DATE: November 5, 2020

RE: Bid No. 01-21 ADDENDUM NO. 02

To prospective vendors:

The Utilities Commission is issuing the following addendum. As such it becomes an integral part of the proposal and must be acknowledged by the return of this signed form, with your proposal form, acknowledging receipt of the addendum.

VENDORS ARE ENCOURAGED NOT TO ATTEND BID OPENINGS IN PERSON BUT TO ATTEND BY DIALING 1 (646) 570-1040 PIN: 924-5593

THE UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH TAKES THIS STEP IN AN ABUNDANCE OF CAUTION FOR THE SAFETY AND WELLBEING OF OUR STAFF AND COMMUNITY.

IF YOU ARE DROPPING OFF A BID PLEASE RING THE BELL AND THE SECURITY GUARD WILL TAKE IT FROM YOU.
Bidders shall note the following statements when preparing bids for evaluation:

BIDDER questions are in black. COMMISSION responses are in blue.

Bidders shall note the following statements when preparing bids for evaluation:

A. REVISED: MANHOLES SHALL BE LINED WITH GEOPOLYMER COMPOUND MATERIAL WITH A FINAL EPOXY LINER BY ONE OF THE FOLLOWING: QUADEX (VORTEX COMPANIES), ENGINEERED SPRAY SOLUTIONS OR STANDARD CEMENT.

B. The intent of this annual contract is for continual sewer rehabilitation throughout the COMMISSION’s sewer service area. This contract is not for individual “on-call” work, nor is it intended to be used for emergency repair work.

C. The expectation is for the Awarded Contractor to remain mobilized so that the annual estimated quantities can be completed.

D. The Systems identified in Addendum No. 1 primarily consist of vitrified clay pipe and brick manholes. It is the Contractor’s responsibility to confirm during pre-video inspection.
1. I am writing to request approval of Cladliner epoxy-modified-mortar collections esurfacer and liner in one for the Annual Contract Gravity Sanitary Sewer rehabilitation. Per section 02750 Manhole Liner Specification, Cladliner has ASTM’s that meet or exceed the minimum requirements for the specified manhole epoxy-cementitious lining requested by City of New Smyrna Beach – Utilities Commission. Applied at a minimum 250 mils, Cladliner addresses corrosion due to acid attack, hydrogen sulfide (H2S), and inflow & infiltration (I&), Cladliner is designed specifically for sanitary sewer collection systems. The linked Florida Atlantic University (FAU) study conducted in 2016, attests to the chemical resistance of Cladliner, showcasing 250X the chemical resistance of calcium aluminate and 200X more chemically resistant that pure fused calcium aluminate.

The approved manhole liners have been issued and will not be revised.

2. I have a couple questions /concerns about the spec for ITB #01-21 Annual Contract for Gravity Sanitary Sewer Rehabilitation.
   a. The manhole material says “Geopolymer epoxy”. Geopolymer and Epoxy are two different materials, GeoKrete geopolymer, and Structure Guard epoxy. The application is 125 mils, so I would assume you would like the material to be Structure Guard 100% solids epoxy, not GeoKrete geopolymer.

   Noted. See revised scope of work listed above. Also, see Revised Manhole Liner specification. Non-Structural liner shall be applied at 125 mils and Structural liner shall be applied at 250 mils. Final Manhole Liner shall be epoxy.
b. Also, the bid items say 500 VF of non-structural, and 300 VF structural. I would assume 125 mils on the substrate is the “non-structural”, but what are you looking for for the “structural”?

Non-Structural liner shall be applied at 125 mils and Structural liner shall be applied at 250 mils. Final Manhole Liner shall be epoxy.

c. A cementitious underlayment at an inch and then epoxy topcoat at 125 mils, or 250 mils of epoxy with no underlayment?

Cementitious Grout shall be used to prep manhole and if necessary, Chemical Grout as well. Final Manhole Liner shall be epoxy.

d. If there are structural issues we would recommend a cementitious underlayment before the top coat.

Cementitious Grout shall be used to prep manhole and if necessary, Chemical Grout as well. Final Manhole Liner shall be epoxy.

3. Are the sections of pipe to be lined with the CIPP already identified, or are the Bid quantities just estimated and the lining may be anywhere in the system?

