specified pressure (and retest after sealing) in accordance with the following air test procedure:

1. The packer shall be positioned within the pipe in such a manner as to straddle the joint to be tested.
2. The packer ends shall be expanded so as to isolate the joint from the remainder of the pipe and create a void area between the packer and the pipe joint. The ends of the testing device shall be expanded against the pipe as per manufacturers' recommendations. If all attempts to isolate the joint fail, the Contractor shall pump grout in an attempt to seal the leak around the packer end. The Contractor will not be paid the unit price for joint grouting for this activity.
3. After the void pressure is observed to be equal to or greater than the required test pressure, the air flow shall be stopped. If the void pressure decays by more than one

PSI (1.0 PSI) within fifteen (15) seconds, the joint shall be determined to have failed the test and shall be sealed.

Upon completing the testing of each individual joint, the packer shall be deflated with the void pressure meter continuing to display void pressure. Should the void pressure meter fail to drop to a reading of zero-point zero PSI, plus or minus zero point five PSI (0.0 PSI +/- 0.5 PSI), the Contractor shall clean the test equipment of residual grout material or make the necessary equipment repairs to provide for an accurate void pressure reading.

Grouting – General Requirements

The Contractor shall grout all joints that failed the pressure test by the injection method. This shall be accomplished by forcing grout through a system of pumps and hoses into and through the joints of the sewer pipeline utilizing the packer then in the sewer pipe.

Joint Sealing for Mainlines

The Contractor shall position the mainline packer over the joint to be sealed with the aid of a CCTV camera in the line.

The Contractor shall pneumatically expand the packer sleeves such that they seal against the inside periphery of the pipe. This shall form a void area at the joint that shall be completely isolated from the remainder of the pipe line.

The Contractor shall then pump grout materials into this isolated area. The pump shall be operated until “refusal”. The goal of this procedure is the applying of one quarter to one half (0.25 to 0.5) gallons of grout per inch of pipe diameter per pipe joint. Refusal shall mean the joint will not accept any more grout (because it has flowed throughout the void, through any joint failure and into the surrounding soil; or gelled or filled the available void space; and formed a cohesive seal stopping further grout flow). The Contractor shall record the amount of grout pumped on the sealing log.

Upon completion of the injection, the Contractor shall deflate the packer to break away from the ring of gel formed by the packer void. The packer should then be re-inflated and the joint retested at a pressure equal to the initial test pressure. If the joint fails this air test, the Contractor shall repeat the grouting procedure at no additional cost to the Owner. This sequence of air testing, grouting and subsequent air testing should be repeated until either the joint is sealed, or it is determined that the grout consumption is too high.

If a mainline joint requires more than one (1) gallon of grout per pipe diameter inch per pipe joint, the Contractor shall modify grouting procedures. This modification shall stage grouting by pumping additional grout in up to four (4) gallon increments, waiting one (1) gel set cycle time or one (1) full minute, whichever is greater between stages. The maximum number of stages shall not exceed two (2) stages of four (4) gallons each unless approved by the Owner. The final determination to stop subsequent attempts to seal a joint shall be made jointly between the Engineer and the Contractor.

Joint Sealing Verification

The Contractor shall record grouting of joints in conjunction with the testing of joints. This shall

include recording the void pressure drop continuously on video and in writing immediately before sealing, and immediately after grouting. After the packer is deflated and moved, the Contractor shall record on video the visual inspection of the joint.

Disposal

The Contractor will not be allowed to flush sealing chemicals into the downstream pipe reaches and shall dispose of unplaced and waste chemical sealing material and all equipment cleaning chemicals off-site, in accordance with IEPA requirements. The Contractor will not be allowed to discharge within the Municipal limits or in the sanitary sewer.

Post – Construction Inspection

After grouting is complete, all pipe sections shall be final inspected by means of a color CCTV system. The inspection shall be conducted as per the NASSCO Pipeline Assessment and Certification Program (PACP). Final videos shall be delivered as described POST-CONSTRUCTION TELEVISION INSPECTION.

Quality Control

The Contractor shall conduct warranty joint air testing on all of the joints and lateral connections successfully sealed in ten percent (10%) of the sewer pipe segments or a minimum of two (2) sewer line segments, whichever is greater. This work shall commence approximately eleven (11) months after substantial completion of the initial project or phase. The Engineer shall select the pipe segments to be warranty tested. The Contractor shall be provided with sixty (60) days' notice of the warranty testing. The Contractor shall conduct all warranty tests in the presence of the Engineer.

1. If more than ten percent (10%) of the warranty tested joints or lateral connections fail, the Contractor shall test an additional fifteen percent (15%) of the pipe segments or two (2) additional sewer line segments, whichever is greater. If more than ten percent (10%) of the second group of warranty tested joints or lateral connections fail, the Contractor shall test one hundred percent (100%) of the joints or lateral connections successfully sealed in the remaining untested pipe segments at no additional compensation.
2. The Contractor shall grout and/or retest all joints and lateral connections failing warranty testing at no additional compensation.
3. Joints that received more than four (4) gallons of grout per pipe-diameter inch of pipe joint are exempted from the warranty testing.

Basis of Payment

AIR TEST AND GROUT MAINLINE JOINTS shall be paid for at the Contract Unit Price per each joint tested and per each joint chemically sealed, of the diameter specified, which price and payment shall include but not be limited to minor complications and/or delays, traffic maintenance & protection, testing pipe joints, chemically sealing (including grout), immediate and warranty re-testing of pipe joints and all labor, materials, tools, fees, equipment and incidentals needed to complete work specified within this Contract.

SP-30 AIR TEST AND GROUT SERVICE CONNECTIONS

This work shall consist of testing and grouting of sanitary service connections. Locations for service connection grouting shall be identified by pressure testing all service lateral connections and then sealing the lateral connections that fail the pressure test. Locations selected shall be approved by the Engineer in advance of performing any service lateral grouting. All grouting of service laterals shall be completed prior to the final post televising of the sewer segment.

Notice to Residents / References / Contractor Requirements / Submittals / Products / Control tests / Grout preparation / Disposal / Quality Control

All these items must be in accordance with the specifications as described hereinabove in AIR TEST AND GROUT (GENERAL).

Construction Requirements

Lateral connections selected for AIR TEST AND GROUT SERVICE CONNECTIONS shall be identified by pressure testing the service lateral connection and then sealing the lateral connections that fail the pressure test. Locations selected shall be approved by the Engineer in advance to performing any service lateral grouting. All grouting of service laterals shall be completed prior to the final post televising of the sewer segment.

For each service lateral within the project, the Contractor shall pressure test the service lateral connection and seal the failed lateral connections. For factory tees and wyes, the test and seal shall include the first joint upstream of the mainline sewer, including a minimum distance of five (5) feet from the main. For break-in connections, the test and seal shall include the break-in and the first joint upstream of the mainline sewer, also including a minimum distance of five (5) feet from the connection to the main.

The Contractor shall apply air pressure of 0.5 psig per vertical foot of sewer depth plus an additional 2.0 psig (total pressure not exceeding 10 psig). The test pressure and pipeline depth shall be recorded. If the air pressure on the lateral connection drops 1.0 psig within a 15-second time period, the connection "fails" the test and requires sealing as specified herein.

The Contractor will be required to retest failed connections after the sealing procedure is completed to verify effectiveness of the sealing. This shall be done by first deflating the packer ends until the "void" pressure meter reads zero pressure. The Contractor shall clean the equipment of residual grout. Once equipment is clean the Contractor shall re-inflate the packer ends and apply test pressure again. Grouted connections failing the pressure test shall be resealed and retested until each connection passes the air test.

Complete records shall be kept of lateral connections sealing performed in each sewer section. The records shall identify the manhole to manhole section in which the testing/sealing was done, the location and type of each lateral connection tested and/or sealed, whether there is visible evidence of infiltration and inflow at each service connection and an estimated flow rate in gallons per minute, any problems with the service connection i.e. roots, grease, etc, the test pressure before and after sealing, the quantity of chemical sealing material used at each lateral connection in gallons, the

chemical set time and materials including any additives, and the lateral connection sealing verification results. PDF reports for each sewer segment tested/sealed shall be included on the final hard-drive deliverables and shall be linked into the Master excel spreadsheet.

The Contractor shall be required at a minimum, to apply one gallon of grout per foot of sealing distance for each lateral connection. During grouting operations, the Contractor shall televise the lateral connection testing and sealing and provide one digital video file for each sewer section containing service lateral testing/sealing. This digital video file is to be included on the final hard-drive deliverable and shall be linked into the Master excel spreadsheet.

Any excess grout that remains in the sewer main or service shall be removed by the Contractor. The extent and definition of excess grout shall be at the sole discretion of the Owner and Engineer. The Contractor shall perform an air test on the service lateral and/or flush test from the residence to confirm that the service lateral is open for sewerage flow. The Contractor shall be solely responsible and liable for any property damages resulting from the grouting work.

Post-Construction Inspection

After grouting is complete, all pipe sections shall be final inspected by means of a color CCTV system. The inspection shall be conducted as per the NASSCO Pipeline Assessment and Certification Program (LACP). Final videos shall be delivered as described POST-CONSTRUCTION TELEVISION INSPECTION.

Measurement

Testing and grouting of service lateral will be measured for payment by count of approved service laterals tested and grouted.

Basis of Payment:

AIR TEST AND GROUT SERVICE CONNECTIONS shall be paid for at the Contract Unit Price per each service connection tested and per each service connection chemically sealed, of the length specified. No additional payment will be made for air testing, catalyst, activator, inhibitor, buffer, root control, or additive materials required to obtain the final product in place.

SP-31 T-LINER INSTALLATION

General: The Contractor shall repair defective mainline to lateral connections with LMK T-liners, no substitutions, that extend into the service lateral to its full length of 5 feet.

Installation shall be a cured-in-place pipe inversion method using an approved full wrap T-liner system. The Contractor shall install T-liners without installation of cleanouts and shall be required to navigate bends in the lateral service up to 45 degrees.

Notice to Residents: The Contractor shall provide and hang notices on doors of all residences / businesses with service lines connected to sewer mains to be T-lined. Notices shall be distributed 48 hours in advance of the work. The Contractor shall include the contact information for the onsite field supervisor as the primary contact for affected residents. The Contractor shall customize the

notice to include City of Geneva logo and contact information. The notice shall be written in both English and Spanish. The City shall review and approve the notice format and text at the beginning of the project prior to distribution. All work required for notification to residents shall be incidental to the contract.

Materials

Liner Assembly: The liner assembly shall be continuous in length and consist of one or more layers of absorbent textile material i.e. needle punched felt, circular knit or circular braid that meet the requirements of ASTM F1216 and ASTM D5813 Sections 6 and 8. The textile tube and sheet shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe segments, and flexibility to fit irregular pipe sections. The wet-out textile tube and sheet shall meet ASTM F 1216, 7. 2 as applicable, and shall have a uniform thickness and 5% to 10% excess resin distribution that when compressed at installation pressures will meet or exceed the design thickness after cure.

Mainline Liner Tube: The main liner tube shall be formed from a flat sheet of resin absorbent material suitable for CIPP. The forming of the tube is accomplished by one end of the textile sheet overlapping the second end and sized accordingly to create a circular lining equal to the inner diameter of the lined main pipe. The interior of the textile sheet shall be laminated with an impermeable, translucent flexible membrane. The textile sheet before insertion shall be permanently marked on the membrane as a "Lateral Identification" correlating to the address of the building the lateral pipe provides service. The mainline tube shall have compressible ends which provide a tapered transition to the mainline liner or pipe.

Lateral Liner Tube: The exterior of the lateral liner tube shall be laminated with an impermeable, translucent flexible membrane. Longitudinal seams in the tube shall be stitched and thermally sealed. The lateral tube will be continuous in length. The lateral tube will be capable of conforming to offset joints, bends, bells and disfigured pipe sections. For pipe configurations that contain pipe diameter transitions, the transition liner tube must be formed by the manufacturer prior to installation to ensure proper wall thickness per ASTM F1216.

Mainline Connection: The main tube and lateral tube shall form a one-piece assembly by stitching the lateral tube to the mainsheet aperture. The connecting end of the lateral tube shall be shaped to match the aperture and curvature of the main tube. The lateral tube and main tube shall be sealed by use of a flexible UV cured adhesive/sealant applied in a factory-controlled setting.

The main/lateral tube assembly shall take the shape of a "TEE" or "WYE" with corresponding dimensions such as a curved circle or a curved elliptical opening in the pipefitting.

No intermediate or encapsulated elastomeric layers shall be in the textile that may cause delamination in the cured in-place pipe. The main sheet will be flat with one end overlapping the second end and sized accordingly to create a circular lining equal to the inner diameter of the main pipe. The lateral tube will be continuous in length and the wall thickness shall be uniform. The lateral tube will be capable of conforming to offset joints, bells, and disfigured pipe sections.

Hydrophilic Gasket Seals: The mainline tube shall include a seamless molded flange shaped (aka

Hydrohat) gasket attached to the main liner tube at the connection and four molded hydrophilic O-rings at the mainline termination ends. The gasket(s) must be a minimum of 2.5mm thick and must retain this consistent thickness under installation pressures. The lateral tube shall include two compression molded O-ring gaskets attached six-inches from the terminating end of the lateral tube. Hydrophilic O-Rings between the liner and the host pipe shall be LMK Insignia or approved equal. Mainline tube shall also include hydrophilic O-Rings at both ends.

Mainline End Seal Test Data: The hydrophilic gasket seals shall include test data that supports substantial expansion properties so to form a watertight compression end seal at the terminating ends of the CIP-lateral liner. The test protocol shall simulate subterranean conditions and hydraulic loading at surface. Gasket seal submittals must include tests data simulating hydration/dehydration conditions for a period of 10,000-hours and the test results must successfully demonstrate and document long-term performance without deterioration, loss of material, flexibility, and expansion of the gasket during repeated cycles of hydration and dehydration.

Bladder Assembly: The liner assembly shall be surrounded by a second impermeable, inflatable, invertible, flexible translucent membrane bladder that will form a liner/bladder assembly. The translucent bladder shall facilitate vacuum impregnation while monitoring the resin saturation process.

Resin system: The resin/liner system shall conform to ASTM D5813 Section 8. 2. 2 - 10,000-hour test. The resin shall be a corrosion resistant polyester, vinyl ester or epoxy resin and catalyst system that when properly cured within the composite liner assembly, meets the requirements of ASTM F1216, the physical properties herein, and those which are to be utilized in the design of the CIPP, for this project. The resin shall produce a CIPP, which will comply with the structural and chemical resistance requirements of ASTM F1216.

Table 1 CIPP INITIAL STRUCTURAL PROPERTIES

Property	ASTM Test	Minimum Value	
		PSI	(Mpa)
Flexural Strength	D 790	4,500	(31)
Flexural Modulus	D 790	250,000	(1,724)

The CIPP shall be designed per ASTM F1216, Appendix X1.

The CIPP design for the lateral tube shall assume no bonding to the original pipe.

Cleaning and Televising: The lateral shall be cleaned and televised prior to the installation of the liner. The digital video of the lateral shall be provided to the Engineer for review before the lateral can be approved for lining.

T-Liner Installation: Installation shall be accomplished by the use of a resin impregnated one-piece main and lateral lining and by means of air inflation and inversion. The liner is pressed against the host pipe by pressurizing a bladder that is held in place until the thermo-set resins have cured. When cured, the liner shall extend over a predetermined length of the service lateral and a particular section

of the main pipe as a continuous, one-piece, tight fitting, corrosion resistant and verifiable non-leaking cured in-place pipe.

The outside layer of the textile tube (before inversion) and interior of the textile sheet shall be coated with an impermeable, translucent flexible membrane. The textile sheet before insertion shall be permanently marked as a "Lateral Identification" correlating to the address of the building and the lateral pipe services. The sheet and tube shall be surrounded by a second impermeable, flexible translucent membrane (translucent bladder) that will contain the resin and facilitate vacuum impregnation while monitoring of the resin saturation during the resin impregnation (wet-out) procedure.

The mainline liner and bladder shall be wrapped around the "T" launching device and held firmly in place. The Main/Lateral bladder assembly shall extend past all ends of the liner, as no cutting shall be required.

The finished CIPP shall be continuous over the entire length of the rehabilitated sewer service lateral and 12" of the main pipe. The CIPP shall be smooth with minimal wrinkling and shall be free of dry spots, lifts, and delaminations. After the work is completed, the installer will provide the CITY with video footage documenting each repair. The finished product must provide an airtight, watertight verifiable non-leaking connection between the main sewer and sewer service lateral. Upon completion, the installer will deliver digital video and a digital database (external hard drive) of the completed work to the Engineer. Post-construction televising shall be performed as described under the provision POST-CONSTRUCTION TELEVISION INSPECTION. The Engineer will review the documentation and the site to determine that the scope of work is completed, and the work is satisfactory.

The Contractor shall label all video and report deliverables for Laterals as USMH-DSMH_DIR_FOOTAGE_CLOCK where USMH is upstream manhole number, DSMH is downstream manhole number, DIR will be either US for upstream or DS for downstream, FOOTAGE is the length in feet down the pipe from the upstream manhole, CLOCK is to indicate where the lateral is located relative to the mainline pipe from the downstream setup.

Basis of Payment:

This item shall be paid at the Contract Unit Price per Each for T-LINER INSTALLATION, of the length and size specified, and shall include all labor and material required for installation of the LMK T-liner up to the length of lateral specified, including curing, testing, pre- and post-installation televising. Contractor shall provide television inspection of completed installation on an external hard drive.

SP-32 CHIMNEY REHABILITATION (IN PAVEMENT OR OFF PAVEMENT)

For all chimney and frame adjustment work including replacements, adjustments, realignments and raises, the manhole adjustment rings shall be removed, replaced and sealed per the following specification. The Contractor may not reuse existing concrete rings during frame adjustment work.

Frames that are indicated for adjustment and not replacement shall be removed, cleaned and sealed in accordance with the following specification. External chimney seals shall be included in this work. When the manhole is in the pavement, the Contractor shall be required to saw cut existing pavement to a minimum of a 5 foot by 5 foot square. All saw cutting shall be completed using a wet saw to control dust. This square cut shall allow for proper removal and replacement of the frame and adjustment rings and for the installation of external chimney seals.

The Contractor shall remove existing frame and cover, remove all gasket material between the cone, adjustment rings and frame, and shall wire brush clean all exposed surfaces. In addition, the Contractor shall dry all surfaces with a torch or other approved method. Existing manhole frames and covers in good condition will be cleaned and reinstalled unless specified elsewhere for replacement.

The Contractor shall remove all loose materials located at the top of the corbel and fill the voids.

Adjustment Rings

The Contractor shall replace all adjustment rings with new precast concrete rings.

Precast concrete rings shall be 2", 3", 4", 6", or 12" and shall be installed concentrically above the manhole cone.

The Contractor shall use the minimum number of rings possible for the adjustment. No shims or other leveling devices, other than leveling rings provided by the manufacturer, will be permitted.

External Chimney Seal

External chimney seals are to be installed for all frame adjustment work requiring excavation including adjustments, replacements, realignments and raises unless indicated otherwise by the Engineer. This external sealing system shall prevent leakage of water into the manhole through the frame and chimney down to the cone.

Two types of external chimney seals will be used as directed by the Engineer. The acceptable external chimney seals are:

- Infi-Shield Uni-bands, or approved equal.
- WrapidSeal Canusa-CPS or approved equal.

The Contractor shall have both types of approved seals onsite, so that where needed, a WrapidSeal can be used in lieu of Infi-Shield seal. On all precast concrete manholes, Infi-Shield shall be used. The Contractor shall obtain approval from the Engineer prior to switching from Infi-Shield to WrapidSeal.

Frame seals shall remain flexible throughout a 50-year design life, allowing repeated vertical movement of the frame of not less than 2 inches and/or repeated horizontal movement of not less than one half 1/2 inch.

The seal shall be a continuous seamless band made of high quality EPDM (Ethylene Propylene

Diene Monomer) rubber with a minimum thickness of 65 mils. There shall be a preformed "L" shaped corner molded into the top of the seal. The top section and the side section will extend from the "L" shaped corner at a generally 90-degree angle to each other, wherein the seal is preformed in substantially the same shape as when attached to the manhole structure. The thickness of the "L" shaped corner extending 1" into the top section and 1" down the side section is increased and may be at least twice the thickness of the top section reinforcing the seal at this particular area. There shall be a 2" to 3" wide strip of butyl mastic attached to the underside of top section of the seal. There shall be a 2" wide strip of butyl mastic attached to the inside of the side section at the bottom of the seal. The mastic shall be non-hardening butyl rubber sealant, with a minimum thickness of 1/8", and shall seal to the cone/top of the manhole section and over the flange of the casting frame. An aerosol primer shall be used to enhance the bond strength of the seal to the structure.

The Contractor shall excavate around the frame to a depth of at least 12 inches below the top of the cone section to allow for proper installation. The Infi-Shield Uni-Band seal sealing system shall be installed according to the manufacturer's recommendations. The top section of the seal shall extend 3" attaching to the casting base/flange with the side section covering over the entire grade adjustment ring area and onto the cone section a minimum of 2". Install external manhole chimney seal as shown on the detail, with extensions where needed to cover the entire chimney area, in accordance with the manufacturer's instructions. External chimney seals installed shall not be buried until inspected by the Engineer.

Gasket Materials

EZ-STIK or an approved equal butyl mastic sealant shall be used when rejoining the manhole frame to the precast adjustments to provide a watertight structure. The sealing compound shall be produced from blends of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler, and shall contain no solvents, irritating fumes, or obnoxious odors. Avoid use of overly thick gasket material such as will likely produce after-settlement of manhole frame due to long-term cold flow of gasket materials. The compound shall not depend on oxidizing, evaporation, or chemical action for its adhesive or cohesive strength. It shall be supplied in extruded rope form of suitable cross section and in such sizes to seal the joint space. The Contractor shall use two (2) complete ropes at each joint.

Interior Finish Coat

After all other adjustment work has been completed, the interior surfaces of the adjustment, from the bottom of the frame to the top of the cone section, shall have a calcium aluminate high performance mortar finish applied which is then troweled and brushed to a smooth finish. Calcium Aluminate Cement shall be Strong Seal MS-2C or approved equal.

Basis of Payment.

This item shall be paid at the Contract Unit Price per Each for CHIMNEY REHABILITATION of restoration type specified (paved or non-paved) and shall include all work necessary for the complete adjustment and sealing of each manhole frame as specified in these provisions including measurement, procurement, installation, replacement, external chimney seals, adjustment rings and restoration including but not limited to full Depth Patching, PCC Sidewalk, Seeding, Driveway Pavement and Curb and Gutter removal and replacement.

SP-33 INTERNAL CHIMNEY SEALING

Prior to installation of the internal chimney seal, the adjustment shall be rehabilitated if it has not been replaced. The Contractor shall wire brush all loose material and remove any broken portions of the adjustment and then fill the voids with a quick setting fiber reinforced calcium aluminate corrosion resistant cement mortar grout. At each point of active leakage, injection grout such as Avanti AV-100 (for severe active infiltration) or Strong-Plug (for active infiltration) shall be used as appropriate. The adjustment is then to be patched prior to installation of wall coating or internal chimney seal as per the manufacturer's recommendations (use of proper primer). The Internal Chimney Seal shall be Raven 581 or approved equal.

For surface preparation, surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 7 days and no frost or wet conditions can be present during installation. Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with Steel-Seam FT910. After ensuring that all surfaces are clean. The chimney seal coating material shall be applied evenly by spraying over the entire chimney seal area including the frame joint area and the vertical riser of the manhole cone including all extensions to the chimney area.

Surface preparation, primer and internal chimney seal application (including recommended thickness) should be made in accordance with the manufacturer's recommendations and will take precedence over the specifications hereinabove.

The final internal chimney seal shall pass visual inspection and be completely free of pinholes or voids.

Basis of Payment

This item shall be paid at the Contract Unit Price per Each for INTERNAL CHIMNEY SEALING and shall include all labor and materials necessary to rehabilitate the adjustment and install the internal chimney seal.

SP-34 FURNISH NEW LID AND FRAME

Where indicated on the plans, the existing manhole frame and cover shall be replaced with a new frame and cover by the Contractor. The replacement of the lid and frame shall be a separate pay item from the CHIMNEY REHABILITATION pay item.

The new frame and cover shall be the standard City of Geneva frame and cover, which is East Jordan 1022-3 cover and East Jordan #1050 frame, watertight lid with seal and the words "City of Geneva" and "Sanitary" cast onto the lid. The sanitary manhole lid shall be self-sealing solid lid with watertight gasket and concealed pick hole. Frames and adjusting rings shall be joined with preformed flexible joint sealant.

The Contractor is required to measure each cover and frame that needs replacing to ensure

proper fit. Where required, the existing manhole frame and cover shall be removed and returned to the Owner and a new manhole frame and cover installed and adjusted by the Contractor as directed by the Engineer.

The Contractor shall salvage and dispose all covers that are scheduled for replacement.

Basis of Payment

This item shall be paid for at the Contract Unit Price per Each for FURNISH NEW LID AND FRAME.

SP-35 PLUG PIPE

Sewer pipes to be abandoned shall be plugged with mechanical wing plugs of the specified diameter and topped with concrete plug. Brick and mortar plugs will not be acceptable in lieu of concrete. The Contractor shall install plugs in the sewers at locations shown on the Plans or where directed by the Engineer. All work shall be performed by competent personnel. The minimum install depth of the mechanical plug shall be two pipe diameters up to 24 inches. The minimum thickness of the concrete to the plug shall be two pipe diameters up to 24 inches. The Contractor shall submit data sheets for mechanical wing plugs for use on this project.

Basis of Payment:

This work will be paid for at the Contract Unit Price per Each for PLUG PIPE, which price shall include the cost of all labor, materials and equipment necessary to complete the work.

SP-36 GROUT ENTIRE MANHOLE & GROUT BOTTOM 18"

This work shall govern all work, materials and testing required for chemical pressure grouting of manhole defects. Manholes or sections of manholes with leaks are shown on the Manhole Rehabilitation Schedule. Manhole structure grouting includes the sealing or plugging of the manhole base, walls, corbel/cone and chimney using chemical grout sealants to eliminate leakage. Chemical grout shall be injected into the soil surrounding the manhole as needed for complete sealing resulting in a grout curtain.

Grout Entire Manhole

The Contractor shall furnish all labor, supervision, materials, equipment, and testing if required for the completion of chemical grout sealing of manhole defects in accordance with the Contract Documents. Manhole grouting shall not be performed until sealing of manhole frame and grade adjustments is complete.

Equipment: The basic equipment shall consist of chemical pumps, chemical containers, injection packers, hoses, valves, and all necessary equipment and tools required to seal manholes by chemical pressure grouting. The chemical injection pumps shall be equipped with pressure meters that will provide for monitoring pressure during the injection of the chemical sealants. When necessary, liquid

bypass lines equipped with pressure-regulating bypass valves will be incorporated into the pumping station.

Chemical Sealing Materials: The chemical grout shall be Avanti AV-100 or approved equal which has a documented record of satisfactory performance in sewer usage. All grouting materials shall be delivered to the job site in the original, labeled, and unopened containers. The Contractor shall submit with his bid, the brand name manufacturer of the chemical grout(s) he intends to use. The chemical grout(s) selected by the Contractor is subject to approval of the Engineer.

For protection of the manhole structure through freeze thaw cycles, the top four feet (4') of the structure shall be a urethane base grout AV-248 Low Viscosity or approved equal.

Mixing and handling of chemical grout, which may be toxic under certain conditions, shall be in accordance with the recommendations of the manufacturer and in such manner to minimize hazard to personnel. It is the responsibility of the Contractor to provide appropriate protective measures to ensure that chemicals or gels are handled by authorized personnel in the proper manner. All equipment shall be subjected to the approval of the Engineer. Only personnel thoroughly familiar with the handling of the grout material and additives shall perform the grouting operations.

Preliminary repairs: All cracked or deteriorated material shall be removed from the manhole and the Contractor shall cut and trim all roots within the manhole. The Contractor shall seal all unsealed lifting holes, unsealed step holes, pre-cast manhole section joints, and voids larger than approximately ½" in thickness with a waterproof quick-setting mortar, Strong Seal QSR; Quadex Hyperform or an approved equal in accordance with the manufacturer's specifications.