The quantities listed in the bid tabulation are an annual estimated quantity based on the best available information that the COMMISSION has to-date. The COMMISSION has not confirmed material or condition of the gravity sanitary sewer mains or manholes. It is the Contractor’s responsibility to confirm during pre-video inspection.

4. If the sections to be lined are identified, can the MH to MH sections, lengths, and diameters be provided?

The Linear Footage quantities are estimated. The COMMISSION has not confirmed length, material, diameter or condition of the gravity sanitary sewer mains. It is the Contractor’s responsibility to confirm during pre-video inspection.
5. Same question as above for the MH rehabilitation work.
   The Vertical Feet quantities are estimated. The COMMISSION has not confirmed depth, material, diameter or condition of the sewer manholes. It is the Contractor’s responsibility to confirm during pre-video inspection.

6. Has the Owner utilized this type of annual on-call contract in the past? If so, will the Engineer/Owner please provide the names of the contractor(s) who held the contract?
   No, the COMMISSION has not issued an annual sewer rehabilitation contract with an option to extend annually.

7. If this on-call contract has been utilized before by the Owner, will the Engineer/Owner please provide previous itemized bid tabulation or contract pricing for each contract?
   No, the COMMISSION has not issued an annual sewer rehabilitation contract with an option to extend annually.

8. If this on-call contract has been utilized in the past, will the Owner/Engineer provide example work orders from previous contract periods?
   No, the COMMISSION has not issued an annual sewer rehabilitation contract with an option to extend annually.

9. Will the Owner/Engineer please provide an idea of work order frequency on an annual basis?
   The quantities listed in the bid tabulation are an annual estimated quantity based on the best available information that the COMMISSION has to-date. Refer to the bid scope of work, bid tabulation and bid attachments issued.
10. Will the Owner/Engineer please confirm the mobilization requirements once a work order has been issued? Will the Contractor be allowed to ‘stack’ work orders to build enough work so that mobilization costs can be reasonably covered? Mobilization/Demobilization unit cost shall include mobilizing (and subsequent demobilizing) on an annual basis throughout the COMMISSION’s sewer service area in order to complete scope of work.

11. Is the 2nd (and subsequent) year of this contract a renewal as agreed upon by the Owner and Contractor?
   Contract will be for one (1) year with an option to extend three additional one-year periods. Price escalation/de-escalation will be permitted at the end of each one-year term upon mutual agreement in writing prior to the end of contract term.

12. Is it the Owner’s intent to award to multiple contractors?
   The annual contract will be awarded to one Contractor.

13. We understand this is a work order based contract and specific line segments for rehab are unknown at this time. But for bidding purposes and to insure an even comparison on Bidder’s unit prices, will the Owner please provide the flow that Bidders should anticipate to bypass for the 18” diameter? This could be by a COMMISSION designation or level of flow as it relates to the pipe (quarter full, half full, etc.), if no actual flow data is available.
   The COMMISSION does not supply flow rates for bypass pumping. Bidders can assume half full. The flow will be dependent on time of day/time of year.
14. Will any other Manhole rehab products be considered other than the Geopolymer Epoxy products listed in the spec?
   The approved manhole liners have been issued and will not be revised.

15. Will the Owner please provide additional information (photos if possible) regarding the existing bag liners proposed for removal in line item 14? Are these adhered to the manhole walls?
   No pictures will be provided. Existing liners that have been found sporadically are fiberglass liners that are blown-in.

16. Will the Owner please provide additional details as to how the use of ‘Structural’ or ‘Non-Structural’ products will be used? Will this require the same product but different application thicknesses?
   Non-Structural liner shall be applied at 125 mils and Structural liner shall be applied at 250 mils. Final Manhole Liner shall be epoxy.

17. Will the Owner please confirm the approved manhole products for use in this contract?
   The current spec references a geopolymer epoxy. This type of product doesn’t exist. Will you confirm the intent is to use a geopolymer or epoxy?
   Noted. See revised scope of work listed above. Also, see Revised Manhole Liner specification. The approved manhole liners have been issued and will not be revised.

18. Will the owner allow additional time for questions given the bid date is 11/24/20?
   No.
19. Item # 9 & 10 – in a previous bid this item was listed as “Lateral Liner < 30 feet”, with a Unit of EA (each) Currently 9 & 10 are listed as a Unit of “LF” – can the City clarify? The Utilities Commission, City of New Smyrna Beach is a separate entity than the City of New Smyrna Beach. It is estimated that the majority of laterals to be lined are \( \leq 30 \) feet and quantified as Each; however, if a lateral is more than 30 feet, any footage over 30 feet will be quantified as Linear Feet.