Drilling and Injection: Injection holes shall be drilled through the manhole at 120 degree angles from each other at the same plane of elevation. Rows shall be separated no more than four vertical feet, and the holes shall be staggered with the holes in the rows above and below. Provide additional injection holes near observed defects, bench and trough and at pipe seals. At all visible leaks and areas with evidence of leaks within the manhole structure, a hole shall be carefully drilled from within the manhole and shall extend through the entire manhole wall. A minimum of 6 injection holes shall be provided in the walls/cone and three injection holes at each pipe seal and at the bench/trough.

Manholes shall be grouted completely from the pipe invert to the top of the corbel or bottom of flat top. Grout shall be injected through the holes under pressure with a suitable probe. Grout ports or sealant injection devices shall be placed in these previously drilled holes in such a way as to provide a watertight seal between the holes and the injection device. A hose, or hoses, shall be attached to the injection device from an injection pump. Grouting from the ground surface shall not be allowed. Grout travel shall be verified by observation of grout to defects or adjacent injection holes. Provide additional injection holes, if necessary to ensure grout travel. Care shall be taken during the pumping operation to ensure that excessive pressures do not develop and cause damage to the manhole structure or surrounding surface features. Grout shall be injected through the lowest holes first. The procedure shall be completed until the manhole is externally sealed with grout, resulting in a chemical grout curtain.

Sealing after grouting: Upon completion of the injection, all chemical grout material shall be removed from interior surfaces of the manhole. After grouting is completed, the grout ports shall be removed, and the remaining holes shall be cleaned with a drill and filled with quick-setting hydraulic mortar and troweled flush with the surface of the manhole walls or other surfaces. The mortar used shall be a non-shrink patching mortar such as Strong Seal QSR; Quadex Hyperform or an approved equal. In addition to filling the holes the interior surface of the manhole shall be patched with a ½-inch thick quick setting mortar such as Strong Seal QSR; Quadex Hyperform or an approved equal. This coating shall cover at least 6" either side of the joint sealed or where injection holes were drilled.

Grout Bottom 18"

The procedures for Grout Bottom, 18" shall be the same as indicated above, but shall be limited to the bottom portion of the manhole. Pipe seal grouting shall include all pipe seals in the specified manhole and grouting of the bench/trough, wall/bench joint and walls to the maximum height of 18" from the crown of the pipe. Provide additional injection holes near observed defects, bench and trough and at pipe seals. At all visible leaks, a hole shall be carefully drilled from within the manhole and shall extend through the entire manhole wall. A minimum of three injection holes at each pipe seal and at the bench/trough shall be required.

Sealing after grouting manhole bottoms shall be the same as above and shall include patching with a ½" thick quick setting mortar such as Strong Seal QSR; Quadex Hyperform or an approved equal and shall cover at least 6" either side of each location sealed or where injection holes were drilled.

Grout Tests

The Contractor shall perform and record a grout gel test in the presence of the Engineer. This test shall include the recording of the grout tank solution temperature, catalyst tank solution temperature, ambient air temperature in truck, and gel time of the sample. The test shall be performed whenever the following conditions occur:

1. At the beginning of each day. The material in the hoses shall be recycled to the tanks and a sample shall be taken;
2. Whenever new batches of grout are mixed; and
3. Whenever the temperature in the tanks or ambient temperature have changed by more than plus or minus ten degrees Fahrenheit (+/- 10°F) from the previous gel test.

Final Acceptance

After the specified sealing work has been completed, the manholes shall be visually inspected by the Contractor (as required) in the presence of the Owner/Engineer and found to be acceptable. All rehabilitated manholes shall also be re-inspected for leaks one year after completion and resealed, if necessary, at no additional cost to the Owner.

Basis of Payment

The Contractor shall provide the necessary tools and equipment to complete all work as described above. Payment shall be based on the Contract Unit Price per Each for GROUT ENTIRE MANHOLE or GROUT BOTTOM 18”.

SP-37 REPLACE BENCH AND TROUGH

This work item shall consist of the complete removal and reconstruction of the entire manhole bench and trough. The existing deteriorated bench and trough area shall be completely removed to a minimum depth of 12 inches below the existing invert. Care must be taken to avoid damaging other areas of the manhole structure. Loose and broken concrete shall be routinely removed from the manhole to eliminate the possibility of pieces entering the sewer lines. After removal of loose and broken concrete, CA-7, (¾-inch - 1-inch) washed limestone with no fines shall be installed to a depth of (8) eight inches as a base for the new bench and trough to be formed using Portland Cement Concrete, (PCC). Sanitary sewer service shall be maintained during bench and trough replacement. Minimum bench and trough thickness shall be 4 inches in depth.

All inverts shall be formed to the diameter of the incoming and outgoing pipe diameter up to the pipe centerline and vertical beyond that point. The invert shall be formed to a depth of one-half to two-thirds the pipe diameter. Inverts shall be formed with a PCC mortar material and steel-trowel to produce a dense, smooth finish and shape to form a "U"- shaped channel connecting the pipelines. The new invert shall provide smooth transitions for pipes of different sizes, different elevations, and/or at different angles. The Contractor shall form benches to provide self-cleaning by sloping normally two (2) inches from manhole wall to edge of "U" channel with a smooth finish. The trough shall be troweled so that the wetted surface is smooth. The invert of the trough shall form a continuous conduit with the sewer pipe entering and leaving the manhole provided that the pipe was originally constructed or intended to be constructed in this manner. Care shall be taken to prevent the degradation of freshly poured benches and troughs.

The bench and trough shall be furnished in such a manner so that a watertight seal exists between the manhole walls, pipe, and bench/trough area. The finished bench and trough shall be cleaned of silt, debris or foreign matter of any kind.

Basis of Payment

This item shall be paid at the Contract Unit Price per Each for REPLACE BENCH AND TROUGH and shall include furnishing all labor, supervision, materials, equipment, and testing necessary to complete the work including removal of the existing defective bench and trough, and installation and sealing of the replacement bench and trough.

SP-38 CEMENTITIOUS COAT

Manhole sealing shall consist of all necessary measures to internally seal the manhole including cementitious wall coating, external or internal grouting, and reconstruction of bench/trough and shall establish structural integrity for the manhole and shall eliminate inflow and infiltration.

This work shall provide for a monolithic fiber-reinforced calcium aluminate structural cementitious spray liner applied in two ½ inch lifts intended to seal the entire manhole structure. The spray liner shall be a complete manhole reconstruction that stops inflow and infiltration, providing a leak free structure, restoring structural integrity and providing protection against corrosion.

This specification shall govern all work, materials, and equipment required for manhole rehabilitation for the purpose of eliminating infiltration, exfiltration, providing corrosion protection, repair of voids, and restoration of the structural integrity of the manhole as a result of applying a monolithic fiber-reinforced structural cementitious liner to the adjustment, cone, wall and bench surfaces of brick, block, pre-cast or poured concrete, or other masonry construction material.

Described are procedures for cleaning, preparation, application and testing. The applicator, approved and trained by the manufacturer, shall furnish all labor, equipment and materials for applying a cementitious mix to form two coats of a structural monolithic liner, with machinery specially designed for the application. All aspects of the installations shall be in accordance with the manufacturer's recommendation and per the following specifications which includes:

- A. Remove loose and unsound material
- B. Clean area to be sprayed
- C. Eliminate infiltration
- D. Repair and fill voids
- E. Repair and seal bench trough/inverts
- F. Spraying the cementitious monolithic liner

Remove loose and unsound material

Loose and protruding brick, mortar and concrete shall be removed using a mason's hammer and chisel and/or a scraper. Any loose debris on the benches, invert or walls of the manhole shall be removed by means of a scraper and vacuum machine or other approved method as long as it is taken from the manhole and not caused to go into the sewer. Any damaged manhole steps shall be removed prior to cleaning the interior of the manhole. Place covers over invert to prevent extraneous material from entering the sewer lines before cleaning.

Clean area to be sprayed

The Contractor shall clean the interior surfaces of the manhole by removing all debris, dirt, oil, grease, remains of old coating materials, and any other extraneous materials. The Contractor shall then pressure wash (minimum 3,000 psi) the manhole walls to remove loose mortar, concrete, roots, and debris. Heavy grease build-up or unusual conditions may require hydro-blasting or chemical cleaning. Loose and protruding brick, mortar and concrete shall be removed using a mason's hammer and chisel and or scraper.

Eliminate infiltration

The following are approved for patching material: Strong Seal QSR; Quadex Hyperform; or approved equal. This quick setting fiber reinforced calcium aluminate corrosion resistant cementitious material shall be used as a patching material and is to be mixed and applied according to manufacturer's recommendations and shall have the following minimum requirements:

Compressive Strength	ASTM C109	>1800 psi, 1 hr >2600 psi, 24 hrs
Bond Calcium Aluminate Cement	ASTM C882	>1600 psi, 28 days Sulfate resistant
Applied Density		105 lbs/ft ³ ± 5
Shrinkage	ASTM C490	0% at 90% R. H.
Placement Time		5 to 10 minutes
Set Time		15 to 30 minutes

Approved materials to stop visible infiltration are the following: Strong-Plug; Quadex Quad-Plug; or approved equal. This rapid setting cementitious product specifically formulated for leak control, shall be used to stop minor water infiltration and shall be mixed and applied according to manufacturer's recommendations and shall have the following minimum requirements:

Compressive Strength	ASTM C109	>1000 psi, 1hr >2500 psi, 24 hrs
Sulfate Resistance	ASTM C267	No wt loss, 15 cycles @2000 ppm
Freeze/Thaw	ASTM C666,	Method A 100 cycles
Pull Out Strength	ASTM C234	14,000 lbs.
Set Time		<1. 0 minute

Approved materials to stop severe active infiltration are the following: Hydrostop-Flex 40/500; Avanti AV-100; Deneef Denepox 40; or approved equal. Grouting installation shall conform to ASTM F2414-04. Grouting shall be performed anywhere where active infiltration cannot be stopped with the cementitious grout. All grouting work shall be considered incidental to the unit price bid payment item for CEMENTITIOUS MANHOLE SEALING.

Repair and fill voids

The Contractor shall fill any large voids using one of the approved patching materials. Active Leaks shall be stopped using quick-setting, specially formulated mixes, according to manufacturer's recommendations. Some leaks may require weep holes to localize infiltration during the application. After application the weep holes shall be plugged with quick setting material. After repairing and filling voids and preparations are complete, remove all loose material and wash again. Any bench or invert repairs shall be made at this time using the quick-setting patching mix.

Repair and seal bench trough/inverts

Invert repair shall be performed on all inverts with visible damage or where infiltration is present or when vacuum testing is specified. After blocking the flow through the manhole and thoroughly cleaning the invert, a quick-setting patch material shall be applied in an expeditious manner. The material shall be troweled uniformly onto the damaged invert at a minimum thickness of ½ inch at the invert extending out onto the bench of the manhole sufficiently to tie into the structural monolithic liner to be spray applied. The finished invert shall be smooth and free of ridges. The flow may be re-established in the manhole within 30 minutes after placement of the material.

Spraying the cementitious monolithic liner

Liner Material shall be Strong-Seal MS2-C or an approved equal and shall be made with calcium aluminate cement and shall be used according to manufacturer's recommendations in applications where there is evidence of mild sulfide conditions (substrate surface of pH 2.0 or higher). The cementitious liner shall be used to form a structural monolithic liner covering all interior manhole surfaces and shall have the following minimum requirements:

Compressive Strength	ASTM C109 28 days	>9000 psi
Tensile Strength	ASTM C496 28 days	>800 psi
Flexural Strength	ASTM C293 28 days	>1200 psi
Shrinkage @90% R. H.	ASTM C596 28 days	0%
Bond	ASTM C882 28 days	>2000 psi
Density, When Applied		134 ± 5lbs/ft ³
Freeze/Thaw	ASTM C666	300 cycles no vis. damage

During application the surface shall be clean and free of all foreign material and shall be damp without noticeable free water droplets or running water, but totally saturated just prior to application of material. Materials shall be spray applied in two lifts, at least 24 hours apart. Minimum total thickness for each pass shall not be less than ½ inch and shall be from the bottom of the frame to the invert of the manhole. The surface shall then be troweled to a relatively smooth finish being careful not to over trowel. A brush finish shall be applied to the trowel-finished surface.

After the walls are coated, the invert covers shall be removed, and the bench sprayed with excess materials applied in such a manner that a gradual slope is produced from the walls to the invert with the thickness at the invert to be no less than ½ inch. The wall/bench intersection shall be rounded to a uniform radius the full circumference of the intersection. Trough area shall be coated as required to seal all cracks and to provide a smooth surface.

The material shall have minimum of four (4) hours cure time before being subjected to active flow. Ambient conditions in the manhole are adequate for curing as long as the manhole is covered. Traffic shall not be allowed over manholes for 12 hours after reconstruction is complete. Caution shall be taken to minimize exposure of applied product to sunlight, quick surface drying and air movement. At no time should the finished product be exposed to sunlight or air movement for longer than 15 minutes before replacing the cover. In extremely hot and arid climates, the manhole should be shaded while reconstruction is in process.

No application shall be made if ambient temperature is below 40 degrees Fahrenheit. No application shall be made to frozen surfaces or if freezing is expected to occur within the substrate within 24 hours after application. If the ambient temperatures are in excess of 95 degrees Fahrenheit, precautions shall be taken to keep the mix temperatures at time of application below 90 degrees Fahrenheit. Water temperature shall not exceed 80 degrees Fahrenheit. Chill with ice if necessary.

Quality control

Final acceptance shall be made upon successfully passing:

1. Vacuum test as described under the provision VACUUM TESTING.

2. Compressive Strength test: Sample and make five test cylinders per ASTM C 31 and analyze with ASTM C 39, or as specified by contract document, for testing compressive strength from each day's work (for Vertical Infrastructure) or every 32,000 lbs. of material (for Horizontal Infrastructure). Label the cylinders with the date, location, project, and product batch numbers. The product batch numbers are located on each geopolymer material bag. Send the cylinders to a third-party laboratory or the manufacturer for verification. Test in accordance with ASTM C 39, or as specified in contract documents. Test the geopolymer material for compressive strength at 7 days (1 cylinder) and 28 days (3 cylinders) and leave 1 cylinder for retainage. Performance and Material Testing for manholes:
 - i. Performance testing as directed in ASTM F 2551.
 - ii. Submit the following information to the engineer: Product data, including manufacturer and brand name along with laboratory test results to verify 28-day compressive strength in accordance with ASTM C 39 or ASTM C 109. The samples must be undisturbed for a period of at least 24 hours before they can be transported. The Engineer will require that samples of applied material be taken representative of each day's work of material used. Samples shall be obtained from the pump, hose or nozzle, identified, and sent to an independent test laboratory to verify 28-day compression strength testing as described in ASTM C 39 or ASTM C 109 and shall have a minimum average of the strength set forth hereinabove in Section F.

Basis of Payment

This item shall be paid at the Contract Unit Price per Each for CEMENTITIOUS COAT and shall include all labor and materials to rehabilitate the manhole as described in the above provisions.

VACUUM TESTING shall be measured and paid for separately. The compressive strength tests shall be considered incidental.

SP-39 VACUUM TESTING

This specification shall govern the vacuum testing of sanitary sewer manholes and structures and shall be used as a method of determining acceptability by the Owner, in accepting maintenance or installation of a sanitary sewer manhole or structure. Vacuum testing shall be according to ASTM C1244, except as specified otherwise herein. Other forms of testing of some manholes may be required, as deemed necessary by the Owner.

At least twenty-five percent (25%) of the total number of sanitary sewer manholes installed or receiving cementitious coating shall be vacuum tested as specified herein. Manholes to be tested shall be selected by the Engineer at the time of testing. No advance notice will be provided to the Contractor as to which manholes will be tested. If more than ten percent (10%) of the manholes tested fail the initial test, an additional twenty-five percent (25%) of the total manholes shall be tested at no additional charge. This process shall continue until a series of manholes (25% of the

total) successfully test with no more than 10% initial failure or until all manholes have been tested. Additional vacuum testing required after failing the initial testing will be considered incidental to the contract and will not be paid for separately.

Manholes shall be tested after installation or rehabilitation and when all connections are in place. Lift holes, if any, shall be plugged with an approved, non-shrinkable grout prior to testing. Drop connections shall be installed prior to testing. The vacuum test shall include testing of the seal between the cast iron frame and the concrete cone, slab or grade rings. Manhole vacuum testing shall be performed after all adjacent underground utilities have been installed and all manholes have been backfilled and finished to final grade.

All manholes found to have been damaged or disturbed prior to the final (one-year) inspection shall be corrected and vacuum tested at that time, regardless of whether or not they were originally vacuum tested. If a coating or lining is to be applied to the interior of the manhole the vacuum test must not be performed until the coating or lining has been cured according to the manufacturer's recommendations.

Procedure for testing shall be as follows:

1. Temporarily plug all pipes entering the manhole. Each plug must be installed at a location beyond the manhole/pipe gasket (i. e. outside the manhole wall), and shall be braced to prevent the plug or pipe from being drawn into the manhole.
2. The test head shall be placed inside the rim of the cast iron frame at the top of the manhole and inflated, in accordance with the manufacturer's recommendations.
3. A vacuum of at least ten inches of mercury (10" Hg) shall be drawn on the manhole. Shut the valve on the vacuum line to the manhole and shut off the pump or disconnect the vacuum line from the pump.
4. The pressure gauge shall be liquid filled, having a 3. 5-inch diameter face with a reading from zero to thirty inches of mercury.

The manhole shall be considered to pass the vacuum test if the vacuum reading does not drop more than 1" Hg (i. e. from 10" Hg to 9" Hg) during the following minimum test times for various manhole diameters.

<i>Depth (ft.)</i>	Manhole Diameter (inches)								
	30	33	36	42	48	54	60	66	72
	Test Time (Seconds)								
8	11	12	14	17	20	23	26	29	33
10	14	15	18	21	25	29	33	36	41
12	17	18	21	25	30	35	39	43	49
14	20	21	25	30	35	41	46	51	57
16	22	24	29	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	53	65	72	81

22	31	33	39	46	55	64	72	79	89
24	33	36	42	51	59	64	78	87	97
26	36	39	46	55	64	75	85	94	105
28	39	42	49	59	69	81	91	101	113
30	42	45	53	65	74	87	89	108	121

Basis of Payment:

This item shall be paid at the Contract Unit Price per Each for VACUUM TESTING and shall include furnishing all labor, supervision, materials, equipment, and testing necessary to complete the work.

SP-40 PATCH INVERT & WALLS

The intent of this pay item is to repair any cracks/holes in previously rehabilitated manholes to ensure structural stability while keeping infiltration out.

For the manholes called out as such, the cone, wall, and inverts shall be patched as needed with quick-setting hydraulic mortar and troweled flush with the surface of the manhole walls or other surfaces. The mortar used shall be a non-shrink patching mortar such as Strong Seal QSR; Quadex Hyperform or an approved equal. In addition to filling the holes and cracks, the interior surface of the manhole shall be patched with a ½-inch thick quick setting mortar such as Strong Seal QSR; Quadex Hyperform or an approved equal.

The Engineer will determine for each structure if it has been sufficiently patched.

Basis of Payment:

This item shall be paid for at the Contract Unit Price per Each for PATCH INVERT AND WALLS and shall include all labor and materials to rehabilitate the manhole as described in the above provisions.

SP-41 INSTALL COVER INSERTS

Where indicated on the plans, the Contractor shall install cover insert on existing manhole.

The cover insert shall be Parson Environmental or approved equal.

The Contractor is required to measure each cover that needs an insert. The contractor is responsible for ensuring a proper fit with the frame, insert, and cover.

Basis of Payment:

This item shall be paid for at the Contract Unit Price per Each for INSTALL COVER INSERT and shall include all work necessary for the installation of a new cover insert including measurement, procurement, and installation.

SP-42 LOCATE AND UNBURY MANHOLE, RAISE TO GRADE

A camera-mounted locating sonde, capable of operation at depths up to 20 feet, shall be required to determine the location of the buried manholes. Sonde locating will be used to determine the locations of the buried manhole.

The location shall be determined above ground via two methods. First, a camera-mounted sonde and compatible detection wand shall be utilized to locate and paint / flag the location while the camera is halted at the manhole installation location. Secondly, the Contractor shall utilize a measuring wheel or tape to measure from the manhole to the located point (based on camera reel counter footage) for confirmation that the correct location is marked. Upon confirmation of location, the manhole installation point shall be thoroughly painted (oil-based white) in paved areas. A GPS coordinate (XYZ position) shall then be obtained to sub-meter accuracy. Depths shall also be recorded.

Once located, the manhole shall be raised to grade using concrete adjustment rings. All work to raise the manhole shall conform with the CHIMNEY REHABILITATION special provision.

Basis of Payment:

This item shall be paid at the Contract Unit Price per Each for LOCATE AND UNBURY MANHOLE, RAISE TO GRADE and shall include all work necessary for the complete adjustment and sealing of each manhole frame as specified in the special provisions including measurement, procurement, installation, replacement, external chimney seals, adjustment rings and restoration including but not limited to full Depth Patching, PCC Sidewalk, Seeding, Driveway Pavement and Curb and Gutter removal and replacement.

SP-43 REMOVAL OF EXCESS EXCAVATED MATERIAL

All excess excavated material not needed for backfill shall be removed, hauled and disposed of in accordance with Federal, State and local requirements or any other applicable statute or regulation associated with the disposal of this type of waste, including the handling, manifesting, transportation and disposal of the soil as a special waste.

The Owner shall not be responsible for any cross-contamination that may occur to the soil once it is excavated and transported off of the site (i.e., by contaminated excavation equipment, contaminated trucks, etc.). The Contractor shall have total and complete responsibility for the soil once it leaves the site, including responsibility for any and all rejected loads and the soil's ultimate, legal disposition.

The Contractor shall provide a written description of how they intend to dispose, use, store or otherwise handle the excavated soil and to which permitted facility (if any) the Contractor

intends to transport the soil for disposal prior to execution of the contract by the Owner. Removed and disposal of excess excavated material shall be in accordance with one of the following methods or other method as recommended by the Contractor and approved by the Owner.

METHOD NO. 1 – DISPOSAL AT A SITE OTHER THAN A CCDD OR SOIL ONLY FACILITY

1. All excess material shall be removed, hauled and disposed of in accordance with Article 202.03 of the IDOT Specifications. Add the following to the third paragraph of Article 202.03 of the IDOT Specifications:

“The Contractor shall not conduct any generation, transportation, or recycling of construction or demolition debris, clean or general or uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and road that is not commingled with any waste, without the maintenance of documentation identifying the hauler, generator, place of origin of the debris or soil, the weight of volume of the debris or soil, and the location, owner, and operator of the facility where the debris or soil was transferred, disposed, recycled or treated. This documentation must be maintained by the Contractor for 3 years.”

2. The documentation must be similar or contain the information as shown on Form 1 of this Section.
3. The Contractor shall supply copies of all required or requested documentation to both the Owner and Engineer as generated. Failure to submit required or requested documentation may result in delaying the processing of pay requests.
4. Contractor shall obtain permission in writing from the facility and/or property owner accepting the excess excavated material and provide copy of the written permission to the Owner at the preconstruction meeting.

METHOD NO. 2 – DISPOSAL AT A CCDD OR SOIL ONLY FACILITY

1. All uncontaminated soil comingled with Clean Construction and Demolition Debris (“CCDD”) material must be certified as such in order for the soil to be disposed at a CCDD or soil only facility permitted by the Illinois Environmental Protection Agency (“Illinois EPA”). All requirements of the State of Illinois Environmental Protection Act (“Act”) and 35 IAC 1100 “Clean Construction or Demolition Debris Operations and Uncontaminated Soil Fill Operations” with regard to uncontaminated soil and/or CCDD must

be met. This includes providing and completing all forms, certifications and testing at the sole expense of the Contractor as required by statutes and regulations.

2. No guarantee is made or implied by the Owner/Engineer that a CCDD or soil only disposal facility will accept the soil for disposal. It is the Contractor's responsibility to select the CCDD or soil only facility for disposal and is the Contractor's responsibility for its proper disposal.
3. The documentation must be similar or contain the information as shown on Form 1 of this Section.
4. The Contractor shall supply copies of all required or requested documentation to both the Owner and Engineer as generated. Failure to submit required or requested documentation may result in delaying the processing of pay requests.
5. Contractor shall obtain permission in writing from the facility and/or property owner accepting the excess excavated material and provide copy of the written permission to the Owner at the pre-construction meeting.

FORM 1

CONSTRUCTION DEBRIS MANIFEST

Ticket No. _____

Contract No. _____

Generator _____

Hauler _____

Truck No. _____

Description of Material: _____

Approximate Weight of Material _____

Approximate Volume of Material _____

Disposition of Material:

Location: _____

Date: _____

Time: _____

Owner: _____

Operator: _____

SP-44 SUBSTITUTION OF MATERIALS, ACCESSORIES AND EQUIPMENT

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

- 1) “Or-equal”: If in the Engineer’s sole discretion an item of material or equipment proposed by the Contractor is functionally equal to that named and sufficiently similar so that no change in the related Work will be required, it may be considered by Engineer as an “or-equal” item, in which case review and approval of the proposed item may, in the Engineer’s sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.
- 2) Substitute Items: If in the Engineer’s sole discretion an item of material or equipment proposed by the Contractor does not qualify as an “or-equal” item under subparagraph A.1, it will be considered a proposed substitute item. The Contractor shall submit sufficient information as provided below to allow the Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. The procedure for review by the Engineer will include the following as supplemented in the Specifications and as the Engineer may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by the engineer from anyone other than the Contractor. If the Contractor wishes to furnish or use a substitute item of material or equipment, the Contractor shall first make written application to the Engineer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation or acceptance of the proposed substitute will prejudice the Contractor’s achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with the Owner for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair

and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including cost of redesign and claims of other contracts affected by the resulting change, all of which will be considered by the Engineer in evaluating the proposed substitute. The Engineer may require the Contractor to furnish additional data about the proposed substitute.

- 3) Contractor's Expense: All data to be provided by the Contractor in support of any proposed "or-equal" or substitute item will be at the Contractor's expense.
- B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence or procedure of construction is shown or indicated in and expressly required by the Contract Documents, the Contractor may furnish or utilize a substitute means method, technique, sequence or procedure of construction acceptable to the Engineer. The Contractor shall submit sufficient information to allow the Engineer, in the Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by the Engineer will be similar to that provided in subparagraph A.2.
- C. Engineer's Evaluation: The Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs A.2 and B. The Engineer will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without the Engineer's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. The Owner may require the Contractor to furnish, at the Contractor's expense, a special performance guarantee or other surety with respect to any "or-equal" or substitute. The Engineer will record the time required by the Engineer and Engineer's consultants in evaluating substitutes proposed or submitted by the Contractor pursuant to paragraphs A.2 and B. and in making changes in the Contract Documents (or in the provisions of any other direct Contract with the Owner for work on the Project) occasioned thereby. Whether or not the Engineer accepts a substitute item so proposed or submitted by the Contractor, the Contractor shall reimburse the Owner for the charges of the Engineer and Engineer's consultants for evaluating each such proposed substitute item.
- D. The Engineer will consider requests from the Contractor for Product substitutions no later than 15 days after the date established in the Notice to Proceed and prior to any construction. Subsequently, substitutions will be considered only when a product becomes unavailable due to no fault of the Contractor.

SP-45 POST – CONSTRUCTION CLEANING AND TELEVISIONING

Post-construction internal television inspection shall follow the same guidelines as PRE-CONSTRUCTION TELEVISIONING and shall be conducted on all sewers receiving sewer repairs, new sewer installations and sewer rehabilitation. This inspection must be done in the presence of the City or the Engineer and shall be per NASSCO standards by PACP certified operators.

Digital video inspections of the post-construction/rehabilitation television inspection for each sewer section shall be provided to the Engineer and the City as described below:

Deliverables

After the work is completed, the Contractor shall provide the City with two (2) portable USB 2.0 powered external hard drives containing each video file and associated PDF report, which shall document, to the satisfaction of the Engineer, the condition of the sewer line segment both immediately before and after lining, grouting, and T-lining and that it has been installed correctly and that all of the active connections have been restored.

The hard drives shall include a master Excel spreadsheet with hyperlinks to each video file and associated PDF report as well as a master digital database of all observation data. One (1) copies of the digital video data and logs shall become the property of the CITY and one (1) copies shall remain with the Engineer.