20. Are the Mobilization Line items and MOT line items (Line Items 1 & 2) to be billed per work release or once annually?
   
   Annually.

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_A Copy of This Signed Form Must Accompany Your Proposal_

**Acknowledgment of Receipt of Addenda No. 2**

Company__________________________________________

Title______________________________________________

Signature__________________________________________
PART I – GENERAL
A. DESCRIPTION OF WORK
B. REFERENCE SPECIFICATIONS AND STANDARDS
C. PERFORMANCE WORK STATEMENT (PWS)

PART 2 – PRODUCTS
A. GENERAL

PART 3 – LINER INSTALLATION
A. GENERAL
B. PREPARATION AND CLEANING
C. BY-PASS PUMPING
D. GROUT (MANHOLE PREP)
E. LINER
F. MANHOLE LINER REPAIR/REPLACEMENT

PART 4 – FINAL COMPLETION
A. TESTING
B. INSPECTIONS
C. AS-BUILTS
D. WARRANTY
PART 1 – GENERAL

A. DESCRIPTION OF WORK
1) This specification covers all work necessary for sanitary sewer manhole rehabilitation. The Contractor shall provide all labor, materials and equipment necessary for sanitary sewer manhole rehabilitation, to include but not limited to, cleaning, surface preparation/repair and final coat/liner.
2) The Contractor shall install a continuous, jointless and structurally sound liner specialty coating or lining for the interior surfaces of sanitary sewer manholes.
3) The Contractor shall provide necessary maintenance of traffic and by-pass pumping per the Contract Bid Tabulation.
4) The Contractor shall provide necessary warranty and documentation of required experience per the Contract Bid Submittal Requirements and as specified herein.
5) The COMMISSION requires all Customers to be notified a minimum of 5 calendar days of any anticipated flow interruptions. It is the Contractor’s responsibility to make said Customer notifications.
6) The COMMISSION will pay for installed materials only per the Contract Bid Tabulation Bid Item Unit Cost.
7) All work shall adhere to Occupational Health and Safety Administration (OSHA) standards, current edition.

B. REFERENCE SPECIFICATIONS AND STANDARDS
1) The Contractor shall furnish, install, and test the structures coatings as specified herein. All references to Industry Standards (ASTM, ANSI, etc.) shall be the latest revision unless otherwise stated.
   • American Society for Testing and Materials (ASTM)
   • C78, Standard Test Method for Flexural Strength of Concrete
   • C109, Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
   • C157, Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete
   • C307, Standard Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacings
   • C580, Standard Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes
   • C596, Standard Test Method for Drying Shrinkage of Mortar Containing Hydraulic Cement
   • C882, Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete By Slant Shear
   • D638, Standard Test Method for Tensile Properties of Plastics
SECTION 02750 – MANHOLE LINER SPECIFICATION

- D792, Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
- D4787, Standard Practice for Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates
- D4833, Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products
- F2414, Standard Practice for Sealing Sewer Manholes Using Chemical Grouting

C. PERFORMANCE WORK STATEMENT (PWS)

1) The Contractor shall submit, to the COMMISSION, a Performance Work Statement (PWS) at the pre-construction meeting, which clearly defines the Manhole Liner product delivery in conformance with the requirements of these contract documents. Unless otherwise directed by the COMMISSION, the PWS shall at a minimum contain the following:
   a. Clearly indicate that the Manhole Liner will conform to the project requirements as outlined in the Description of Work and as delineated in these specifications.
   b. Where the scope of work is specifically delineated in the contract documents, a detailed installation plan describing all preparation work, cleaning operations, pre-video inspections, by-pass pumping, maintenance of traffic, installation procedure, method of curing, quality control, testing to be performed, final video inspection, warranties furnished and all else necessary and appropriate for a complete the Manhole Liner installation. A detailed installation schedule shall be prepared, submitted and conform to the requirements of this contract.
   c. Contractor’s description of the proposed Manhole Liner technology, including a detailed plan for maintaining all wastewater service to COMMISSION Customers during installation.
   d. A description of the Manhole Liner materials to be furnished for the project. Materials shall be fully detailed in the submittals and conform to these specifications and/or shall conform to the pre-approved product submission.
   e. The name and experience of each lead individual performing work on this Contract shall be submitted with the PWS.
f. Proposed manufacturers technology data shall be submitted for all Manhole Liner products and all associated technologies to be furnished.

g. A detailed description of the Contractor’s proposed procedures to patch/repair manhole from Infiltration/Inflow in the manhole that may be encountered during the cleaning process.

h. A detailed public notification plan shall be prepared and submitted including detailed staged notification to Customers affected by the Manhole Liner installation.