- The Master Spreadsheet shall have a record for each line segment televised to date. The spreadsheet shall be in MS Excel format and shall have hyperlinks to both the video files and the associated “.pdf” of the PACP & Pipe Segment View report for each section of sewer televised. The spreadsheet shall include the following information for each record - Upstream and Downstream Structure Numbers, Date Televised, Televised Length, Pipe Size, work performed, and links to both the Video and the “.pdf” files.
- The Database in PACP 7.0.3 format shall detail location, type, and severity of all defects and shall be Microsoft Access V07 Database files with all tables linked by appropriate I.D. numbers, and links to video and “.pdf” report files. **All data shall be linked to the pipe segment ID number.**

Basis of Payment:

POST-CONSTRUCTION TELEVISION INSPECTION and all deliverables shall be considered incidental to the Contract and shall not be compensated for separately.

SP-46 PCC PAVEMENT REMOVAL AND REPLACEMENT

This work shall consist of the removal and satisfactory disposal of all existing pavement and stabilized sub-base as per the applicable portions of Section 440 and Section 442 of the IDOT Standard Specifications and as shown on the Plans or as directed by the Engineer. This item applies to all designated full depth pavement removal.

This work shall consist of the removal and disposal of the existing pavement, consisting of PCC pavement, bituminous surface, sidewalk, pavers, and adjacent integral curb, where required for the construction of new pavement, storm sewers, water main, water services, and sanitary services, as shown on the Plans.

This work shall also consist of the replacement of each surface to the thicknesses and materials shown in the plan set. All surfaces and base courses shall be repaired to restore the previous condition before work begun.

This work is incidental to the contract and shall include all saw-cutting and disposal of material as needed and all other incidental items required complete the work. All saw cutting shall be completed using a wet saw to control dust.

SP-47 SEWER FLOW AND BYPASS PUMPING

This work shall include control of sanitary sewer flow during closed circuit television (CCTV) inspection, sewer cleaning operations, manhole rehabilitation, manhole installation and all other sewer maintenance, inspection or construction activities. The Contractor shall be fully responsible for maintaining sewer service during these operations and shall not be allowed to backup or flood any sewer system user, building or property. The Contractor shall be solely liable for property damages that result from the work being performed.

During sewer cleaning operations, only 25% of the internal pipe diameter flow or “limited sewage flow” is acceptable. Flows shall be reduced by plugging, blocking, manually operating pump stations or bypass pumping. During sewer televising operations, only 5% of the internal pipe diameter flow is acceptable. During sewer lining, sewer coatings, manhole installation, manhole rehabilitation and point repairs, no flows will be allowed.

Since complete stoppage or bypassing of flow may be required during sewer lining, point repairs and manhole rehabilitation work, the Contractor may be required to submit drawings and complete design data showing methods and equipment to be utilized in bypass and dewatering operations. The bypass plan shall include the following information:

1. Location of temporary sewer plugs and bypass discharge lines indicated on plans
2. Capacities of pumps, prime movers, and standby equipment
3. Type of standby power source
4. Traffic control plan

When pumping and bypassing is required, the Contractor shall furnish all temporary pumps, conduits, and other equipment to divert the flow of sewage around the sewer section in which work is to be performed. The bypass system shall have sufficient capacity to handle existing flow plus additional flow that may occur during peak flow periods or from precipitation. The Contractor shall construct bypass system of material to prevent leakage during pumping operation.

The Contractor shall equip all engines with mufflers and/or enclose to keep noise level less than 50 decibels, or 10 decibels above ambient noise levels when measured at building closest to noise source.

The Contractor shall maintain sufficient labor, equipment and materials on site to ensure continuous and successful operation of bypass and dewatering systems including the following:

1. Keep standby pumps fueled and operational at all times
2. Maintain on site sufficient number of valves, tees, elbows, connections, tools, sewer plugs, piping, and other parts or system hardware to ensure immediate repair or modification of any part of system as necessary.
3. Provide piping, joints and accessories designed to withstand at least twice the maximum system pressure or 50 psi (345 kPa), whichever is greater.

In areas where flows are bypassed, all discharge flow shall be returned to the sanitary sewer. No bypassing to ground surface, receiving waters, storm drains, or bypassing which results in groundwater contamination or potential health hazards shall be permitted.

In the event sewage is released into a storm drainage system or street, the Contractor shall immediately stop the release, notify IEPA, and take all necessary actions to clean up and disinfect spillage to satisfaction of the Engineer.

During plugging or bypass pumping operations the Contractor shall utilize sewer plugs specifically designed so that all or any portion of sewage can be released. During sewer flow control operations, reduce flow to comply with requirements as describe above. After cleaning, inspection, installation or rehabilitation work has been completed, restore the flow to normal.

Basis of Payment:

All plugging, bypass pumping and sewer flow control operations shall be considered incidental to the Contract and shall not be compensated for separately.

CITY OF GENEVA
2022 SANITARY SEWER REHABILITATION

RAILROAD PAPERWORK

CITY OF GENEVA
2022 SANITARY SEWER REHABILITATION

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Observation Rates:

The daily rates for Observation services to be provided under this Agreement are based on eight (8) hours per day and will be as follows:

- **Mobilization/Administrative Fee**.....\$1,000 per Observer Required (each project will incur a fee for travel and administrative costs per Observer). 24 Hour continuous work requires two Observers. Project must be cancelled 4 business days prior to the scheduled start date to avoid additional mobilization fee. Multiple mobilization fees or additional labor fees will be charged if the project cannot be constructed in consecutive days (Monday through Saturday at a minimum) or if there is a delay during installation.
- **Construction Observation Fees**.....\$1,400/Standard 8-hour day. Overtime rate after 8 hours is \$200 per hour (all scheduling requests require a minimum 10-business days' notification).
- **Surcharge Fee**.....Activity in certain regions of the U.S. has created high demand for hotel rooms and increased related travel costs. The Project falls within such a region, therefore a surcharge of \$0.00 per day will be added to the invoice.

Flagging Rates:

The rates for Flagging services are as follows:

Standard WorkDay:	
Standard 8 hour day	\$1,018.00
Overtime rate per hour after 8 hours	\$135.00
Nights, Weekends, and Holidays:	
Standard 8 hour day	\$1,285.00
Overtime rate per hour after 8 hours	\$154.00

In the event of cancellation, if RailPros Management is given less than 24 hours' notice, it is considered a billable day. Cancellations must be made in writing to UP.Info@RailPros.com.

This quote is based on RailPros standard labor rates and does not take into any account prevailing wage requirements. If prevailing wages are applicable for this project, RailPros will re-quote based on the prevailing wage requirements.

Invoices are submitted upon completion of the job or at month's end. On-going jobs are billed on a monthly basis. Payments of invoices are due upon receipt. Invoices are subject to a 1.5% fee for every 30 days the payment is delinquent. RailPros accepts payment for services via Visa, MasterCard, Discover and American Express without additional fees. We encourage you to use this free and convenient service with no processing fees. Please refer to the second page of this document for credit card payments. Please contact RailPros at 877-315-0513 X116 or UP.Info@railpros.com for more information.

This quote is valid for 30 days and is subject to the attached Services Agreement (SA).

You may indicate your acceptance of this quote and the SA by signing and returning both documents via email.



BUILDING AMERICA®

May 23, 2022

Folder: 3310-92

BOB VANGYSEGHM
CITY OF GENEVA
1800 SOUTH ST
GENEVA, IL 60134

Bob Vangyseghem,

Attached is your original copy of our Agreement, fully executed on behalf of the Railroad Company. When you or your representative enters the Railroad Company's property, a copy of this fully-executed document must be available at the site to be shown on request to any Railroad employee or official.

In accordance with the terms of the Agreement, you are required to notify the following Railroad Company's Manager of Track Maintenance or their representative, Manager of Signal Maintenance, and the Telecommunications ("Call Before You Dig") website at least 10 days in advance of the date you plan on entering the right of way for further instructions and approval to commence construction.

www.up.com/real_estate/third-party-flagging/index.htm

Brian McCormick
Cell Phone: 224-407-7884
Email: bpmccorm@up.com

Call Before You Dig: www.up.com/aboutup/community/telecom/groups/index.htm

As an additional note, the top of the casing must be a minimum of two feet below any existing fiber optic cable. Any open excavation required within five feet of the fiber optic cable must be dug by hand.

All future insurance notices should be forwarded to Union Pacific Railroad- Attention Real Estate, at the address provided at the bottom of this letter along with the appropriate referenced Folder Number.

Should you have any questions or concerns, please contact me at 402.544.8620 or cobenson@up.com.

Sincerely,

Craig Benson
Senior Manager – Real Estate

PIPELINE CROSSING AGREEMENT

Mile Post: 35.59, Geneva Subdivision
Location: Geneva, Kane County, Illinois

THIS AGREEMENT ("Agreement") is made and entered into as of March 08, 2022, ("Effective Date") by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation, ("Licensor") and **CITY OF GENEVA**, an Illinois municipal corporation to be addressed at 1800 South St, Geneva, Illinois 60134 ("Licensee").

IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

Article 1. LICENSOR GRANTS RIGHT.

A. In consideration of the license fee to be paid by Licensee set forth below and in further consideration of the covenants and agreements to be performed by Licensee, Licensor hereby grants to Licensee the right to construct and thereafter, during the term hereof, maintain and operate an underground 15 inch CIPP lined pipeline crossing for transporting and conveying sanitary sewer only, including any appurtenances required for the operation of said pipeline (collectively, "Licensee's Facilities") across Licensor's real property, trackage, or other facilities located in Geneva, Kane County, State of Illinois ("Railroad Property"). The specific specifications and limited purpose for Licensee's Facilities on, along, across and under Railroad Property are described in and shown on the Print and Specifications dated March 04, 2022, attached hereto as **Exhibit A** and made a part hereof.

B. Licensee represents and warrants that Licensee's Facilities will (i) only be used for an underground 15 inch CIPP lined pipeline crossing for transporting and conveying sanitary sewer, and (ii) not be used to convey any other substance, any fiber optic cable, or for any other use, whether such use is currently technologically possible, or whether such use may come into existence during the life of this Agreement.

C. Licensee acknowledges that if it or its contractor provides Licensor with digital imagery depicting Licensee's Facilities ("Digital Imagery"), Licensee authorizes Licensor to use the Digital Imagery in preparing **Exhibit A**. Licensee represents and warrants that through a license or otherwise, it has the right to use the Digital Imagery and to permit Licensor to use the Digital Imagery in said manner.

Article 2. LICENSE FEE.

Upon execution of this Agreement, the Licensee shall pay to the Licensor a one-time License Fee of **Eight Thousand Three Hundred Twenty Dollars (\$8,320.00)**.

Article 3. TERM.

This Agreement shall take effect as of the Effective Date first herein written and shall continue in full force and effect until terminated as provided in the "TERMINATION; REMOVAL OF LICENSEE'S FACILITIES" Section of **Exhibit B**.



March 08, 2022
Folder: 03310-92

BOB VANGYSEGHEM
CITY OF GENEVA
1800 SOUTH ST
GENEVA IL 60134

Re: Proposed Underground 15 Inch CIPP Lined Pipeline Crossing For Transporting And Conveying Sanitary Sewer Pipeline Crossing of Railroad Property at Mile Post 35.59 on the Geneva Subdivision at or near Geneva, Kane County, Illinois

Kyle Linares:

Attached is an original of the agreement covering your use of the Railroad Company's right of way. Please return the executed agreement via email. For any payment(s), please follow the accompanying instructions.

An original copy of the fully-executed document will be returned to you, when approved and processed by the Railroad Company.

- Payment in the amount of **Eight Thousand Three Hundred Twenty Dollars (\$8,320.00)** is due and payable to Union Pacific Railroad Company upon your execution of the agreement. Please include your payment, with **Folder No. 03310-92 noted on that document**. If you require formal billing, you may consider this letter as a formal bill and that 94-6001323 is this Corporation's correct Federal Taxpayer Identification Number.
- Railroad Protective Liability Insurance (RPLI) may be obtained from any insurance company which offers such coverage. Union Pacific has also worked with a national broker, Marsh USA, to make available RPLI to you or your contractor. You can find additional information, premium quotes, and application forms at (uprr.marsh.com).

If we have not received the executed documents within six months from the date of this letter, this proposed offer of an agreement is withdrawn and becomes null and void.

If you have any questions, please contact me at COBENSON@up.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Craig Benson".

Craig Benson
Mgr Real Estate Contracts

Article 4. LICENSEE'S COMPLIANCE WITH GENERAL TERMS.

Licensee represents and warrants that all work on Licensee's Facilities performed by Licensee or its contractors will strictly comply with all terms and conditions set forth herein, including the General Terms and Conditions, attached hereto as Exhibit B and made a part hereof.

Article 5. INSURANCE.

A. During the term of this Agreement, Licensee shall fully comply or cause its contractor(s) to fully comply with the insurance requirements described in **Exhibit C**, attached hereto and made a part hereof. Upon request only, Licensee shall send copies of all insurance documentation (e.g., certificates, endorsements, etc.) to Licensor at the address listed in the "NOTICES" Section of this Agreement.

B. If Licensee is subject to statute(s) limiting its insurance liability and/or limiting its ability to obtain insurance in compliance with **Exhibit C** of this Agreement, those statutes shall apply.

Article 6. DEFINITION OF LICENSEE.

For purposes of this Agreement, all references in this Agreement to Licensee will include Licensee's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority (collectively, a "Contractor"). If a Contractor is hired by Licensee to perform any work on Licensee's Facilities (including initial construction and subsequent relocation, maintenance, and/or repair work), then Licensee shall provide a copy of this Agreement to its Contractor(s) and require its Contractor(s) to comply with all terms and conditions of this Agreement, including the indemnification requirements set forth in the "INDEMNITY" Section of **Exhibit B**. Licensee shall require any Contractor to release, defend, and indemnify Licensor to the same extent and under the same terms and conditions as Licensee is required to release, defend, and indemnify Licensor herein.

Article 7. ATTORNEYS' FEES, EXPENSES, AND COSTS.

If litigation or other court action or similar adjudicatory proceeding is undertaken by Licensee or Licensor to enforce its rights under this Agreement, all fees, costs, and expenses, including, without limitation, reasonable attorneys' fees and court costs, of the prevailing Party in such action, suit, or proceeding shall be reimbursed or paid by the Party against whose interest the judgment or decision is rendered. The provisions of this Article shall survive the termination of this Agreement.

Article 8. WAIVER OF BREACH.

The waiver by Licensor of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by Licensee shall in no way impair the right of Licensor to avail itself of any remedy for any subsequent breach thereof.

Article 9. ASSIGNMENT.

A. Licensee shall not assign this Agreement, in whole or in part, or any rights herein granted, without the written consent of Licensor, which must be requested in writing by Licensee. Any assignment or attempted transfer of this Agreement or any of the rights herein granted, whether voluntary, by operation of law, or otherwise, without Licensor's written consent, will be absolutely void and may result in Licensor's termination of this Agreement pursuant to the "TERMINATION; REMOVAL OF LICENSEE'S FACILITIES" Section of **Exhibit B**.

B. Upon Licensor's written consent to any assignment, this Agreement will be binding upon and inure to the benefit of the parties thereto, successors, heirs, and assigns, executors, and administrators.

Article 10. SEVERABILITY.

Any provision of this Agreement which is determined by a court of competent jurisdiction to be invalid or unenforceable shall be invalid or unenforceable only to the extent of such determination, which shall not invalidate or otherwise render ineffective any other provision of this Agreement.

Article 11. NOTICES.

Except Licensee's commencement of work notice(s) required under **Exhibit B**, all other notices required by this Agreement must be in writing, and (i) personally served upon the business address listed below ("Notice Address"), (ii) sent overnight via express delivery by a nationally recognized overnight delivery service such as Federal Express Corporation or United Parcel Service to the Notice Address, or (iii) by certified mail, return receipt requested to the Notice Address. Overnight express delivery notices will be deemed to be given upon receipt. Certified mail notices will be deemed to be given three (3) days after deposit with the United States Postal Service.

If to Licensor: Union Pacific Railroad Company
Attn: Analyst – Real Estate Utilities (Folder No. 03310-92)
1400 Douglas Street, MS 1690
Omaha, Nebraska 68179

If to Licensee: CITY OF GENEVA
1800 South St
Geneva, Illinois 60134

Article 12. SPECIAL PROVISION – CONSTRUCTION OBSERVATION.

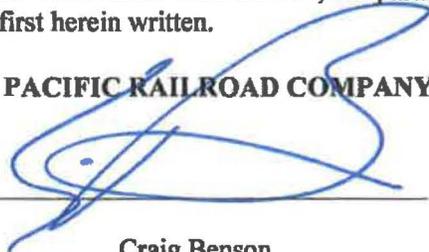
Licensor requires Licensee to provide monitoring of tracks and construction observation through Licensor approved observer named below during all construction and installation work. Licensee is to directly coordinate services with the named inspector:

Railpros Field Services
Email: RP.Utility@railpros.com
Phone (682)223-5271

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

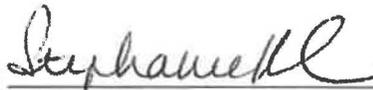
By: _____



Craig Benson
Mgr Real Estate Contracts

CITY OF GENEVA

By: _____

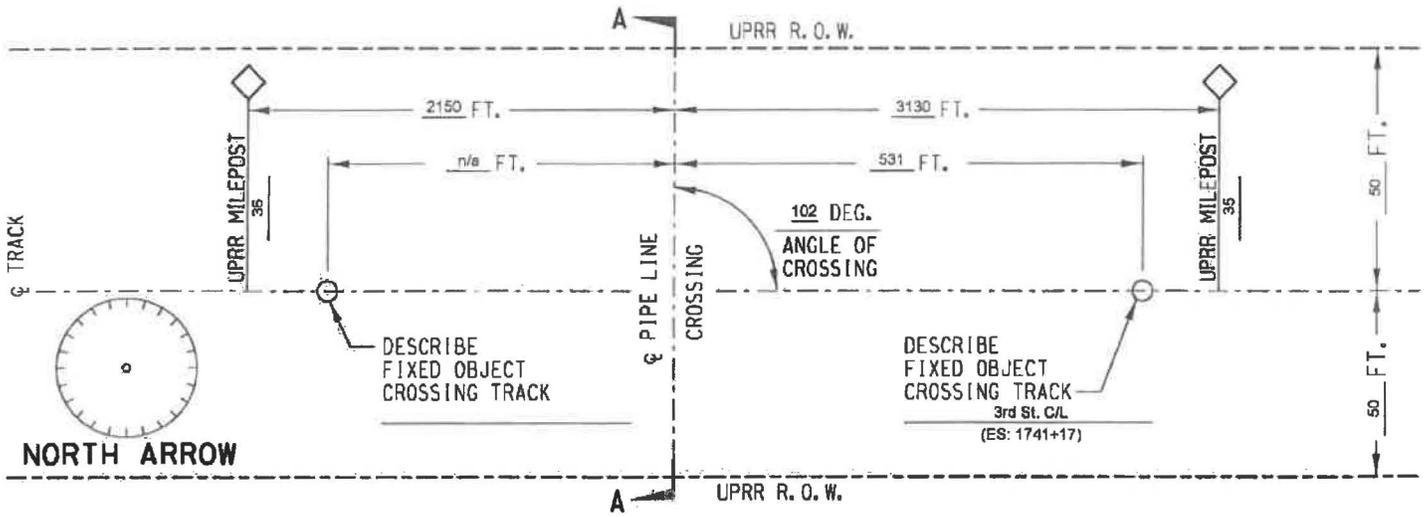


Name Printed: Stephanie K. Dawkins

Title: City Administrator

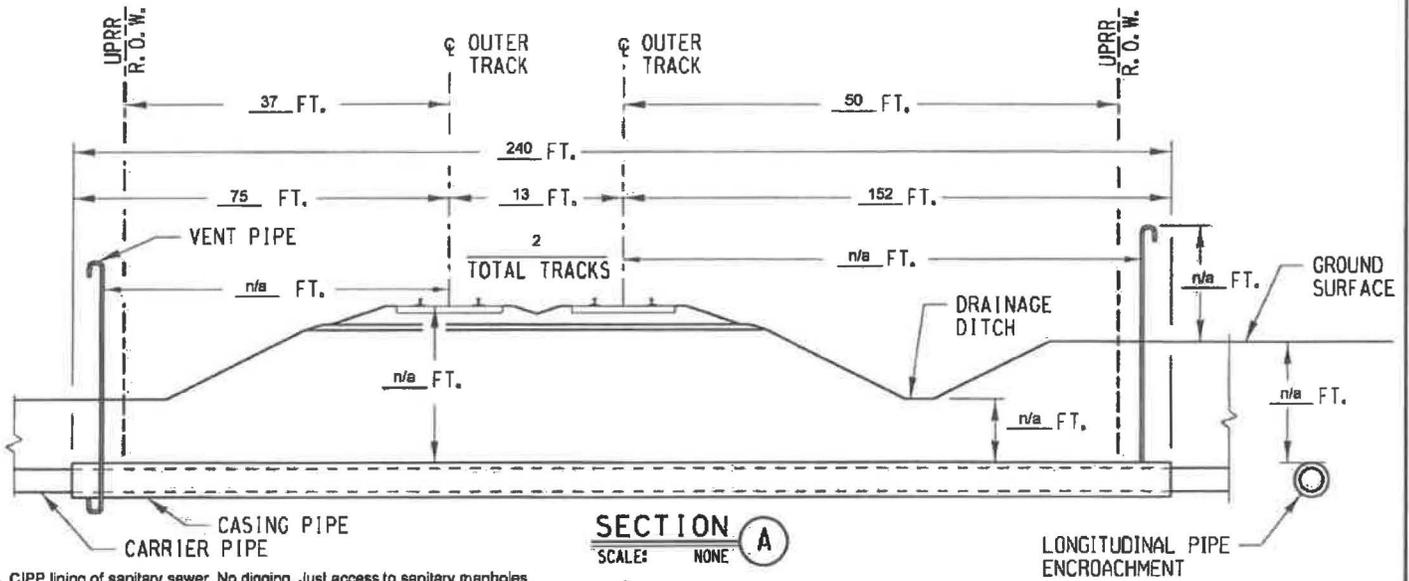
NON-FLAMMABLE LIQUID PIPELINE

- CROSSING
- ENCROACHMENT
- BOTH



PLAN

SCALE: NONE



SECTION A

SCALE: NONE

NOTES: CIPP lining of sanitary sewer, No digging, Just access to sanitary manholes.
 1) ALL DIMENSIONS MEASURED PERPENDICULAR TO THE CENTERLINE OF TRACK.
 2) REFER TO AREMA VOLUME 1, CHAPTER 1, PART 5, SECTION 5.3.

- A) METHOD OF INSTALLATION Underground Trenchless CIPP
- B) DIST. FROM CENTERLINE OF TRACK TO PIPE ENCROACHMENT _____
- C) SIGNS PROVIDED? Yes
- D) CARRIER MATERIAL Unknown. IF RCP, CLASS V? n/a.
 COMMODITY TO BE CONVEYED Sanitary Sewer.
 OPERATIONAL PRESSURE 0 PSI. MAOP 0 PSI.
 WALL THICKNESS (INCH)/ SCHEDULE Unknown. DIAMETER 15 IN.
 CATHODIC/COATING PROTECTION Unknown
- E) CASING MATERIAL Unknown. IF RCP, CLASS V? n/a.
 TOTAL LENGTH CASING PIPE: n/a FT.
 WALL THICKNESS n/a IN. DIAMETER n/a IN.
 CATHODIC/COATING PROTECTION n/a
 CASING PIPE IS n/a AT THE ENDS.
- F) DISTANCE FROM CENTERLINE OF TRACK TO NEAR FACE OF BORING AND JACKING PITS WHEN MEASURED AT RIGHT ANGLES n/a AND n/a.



BUILDING AMERICA®

EXHIBIT "A"

SUBDIVISION: <u>Geneva Sub.</u>		
TRACK TYPE: <u>MAINLINE</u>		
M.P.: <u>35.59</u>	LAT.: <u>41.88138989</u>	
E.S.M.: <u>1746+18 ±</u>	LONG.: <u>-88.31111111</u>	
NEAREST CITY: <u>Geneva</u>	COUNTY: <u>Kane</u>	STATE: <u>IL</u>
APPLICANT: <u>CITY OF GENEVA</u>		
FILE NO.: <u>3310-92</u>	DATE: <u>3 / 4 / 2022</u>	

EXHIBIT B

GENERAL TERMS AND CONDITIONS

Section 1. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED.

A. The foregoing grant is subject and subordinate to the prior and continuing right and obligation of Licensor to use and maintain its entire property including the right and power of Licensor to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be freely done at any time or times by Licensor without liability to Licensee or to any other party for compensation or damages.

B. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of Railroad Property) and the right of Licensor to renew and extend the same, and is made without covenant of title or for quiet enjoyment. It shall be Licensee's sole obligation to obtain such additional permission, license and grants necessary on account of any such existing rights.

Section 2. ENGINEERING REQUIREMENTS; PERMITS.

A. Licensee's Facilities will be designed, constructed, operated, maintained, repaired, renewed, modified, reconstructed, removed, or abandoned in place on Railroad Property by Licensee or its contractor to Licensor's satisfaction and in strict conformity with: (i) Licensor's current engineering standards and specifications, including those for shoring and cribbing to protect Licensor's railroad operations and facilities ("UP Specifications"), except for variances approved in advance in writing by Licensor's Assistant Vice President Engineering – Design or its authorized representative ("UP Engineering Representative"); (ii) such other additional safety standards as Licensor, in its sole discretion, elects to require, including, without limitation, American Railway Engineering and Maintenance-of-Way Association ("AREMA") standards and guidelines (collectively, "UP Additional Requirements"); and (iii) all applicable laws, rules, and regulations, including any applicable Federal Railroad Administration and Federal Energy Regulatory Commission regulations and enactments (collectively, "Laws"). If there is any conflict between UP Specifications, UP Additional Requirements, and Laws, the most restrictive will apply.

B. Licensee shall keep the soil over Licensee's Facilities thoroughly compacted, and maintain the grade over and around Licensee's Facilities even with the surface of the adjacent ground.

C. If needed, Licensee shall secure, at Licensee's sole cost and expense, any and all necessary permits required to perform any work on Licensee's Facilities.

Section 3. NOTICE OF COMMENCEMENT OF WORK; EMERGENCIES.

A. Licensee and its contractors are strictly prohibited from commencing any work associated with Licensee's Facilities without Licensor's written approval that the work will be in strict compliance with the "ENGINEERING REQUIREMENTS; PERMITS" Section of this Exhibit B. Upon Licensor's approval, Licensee shall contact both of Licensor's field representatives ("Licensor's Field Representatives") at least ten (10) days before commencement of any work on Licensee's Facilities.

B. Licensee shall not commence any work until: (1) Licensor has determined whether flagging or other special protective or safety measures ("Safety Measures") are required for performance of the work pursuant to the "FLAGGING" Section of this **Exhibit B** and provided Licensee written authorization to commence work; and (2) Licensee has complied with the "PROTECTION OF FIBER OPTIC CABLE SYSTEMS" Section of this **Exhibit B**.

C. If, at any time, an emergency arises involving Licensee's Facilities, Licensee or its contractor shall immediately contact Licensor's Response Management Communications Center at (888) 877-7267.

Section 4. FLAGGING.

A. Following Licensee's notice to Licensor's Field Representatives required under the "NOTICE OF COMMENCEMENT OF WORK; EMERGENCIES" Section of this **Exhibit B**, Licensor shall inform Licensee if Safety Measures are required for performance of the work by Licensee or its contractor on Railroad Property. If Safety Measures are required, no work of any kind may be performed by Licensee or its contractor(s) until arrangements for the Safety Measures have been made and scheduled. If no Safety Measures are required, Licensor will give Licensee written authorization to commence work.

B. If any Safety Measures are performed or provided by Licensor, including but not limited to flagging, Licensor shall bill Licensee for such expenses incurred by Licensor, unless Licensor and a federal, state, or local governmental entity have agreed that Licensor is to bill such expenses to the federal, state, or local governmental entity. Additional information regarding the submission of such expenses by Licensor and payment thereof by Licensee can be found in the "LICENSEE'S PAYMENT OF EXPENSES" Section of this **Exhibit B**. If Licensor performs any Safety Measures, Licensee agrees that Licensee is not relieved of any of responsibilities or liabilities set forth in this Agreement.

C. For flagging, the rate of pay per hour for each flagger will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage, and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Licensor and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Licensee (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges.