PART 2 – PRODUCTS

A. GENERAL

1) The materials to be utilized in the lining of brick and concrete structures shall be designed and manufactured to withstand the severe effects of hydrogen sulfide in a wastewater environment.

2) The Manhole Liner must meet the chemical resistance requirements of these contract documents. All materials, shipped to the project site, shall be accompanied by test reports certifying that the material conforms to the ASTM standards listed herein. Materials shall be shipped, stored, and handled accordance with the Manhole Liner manufacturer’s recommendations to avoid damage. Damage includes, but is not limited to, gouging, abrasion, flattening, cutting, puncturing, or ultra-violet (UV) degradation. On site storage locations, shall be approved by the COMMISSION. All damaged materials shall be promptly removed from the project site at the Contractor’s expense and disposed of in accordance with all current applicable agency regulations.

3) The Contractor shall submit the following information:
   • Manufacturer’s certification that the materials to be used meet the referenced standards and these specifications.
   • License or certificate verifying Manufacturer’s/Licensor’s approval of the installer.
   • Proposed equipment and procedures for accomplishing the work.
   • A complete description and manufacturer’s recommended cure method. The PWS shall contain a detailed curing procedure detailing the curing medium and the method of application.
PART 3 – LINER INSTALLATION

A. GENERAL
   1) Neither the Liner material, nor its installation, shall cause adverse effects to any of the COMMISSION’s processes or facilities. The use of the product shall not result in the formation or production of any detrimental compounds or by-products at the wastewater treatment plant. The Contractor shall notify the COMMISSION and identify any by-products produced as a result of the installation operations, test and monitor the levels, and comply with any and all local waste discharge requirements.

   2) Manhole Liner installation shall not commence until the Cured-In-Place Pipe liner is installed and fully cured.

   3) Product shall be spray applied using specialty application equipment.

   4) When applying the coating to a manhole interior with small voids, pits or surface abnormalities present, use a resurfacing 10-20 mil application of the specified coating and then a back trowel method to fill and level the surface. Once the resurfacing application has been applied the application of the remaining amount of the specified minimum coating mil thickness can continue.

   5) For manhole interiors that have undergone mild surface deterioration use a resurfacing application of 20%-25% of the specified coatings required minimum mil thickness and then a back trowel method to fill and level the surface. Once the resurfacing application has reached a tack-free state the application of the full amount of the specified minimum coating mil thickness can be applied.

   6) For manhole interiors that have undergone severe surface deterioration, the Contractor shall resurface/rebuild the structure with polymer modified cement or cementitious products suggested by the Liner manufacturer.

B. PREPARATION AND CLEANING
   1) Contractor shall perform a pre-video inspection of all sewer manholes to be lined. The Contractor shall provide the COMMISSION a copy of the video in digital format for review and approval.

   2) The pre-video shall be after the manhole is cleaned.

   3) The Contractor is responsible to clear the manhole of obstructions that will interfere with the installation and long-term performance of the Manhole Liner.

   4) If the pre-video inspection reveals a deteriorated manhole not identified as part of the original scope of work which will prohibit proper installation of the Manhole Liner, the Contractor may be directed by the COMMISSION to correct the problem(s) prior to lining. The Contractor shall be compensated for this work under a Contract Bid Alternate Bid Item.

   5) The Contractor shall be responsible for confirming the locations of all inverts prior to installing and curing the Manhole Liner.
SECTION 02750 – MANHOLE LINER SPECIFICATION

6) Abrasive blasting, shot blasting, high pressure water cleaning, water jetting, or a combination of methods and equipment shall remove all loose mortar, unsound concrete, brick, hard contaminants, localized micro-organisms and gas contaminants from the interior manhole walls, floor and ceiling. Final product shall be cleaned and exposed ready for rehabilitation material.