D. Reimbursement to Licensor will be required covering the full eight-hour day during which any flagger is furnished, unless the flagger can be assigned to other railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagger is engaged in other railroad work. Reimbursement will also be required for any day not actually worked by the flaggers following the flaggers' assignment to work on the project for which Licensor is required to pay the flaggers and which could not reasonably be avoided by Licensor by assignment of such flaggers to other work, even though Licensee may not be working during such time. When it becomes necessary for Licensor to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Licensee must provide Licensor a minimum of

five (5) days notice prior to the cessation of the need for a flagger. If five (5) days notice of cessation is not given, Licensee will still be required to pay flagging charges for the days the flagger was scheduled, even though flagging is no longer required for that period. An additional ten (10) days notice must then be given to Licensor if flagging services are needed again after such five day cessation notice has been given to Licensor.

Section 5. SAFETY.

A. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of any work on Railroad Property performed by Licensee or its contractor, and takes precedence over any work on Licensee's Facilities to be performed Licensee or its contractors. Licensee shall be responsible for initiating, maintaining and supervising all safety operations and programs in connection with any work on Licensee's Facilities. Licensee and its contractor shall, at a minimum comply, with Licensor's then current safety standards located at the below web address ("Licensor's Safety Standards") to ensure uniformity with the safety standards followed by Licensor's own forces. As a part of Licensee's safety responsibilities, Licensee shall notify Licensor if it determines that any of Licensor's Safety Standards are contrary to good safety practices. Licensee and its contractor shall furnish copies of Licensor's Safety Standards to each of its employees before they enter Railroad Property.

Union Pacific Current Safety Requirements

B. Licensee shall keep the job site on Railroad Property free from safety and health hazards and ensure that their employees are competent and adequately trained in all safety and health aspects of the work.

C. Licensee represents and warrants that all parts of Licensee's Facilities within and outside of the limits of Railroad Property will not interfere whatsoever with the constant, continuous, and uninterrupted use of the tracks, property, and facilities of Licensor, and nothing shall be done or suffered to be done by Licensee at any time that would in any manner impair the safety thereof.

D. Licensor's operations and work performed by Licensor's personnel may cause delays in Licensee's or its contractor's work on Licensee's Facilities. Licensee accepts this risk and agrees that Licensor shall have no liability to Licensee or any other person or entity for any such delays. Licensee must coordinate any work on Railroad Property by Licensee or any third party with Licensor's Field Representatives in strict compliance with the "NOTICE OF COMMENCEMENT OF WORK; EMERGENCIES" Section of this **Exhibit B**.

E. Licensor shall have the right, if it so elects, to provide any support it deems necessary for the safety of Licensor's operations and trackage during Licensee's or its contractor's construction, maintenance, repair, renewal, modification, relocation, reconstruction, or removal of Licensee's Facilities. In the event Licensor provides such support, Licensor shall invoice Licensee, and Licensee shall pay Licensor as set forth in the "LICENSEE'S PAYMENT OF EXPENSES" Section of this **Exhibit B**.

F. Licensee may use unmanned aircraft systems ("UAS") to inspect Licensee's Facilities only upon the prior authorization from and under the direction of Licensor's Field Representatives. Licensee represents and warrants that its use of UAS on Railroad Property will comply with Licensor's then-current Unmanned Aerial Systems Policy and all applicable laws, rules and regulations, including any applicable Federal Aviation Administration regulations and enactments pertaining to UAS.

Section 6. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

Fiber optic cable systems may be buried on Railroad Property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. In addition to the notifications required under the "NOTICE OF COMMENCEMENT OF WORK; EMERGENCIES" Section of this **Exhibit B**, Licensee shall visit up.com/CBUD to complete and submit the required form to determine if fiber optic cable is buried anywhere on Railroad Property to be used by Licensee. If it is, Licensee shall telephone the telecommunications company(ies) involved, and arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, all at Licensee's expense, and will not commence any work on Railroad Property until all such protection or relocation has been completed.

Section 7. LICENSEE'S PAYMENT OF EXPENSES.

A. Licensee shall bear the entire cost and expense of the design, construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities.

B. Licensee shall fully pay for all materials joined, affixed to and labor performed on Railroad Property in connection with the construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities, and shall not permit or suffer any mechanic's or materialman's lien of any kind or nature to be enforced against the property for any work done or materials furnished thereon at the instance or request or on behalf of Licensee. Licensee shall promptly pay or discharge all taxes, charges, and assessments levied upon, in respect to, or on account of Licensee's Facilities, to prevent the same from becoming a charge or lien upon any property of Licensor, and so that the taxes, charges, and assessments levied upon or in respect to such property shall not be increased because of the location, construction, or maintenance of Licensee's Facilities or any improvement, appliance, or fixture connected therewith placed upon such property, or on account of Licensee's interest therein. Where such tax, charge, or assessment may not be separately made or assessed to Licensee but shall be included in the assessment of the property of Licensor, then Licensee shall pay to Licensor an equitable proportion of such taxes determined by the value of Licensee's property upon property of Licensor as compared with the entire value of such property.

C. As set forth in the "FLAGGING" Section of this **Exhibit B**, Licensor shall have the right, if it so elects, to provide any Safety Measures Licensor deems necessary for the safety of Licensor's operations and trackage during Licensee's or its contractor's construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities, including, but not limited to supervision, inspection, and flagging services. In the event Licensor provides such Safety Measures, Licensor shall submit an itemized invoice to Licensee's notice recipient listed in the "NOTICES" Article of this Agreement. Licensee shall pay to Licensor the total amount listed on such invoice within thirty (30) days of Licensee's receipt of such invoice.

Section 8. MODIFICATIONS TO LICENSEE'S FACILITIES.

A. This grant is subject to Licensor's safe and efficient operation of its railroad, and continued use and improvement of Railroad Property (collectively, "Railroad's Use"). Accordingly, Licensee shall, at its sole cost and expense, modify, reconstruct, repair, renew, revise, relocate, or remove (individually, "Modification", or collectively, "Modifications") all or any portion of Licensee's Facilities as Licensor may designate or identify, in its sole discretion, in the furtherance of Railroad's Use.

B. Upon any Modification of all or any portion of Licensee's Facilities to another location on Railroad Property, Licensor and Licensee shall execute a Supplemental Agreement to this Pipeline

Agreement to document the Modification(s) to Licensee's Facilities on Railroad Property. If the Modifications result in Licensee's Facilities moving off of Railroad Property, this Agreement will terminate upon Licensee's completion of such Modification(s) and all requirements contained within the "TERMINATION; REMOVAL OF LICENSEE'S FACILITIES" Section of this Exhibit B. Any such Modification(s) off of Railroad Property will not release Licensee from any liability or other obligation of Licensee arising prior to and upon completion of any such Modifications to the Licensee's Facilities.

Section 9. RESTORATION OF RAILROAD PROPERTY.

In the event Licensee, in any manner moves or disturbs any property of Licensor in connection with the construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities, then, Licensee shall, as soon as possible and at Licensee's sole cost and expense, restore Licensor's property to the same condition as the same were before such property was moved or disturbed.

Section 10. INDEMNITY.

A. Definitions. As used in this Section:

1. "Licensor" includes Licensor, its affiliates, its and their officers, directors, agents and employees, and other railroad companies using Railroad Property at or near the location of Licensee's installation and their officers, directors, agents, and employees.
2. "Licensee" includes Licensee and its agents, contractors, subcontractors, sub-subcontractors, employees, officers, and directors, or any other person or entity acting on its behalf or under its control.
3. "Loss" includes claims, suits, taxes, loss, damages (including punitive damages, statutory damages, and exemplary damages), costs, charges, assessments, judgments, settlements, liens, demands, actions, causes of action, fines, penalties, interest, and expenses of any nature, including court costs, reasonable attorneys' fees and expenses, investigation costs, and appeal expenses.

B. Licensee shall release, defend, indemnify, and hold harmless Licensor from and against any and all Loss, even if groundless, fraudulent, or false, that directly or indirectly arises out of or is related to Licensee's construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, removal, presence, use, or operation of Licensee's Facilities, including, but not limited to, any actual or alleged:

1. Bodily harm or personal injury (including any emotional injury or disease) to, or the death of, any person(s), including, but not limited to, Licensee, Licensor, any telecommunications company, or the agents, contractors, subcontractors, sub-subcontractors, or employees of the foregoing;
2. Damage to or the disturbance, loss, movement, or destruction of Railroad Property, including loss of use and diminution in value, including, but not limited to, any telecommunications system(s) or fiber optic cable(s) on or near Railroad Property, any property of Licensee or Licensor, or any property in the care, custody, or control of Licensee or Licensor;

3. Removal of person(s) from Railroad Property;
4. Any delays or interference with track or Railroad's Use caused by Licensee's activity(ies) on Railroad Property, including without limitation the construction, maintenance, modification, reconstruction, repair, renewal, revision, relocation, or removal of Licensee's Facilities or any part thereof, any activities, labor, materials, equipment, or machinery in conjunction therewith;
5. Right(s) or interest(s) granted pursuant to this Agreement;
6. Contents escaping from Licensee's Facilities, including without limitation any actual or alleged pollution, contamination, breach, or environmental Loss;
7. Licensee's breach of this Agreement or failure to comply with its provisions, including, but not limited to, any violation or breach by Licensee of any representations and warranties Licensee has made in this Agreement; and
8. Violation by Licensee of any law, statute, ordinance, governmental administrative order, rule, or regulation, including without limitation all applicable Federal Railroad Administration regulations.

C. THE FOREGOING OBLIGATIONS SHALL APPLY TO THE FULLEST EXTENT PERMITTED BY LAW FOR THE BENEFIT OF LICENSOR TO LOSSES CAUSED BY, ARISING FROM, RELATING TO, OR RESULTING FROM, IN WHOLE OR IN PART, THE NEGLIGENCE OF LICENSOR, AND SUCH NEGLIGENCE OF LICENSOR SHALL NOT LIMIT, DIMINISH, OR PRECLUDE LICENSEE'S OBLIGATIONS TO LICENSOR IN ANY RESPECT. NOTWITHSTANDING THE FOREGOING, SUCH OBLIGATION TO INDEMNIFY LICENSOR SHALL NOT APPLY TO THE EXTENT THE LOSS IS CAUSED BY THE SOLE, ACTIVE AND DIRECT NEGLIGENCE, GROSS NEGLIGENCE, OR WILLFUL MISCONDUCT OF LICENSOR AS DETERMINED IN A FINAL JUDGMENT BY A COURT OF COMPETENT JURISDICTION.

Section 11. TERMINATION; REMOVAL OF LICENSEE'S FACILITIES.

A. If Licensee does not use the right herein granted on Licensee's Facilities for one (1) year, or if Licensee continues in default in the performance of any provision of this Agreement for a period of thirty (30) days after written notice from Licensor to Licensee specifying such default, Licensor may, at its sole discretion, terminate this Agreement by written notice to Licensee at the address listed in the "NOTICES" Article of this Agreement. This Agreement will not terminate until Licensee complies with Paragraphs "C" and "D" of this Section found below.

B. In addition to the provisions of Paragraph "A" above, this Agreement may be terminated by written notice given by either party, without cause, upon thirty (30) days written notice to the non-terminating party at the address listed in the "NOTICES" Article of this Agreement. This Agreement will not terminate until Licensee complies with Paragraphs "C" and "D" of this Section found below.

C. Prior to the effective date of any termination described in this Section, Licensee shall submit an application to Licensor's online Utility Contracts System at [this link](#) for Licensee's removal, or if applicable, abandonment in place of Licensee's Facilities located on Railroad Property ("Removal/Abandonment Work"). Upon the UP Engineering Representative's approval of Licensee's application for the Removal/Abandonment Work, Licensor and Licensee shall execute a separate consent document that will govern Licensee's performance of the Removal/Abandonment Work from those portions of Railroad

Property not occupied by roadbed and/or trackage ("Consent Document"). Licensee shall then restore the impacted Railroad Property to the same or reasonably similar condition as it was prior to Licensee's installation of Licensee's Facilities. For purposes of this Section, Licensee's (i) performance of the Removal/Abandonment Work, and (ii) restoration work will hereinafter be collectively referred to as the "Restoration Work".

D. Following Licensee's completion of the Restoration Work, Licensee shall provide a written certification letter to Licensor at the address listed in the "NOTICES" Article of this Agreement which certifies that the Restoration Work has been completed in accordance with the Consent Document. Licensee shall report to governmental authorities, as required by law, and notify Licensor immediately if any environmental contamination is discovered during Licensee's performance of the Restoration Work. Upon discovery, the Licensee shall initiate any and all removal, remedial and restoration actions that are necessary to restore the property to its original, uncontaminated condition. Licensee shall provide written certification to Licensor at the address listed in the "NOTICES" Article of this Agreement that environmental contamination has been remediated and the property has been restored in accordance with Licensor's requirements. Upon Licensor's receipt of Licensee's restoration completion certifications, this Agreement will terminate.

E. In the event that Licensee fails to complete any of the Restoration Work, Licensor may, but is not obligated, to perform the Restoration Work. Any such work actually performed by Licensor will be at the cost and expense of Licensee. In the event that Licensor performs any of the Restoration Work, Licensee shall release Licensor from any and all Loss (defined in the "INDEMNITY" Section of this Exhibit B) arising out of or related to Licensor's performance of the Restoration Work.

F. Termination of this Agreement for any reason will not affect any of rights or obligations of the parties which may have accrued, or liabilities or Loss (defined in the "INDEMNITY" Section of this Exhibit B), accrued or otherwise, which may have arisen prior to such termination.

EXHIBIT C

INSURANCE REQUIREMENTS

In accordance with Article 5 of this Agreement, Licensee shall (1) procure and maintain at its sole cost and expense, or (2) require its Contractor(s) to procure and maintain, at their sole cost and expense, the following insurance coverage:

A. **Commercial General Liability Insurance.** Commercial general liability (CGL) with a limit of not less than \$2,000,000 each occurrence and an aggregate limit of not less than \$4,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, WHICH MUST BE STATED ON THE CERTIFICATE OF INSURANCE:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

B. **Business Automobile Coverage Insurance.** Business auto coverage written on ISO form CA 00 01 10 01 (or a substitute form providing equivalent liability coverage) with a limit of not less \$2,000,000 for each accident, and coverage must include liability arising out of any auto (including owned, hired, and non-owned autos).

The policy must contain the following endorsements, WHICH MUST BE STATED ON THE CERTIFICATE OF INSURANCE:

- "Coverage For Certain Operations In Connection With Railroads" ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

C. **Workers' Compensation and Employers' Liability Insurance.** Coverage must include but not be limited to:

- Licensee's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Licensee is self-insured, evidence of state approval and excess workers' compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

D. **Environmental Liability Insurance.** Environmental Legal Liability Insurance (ELL) applicable to bodily injury, property damage, including loss of use of damaged property or of property that has not been physically injured or destroyed, cleanup costs, and defense, including costs and expenses incurred in the investigation, defense, or settlement of claims, or compliance with statute, all in connection with any loss arising from the insured's performance under this Agreement. Except with respect to the limits of insurance, and any rights or duties specifically assigned to the first named insured, this insurance must apply as if each named insured were the only named insured; and separately to the

additional insured against which claim is made or suit is brought. Coverage shall be maintained in an amount of at least \$2,000,000 per loss, with an annual aggregate of at least \$4,000,000.

Licensee warrants that any retroactive date applicable to ELL insurance coverage under the policy is the same as or precedes the Effective Date of this Agreement, and that continuous coverage will be maintained for a period of five (5) years beginning from the time the work under this Agreement is completed or if coverage is cancelled for any reason the policies extended discovery period, if any, will be exercised for the maximum time allowed.

E. **Railroad Protective Liability Insurance.** Licensee must maintain for the duration of work "Railroad Protective Liability" insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Licensor only as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000. The definition of "JOB LOCATION" and "WORK" on the declaration page of the policy shall refer to this Agreement and shall describe all WORK or OPERATIONS performed under this Agreement. Notwithstanding the foregoing, Licensee does not need Railroad Protective Liability Insurance after its initial construction work is complete and all excess materials have been removed from Licensor's property; PROVIDED, however, that Licensee shall procure such coverage for any subsequent maintenance, repair, renewal, modification, reconstruction, or removal work on Licensee's Facilities.

F. **Umbrella or Excess Insurance.** If Licensee utilizes umbrella or excess policies, and these policies must "follow form" and afford no less coverage than the primary policy.

Other Requirements

G. All policy(ies) required above (except business automobile, workers' compensation and employers' liability) must include Licensor as "Additional Insured" using ISO Additional Insured Endorsement CG 20 26 (or substitute form(s) providing equivalent coverage). The coverage provided to Licensor as additional insured shall not be limited by Licensee's liability under the indemnity provisions of this Agreement. BOTH LICENSOR AND LICENSEE EXPECT THAT LICENSOR WILL BE PROVIDED WITH THE BROADEST POSSIBLE COVERAGE AVAILABLE BY OPERATION OF LAW UNDER ISO ADDITIONAL INSURED FORM CG 20 26.

H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless (a) insurance coverage may not lawfully be obtained for any punitive damages that may arise under this Agreement, or (b) all punitive damages are prohibited by all states in which this Agreement will be performed.

I. Licensee waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Licensor and its agents, officers, directors and employees for damages covered by the workers' compensation and employers' liability or commercial umbrella or excess liability obtained by Licensee required in this Agreement, where permitted by law. This waiver must be stated on the certificate of insurance.

J. All insurance policies must be written by a reputable insurance company acceptable to Licensor or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the work is to be performed.

K. The fact that insurance is obtained by Licensee will not be deemed to release or diminish the liability of Licensee, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Licensor from Licensee or any third party will not be limited by the amount of the required insurance coverage.

CITY OF GENEVA
2022 SANITARY SEWER REHABILITATION

PLAN/PROFILE AND EXHIBITS

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FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS
IOWA
WISCONSIN

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
CITY OF GENEVA
1800 SOUTH ST.
GENEVA, IL 60134

PROJECT AND LOCATION:
2022 SANITARY SEWER
REHABILITATION
GENEVA, IL

DRAWN BY: WC / AS
APPROVED BY: BPC / AS
DATE: 6-9-2022
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEWER REHABILITATION - WEST DIVISION
SET TYPE: BID

JOB NUMBER:
22-2085
PH9
SHEET NUMBER:
1 of 5



FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 104-003333

ILLINOIS
 IOWA
 WISCONSIN

OWNER/DEVELOPER:
 CITY OF GENEVA
 1800 SOUTH ST.
 GENEVA, IL 60134

PROJECT AND LOCATION:
 2022 SANITARY SEWER
 REHABILITATION
 GENEVA, IL

DRAWN BY: WC / AS
 APPROVED BY: BP
 DATE: 6-9-2022
 SCALE: AS NOTED

REV. NO.	REVISIONS	DATE

DRAWING:
 SEWER REHABILITATION - EAST DMSION

SET TYPE: BID

JOB NUMBER:
 22-2085

PH9

SHEET NUMBER:

2 of 5



FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003825

ILLINOIS
IOWA
WISCONSIN

DRAWN/DEVELOPER:
CITY OF GENEVA
1800 SOUTH ST.
GENEVA, IL 60134

PROJECT AND LOCATION:
2022 SANITARY SEWER
REHABILITATION
GENEVA, IL

DRAWN BY: WC / AS
APPROVED BY: SP
DATE: 8-9-2022
SCALE: AS NOTED

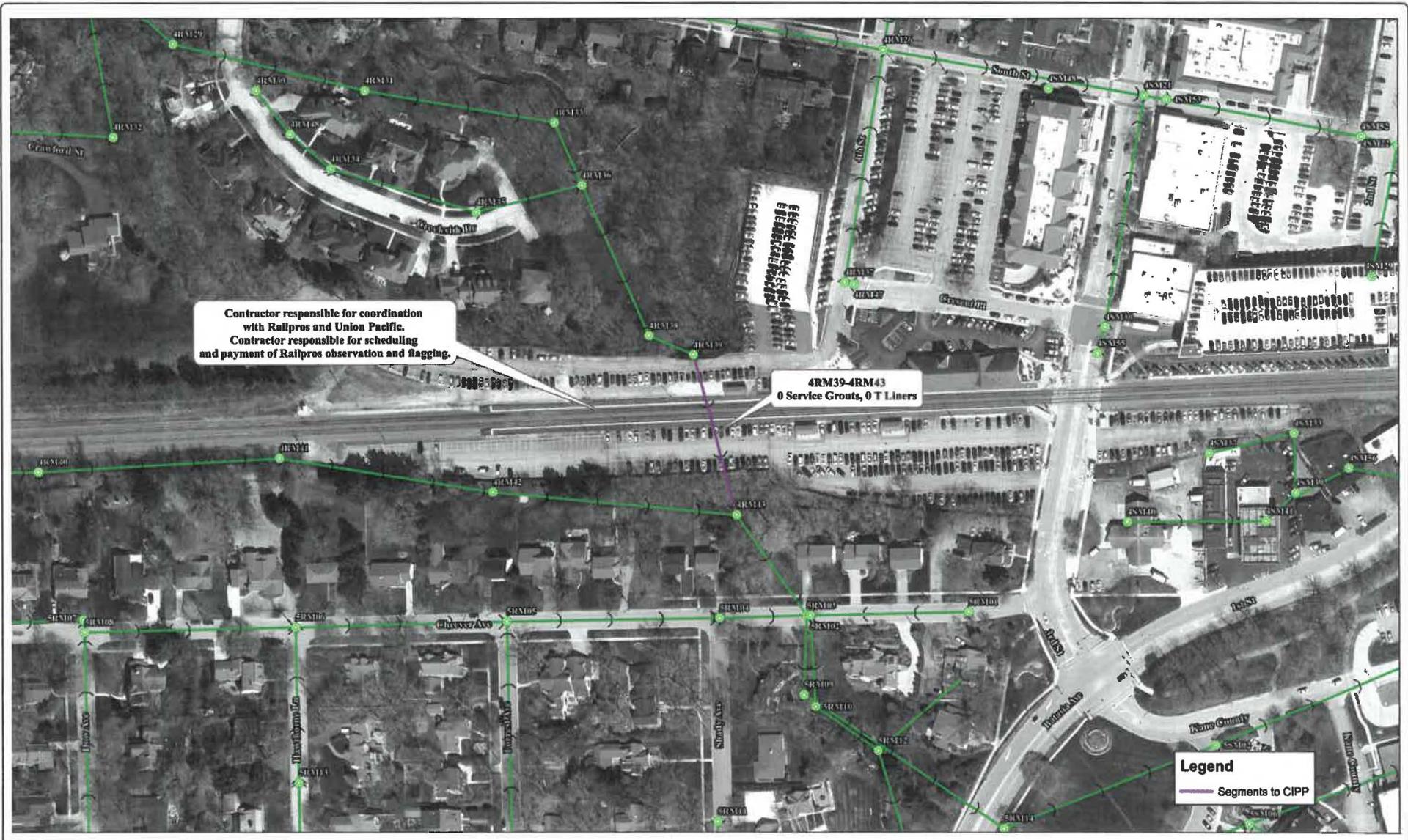
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SEWER REHABILITATION - SHEFFIELD

SET TYPE: **BID**

JOB NUMBER:
22-2085
PH9

SHEET NUMBER:
3 of 5



FEHR GRAHAM
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ILLINOIS DESIGN FEH NO. 154-000000

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
CITY OF GENEVA
1800 SOUTH ST.
GENEVA, IL 60134

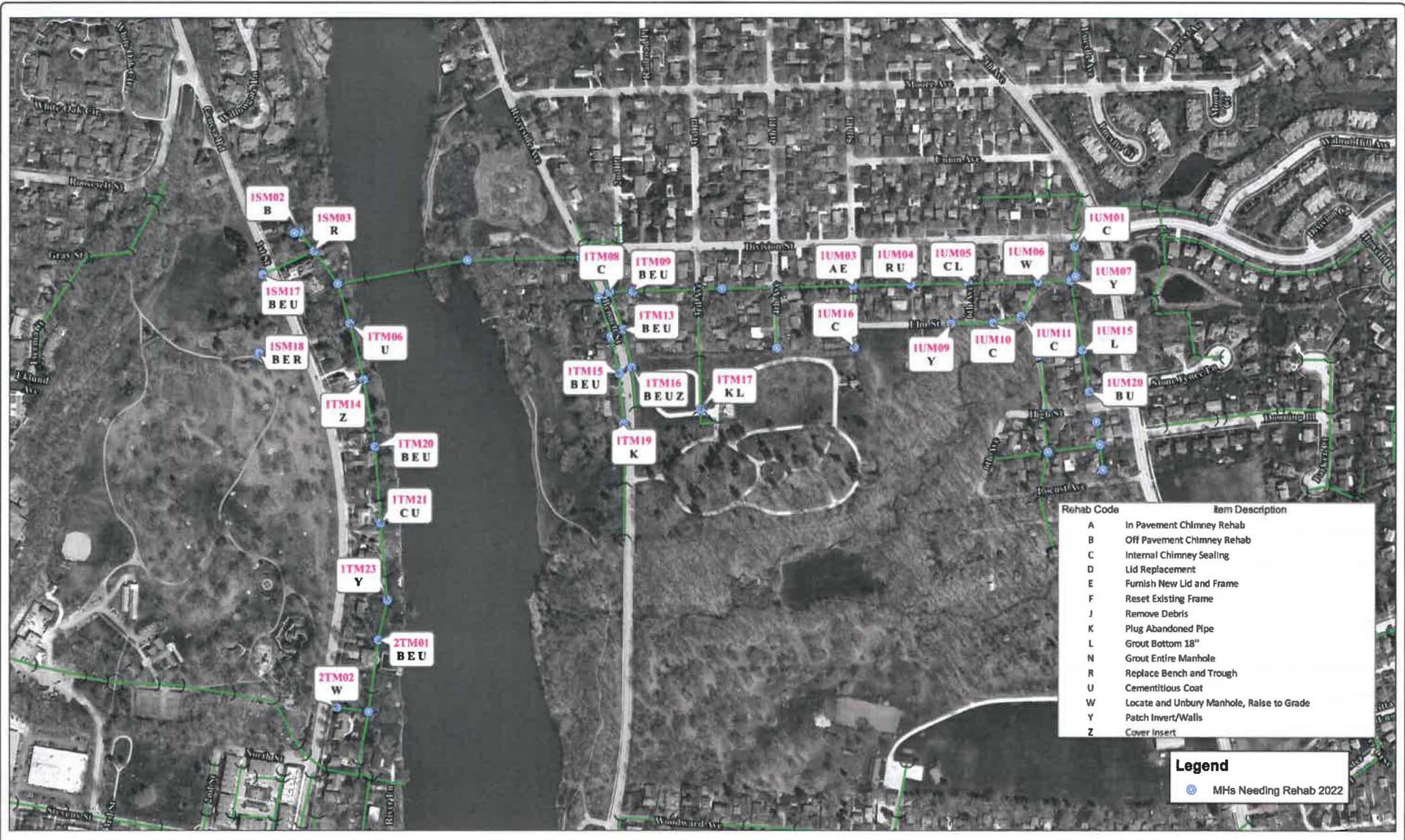
PROJECT AND LOCATION:
2022 SANITARY SEWER
REHABILITATION
GENEVA, IL

DRAWN BY: WC / AS
APPROVED BY: EP
DATE: 6-9-2022
SCALE: AS NOTED

REV. NO.	REVISIONS	
	DESCRIPTION	DATE

DIVISION:
SEWER REHABILITATION - RAILROAD
REV. TYPE: BID
DATE: 6-9-2022

JOB NUMBER:
22-2085
PH9
SHEET NUMBER:
4 of 5



Rehab Code	Item Description
A	In Pavement Chimney Rehab
B	Off Pavement Chimney Rehab
C	Internal Chimney Sealing
D	Lid Replacement
E	Furnish New Lid and Frame
F	Reset Existing Frame
J	Remove Debris
K	Plug Abandoned Pipe
L	Grout Bottom 18"
N	Grout Entire Manhole
R	Replace Bench and Trough
U	Cementitious Coat
W	Locate and Unbury Manhole, Raise to Grade
Y	Patch Invert/Walls
Z	Cover Insert

Legend
 MHS Needing Rehab 2022

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 ILLINOIS DESIGN FIRM NO. 184-003225
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OWNER/DEVELOPER:
 CITY OF GENEVA
 1800 SOUTH ST.
 GENEVA, IL 60134

PROJECT AND LOCATION:
 2022 SANITARY SEWER
 REHABILITATION
 GENEVA, IL

DRAWN BY: WJC / AS
 APPROVED BY: EP
 DATE: 6-9-2022
 SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
 MANHOLE REHABILITATION - VARIOUS
 LOCATIONS
 SET TYPE: BID
 6/22/2022 10:00 AM PM 00/00/000000000000 - 000000000000

JOB NUMBER:
 22-2085
 PH9
 SHEET NUMBER:
 5 of 5

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