7) Prior to coating, the manhole must be prepared in a manner that provides a uniform, clean, sound, neutralized surface suitable for the specified coating. The manhole must be free of all contaminants, such as oil, grease, rust, scale or deposits. In general, coating performance is proportional to the degree of surface preparation.

8) Concrete and masonry surfaces must be sound and contaminant-free.

9) After surface preparation is completed, Contractor and the COMMISSION must perform an inspection to identify any manhole deficiencies, if any, for the items listed below:
   - Leaks
   - Cracks
   - Holes
   - Missing Bricks
   - Exposed Rebar
   - Ring and Cover Condition
   - Bench/Channel Condition
   - Invert Condition

10) If any defects are identified, repairs to correct all found deficiencies shall be approved by the COMMISSION.

11) Repair all leaks with a chemical or hydraulic sealant per the Manhole Liner manufacturer’s recommendation.

12) Repair all leaks with non-shrink grout designed for use in field sealing of ground water.

13) Severe cracks shall be repaired using urethane based chemical sealant.

14) Grout and Sealant product to be utilized shall be approved by the COMMISSION prior to installation.

15) Equipment for installation of lining materials shall be high quality grade as recommended by the manufacturer.

16) Re-blasting may be required to remove all abrasive materials after repairs are completed.

17) The Contractor is responsible for construction water. The COMMISSION can supply the Contractor with a Temporary Construction Water Meter (with proper backflow prevention) provided an account is applied and paid for by the Contractor with the COMMISSION’s Billing Department.

C. BY-PASS PUMPING

1) See Specification 02730.
SECTION 02750 – MANHOLE LINER SPECIFICATION

D. GROUT (MANHOLE PREP)
   1) Do not block pipes entering/exiting manhole with grout.
   2) Prevent material from entering gravity sanitary sewer collection system.
   3) Following approved submittals and as specified herein.
   4) Mix and handle materials.
   5) Apply materials using rotary spray equipment or spray gun.
   6) Seal around pipe connections.
   7) Prevent material from entering gravity sanitary sewer collection system.
   8) Apply cementitious grout a minimum of 125 mils.
      a. Chemical Grout shall be used in addition to the cementitious grout cannot
         provide a watertight seal in preparation for the manhole liner.
   9) Trowel and brush for smooth finish.
   10) Cure using curing compound when recommended by manufacturer.
   11) Do not allow flow in manhole or traffic over manhole, until manufacturer’s
       minimum cure times have been achieved.

E. LINER
   1) Mix and apply material.
   2) Sagging of material is not permitted.
   3) Seal around pipe connections.
   4) Cure.
   7) The final Manhole Liner shall be a continuous, jointless and structurally sound
      and shall be completely free of pinholes or voids.
   8) Liner shall cover walls, bench and channel.
   9) Non-Structural Minimum Thickness: 125 mils
   10) Structural Minimum Thickness: 250 mils
   11) All defects identified such as pinholes, low film millage, etc. shall be repaired
       with same material and to same thickness as required of original installation.
   12) A permanent identification number and date of work performed shall be affixed
       to the structure in a readily visible location.
   13) Provide final written report to COMMISSION detailing the location, date of
       report, and description of each Manhole Liner installed.
   14) The Contractor shall clean-up, restore existing surface conditions and
       structures, and repair any of the Manhole Liner determined to be defective.
       The Contractor shall conduct installation operations and schedule clean-up in a
       manner to cause the least possible obstruction and inconvenience to Customers,
       traffic, pedestrians, businesses, etc.
F. MANHOLE LINER REPAIR/REPLACEMENT

1) Occasionally installation of will result in the need to repair or replace a defective Manhole Liner. The Contractor shall outline specific repair or replacement procedures for potential defects that may occur in the Manhole Liner. Repair/replacement procedures shall be accordance with the Manhole Liner manufacturer’s recommendations and shall be submitted as part of the PWS.

2) Defects in the installed Manhole Liner that will not affect the operation and long term life of the product shall be identified and defined.

3) Repairable defects that may occur in the installed Manhole Liner shall be specifically defined by the Contractor based on manufacturer’s recommendations, including a detailed step-by-step repair procedure, resulting in a finished product meeting the requirements of these contract specifications.

4) Un-repairable defects that may occur to the Manhole Liner shall be clearly defined by the Contractor based on the manufacturer’s recommendations, including a recommended procedure for the removal and replacement of the Manhole Liner.

PART 4 – FINAL COMPLETION

A. TESTING

1) The Contractor shall supply the COMMISSION with certification that the installed Manhole Liner material has been sampled and tested by the manufacturer in accordance with the provisions of this specifications.

2) If properties tested do not meet minimum requirements, the liner shall be repaired or replaced by the Contractor, at no cost to the COMMISSION.

3) The installed liner thickness shall be measured for manhole liner installed. If the liner thickness does not meet these specifications then the liner shall be repaired or removed by the Contractor at no cost to the COMMISSION. The liner thickness shall have tolerance of minus 5% plus 10%. The Contractor may use industry proven, non-destructive methods for confirming the thickness of the installed liner.

4) The Contractor shall furnish liner samples, when applicable.

5) All testing and repairs shall be completed before Final Completion and Final Payment to the Contractor.
B. INSPECTIONS

1) Contractor shall perform a post-video inspection of each lined manhole. The Contractor shall provide the COMMISSION a copy of the video in digital format for review and approval.

2) Immediately prior to conducting the post-video, the Contractor shall thoroughly clean the newly installed liner removing all debris and buildup that may have accumulated.

3) The post-video will visually inspect the finished liner as follows:
   a. Shall be continuous over the entire length of the installation and shall be free of significant visual defects, damage, deflection, holes, leaks and other defects.
   a. Shall maintain the overall hydraulic capacity of the original manhole. In those cases where full capacity cannot be achieved after liner installation, the Contractor shall submit a request to waive this requirement, together with the reasons for the waiver request. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.

2) The post-video shall be submitted to the COMMISSION within ten (10) working days of the liner installation. The data shall note the inspection date, location of all reconnected side sewers, debris, as well as any other defects in the liner, including, but not limited to, gouges, cracks, bumps, or bulges.

3) If post-installation inspection documentation is not submitted within Ten (10) working days of the liner installation, the COMMISSION may at its discretion suspend any further installation of CIPP until the post-installation documentation is submitted. As a result of this suspension, no additional working days will be added to the contract, nor will any adjustment be made for increase in cost.

4) Bypass pumping or plugging from the upstream manhole shall be utilized to minimize sewer from entering the pipe during the post-video inspection.

5) Where leakage is observed, the Contractor shall institute additional testing including but not limited to air testing, localized testing and any other testing that will verify the leak-proof integrity of the installed liner to the satisfaction of the COMMISSION.
C. AS-BUILTS
   1) As-Built drawings/reports and pre & post inspection videos shall be submitted to the COMMISSION for review and approval for Final Completion contract date. As-Built drawings will include the identification of the work completed by the Contractor and shall be prepared on one set of Contract Drawings provide to the Contractor at the onset of the project.
   2) As-Built drawings shall be kept on the project site at all times, shall include all necessary information as outlined in the PWS or as agreed to by the COMMISSION and the Contractor at the start of the Contract and shall be updated as the work is being completed, and shall be clearly legible.

D. WARRANTY
   1) The Contractor shall provide necessary warranty and documentation of required experience per the Contract Bid Submittal Requirements and as specified herein.
   2) The Manhole Liner manufacturer shall warrant the liner to be free from defects in raw materials for a minimum of one (1) year, or as specified in the Contract Bid Submittal Requirements, from the date of installation and Final Completion by the COMMISSION.
   3) The Contractor shall warrant the Manhole Liner installation for a minimum of one (1) year, or as specified in the Contract Bid Submittal Requirements, from the date of installation and Final Completion by the COMMISSION.
   4) During the Manhole Liner manufacturer and Contractor warranty period, any defect found that may materially affect the integrity, strength, function and/or operation of the manhole shall be repaired at the Contractor’s expense in accordance with procedures included in Part 3, I. Manhole Liner Repair/Replacement at no cost to the COMMISSION.
   5) The COMMISSION may inspect all or portions of the lined manholes during the warranty period and if found that any of the liners have developed abnormalities since the time of Final Completion, the abnormalities shall be repaired and/or replaced as defined in Part 3, I. Manhole Liner Repair/Replacement at no cost to the COMMISSION.

END OF SECTION