



after the Commencement Date.

**(b) Time of Performance.** Time is of the essence of this Agreement and with regard to Contractor's performance of the Services. District shall not dictate or determine the schedule of the working hours of Contractor; provided, however, that District may restrict the times during which Contractor accesses and performs Services and any portions thereof to normal working hours and days, consistent with written holiday schedules and policies of District which will be furnished to Contractor upon request.

**(c) Liquidated Damages.** Contractor and District recognize that time is of the essence of this Agreement and that District will suffer financial loss if the Services are not completed within the times specified in Section 2(a) above. The Parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by District if the Services are not completed on time. Accordingly, instead of requiring any such proof, District and Contractor agree that as liquidated damages for delay (but not as penalty), Contractor shall pay District two hundred dollars (\$200.00) for each day that expires after the Completion Date until the Services are complete.

**(d) Extensions of Time and Limitations of Delay Damages.** If the Contractor is delayed at any time in the progress of the Services by changes ordered in the Services, by labor disputes or unusual delays in deliveries (to the extent not avoidable or caused by the Contractor), fire or other unavoidable casualties, abnormal adverse weather (rain days) conditions not reasonably anticipatable, or any other causes that Contractor could not reasonably avoid, then the Completion Date shall be extended by change order for such reasonable time. An extension of time and the recovery expressly provided herein shall be the Contractor's sole remedy for any delay in the Contractor's commencement or progress of the Services, unless the delay shall have been caused by acts constituting intentional interference by District, and then, only to the extent that such acts continue after the Contractor has provided written notice to District of such interference. District's reasonable exercise of any of its rights or remedies under this Agreement, regardless of the extent or frequency, shall not under any circumstances be construed as intentional interference with the Contractor's performance of the Services.

### **3. Performance by Contractor.**

**(a) Contractor's General Obligations.** Contractor agrees to perform the Services diligently, using the Contractor's best skill and attention, and in compliance with the highest applicable industry standards and the rules of TCEQ.

**(b) Review of Field Conditions by Contractor.** Contractor agrees and acknowledges that it has carefully examined the District's wastewater systems and facilities, has adequately investigated the nature and conditions of the District's wastewater systems, has familiarized itself with conditions affecting the difficulty of the Services, and has agreed to the Services based on its own examination, investigation, and evaluation, and not in reliance upon any opinions or representations of District or any other party.

**(c) Labor and Materials.** Unless otherwise agreed to in writing by District, Contractor shall furnish at its own cost and expense all services, labor, materials, equipment, tools, transportation, facilities, and all other things necessary for the proper execution and completion of the Services.

**(d) Supervision and Construction Procedures; Safety.** Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Services. Contractor shall be responsible to District for acts and omissions of Contractor's employees, subcontractors and their agents and employees, and any

other persons or entities performing portions of the Services for or on behalf of Contractor or any of its subcontractors (collectively, "Agents"). Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Services. Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to: (a) employees and other persons present or performing the Services, (b) the materials and equipment used in the performance of the Services, and (c) other real and personal property at the Services sites or adjacent thereto.

**(e) Compliance with Laws.** Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations, and lawful orders of public authorities related to the performance of the Services, including those bearing on safety of persons and property and their protection from damage, injury or loss. Contractor shall promptly remedy damage and loss to property caused in whole or in part by Contractor, a subcontractor, a sub-subcontractor or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may liable and for which Contractor is responsible hereunder, except for damage or loss attributable to acts or omissions of District and not attributable to the fault or negligence of Contractor.

**(f) Payment to Subcontractors.** Contractor shall promptly pay each subcontractor and supplier, upon receipt of payment from District, out of the amount paid to Contractor on account of such subcontractor's or supplier's portion of the Services, the amount to which such subcontractor or supplier is entitled, reflecting percentages actually retained from payments to Contractor on account of such subcontractor's or supplier's portion of the Services. Contractor shall, by appropriate agreement with each subcontractor, require each subcontractor to make payments to sub-subcontractors in similar manner. District shall have no obligation to pay or see to the payment of money to a subcontractor or supplier except as may otherwise be required by law.

**(g) Warranties of the Services; Correction of Defective Services.** Contractor warrants to District that the Services will be free from defects, that the Services will meet the performance standards described in **Exhibit A**, and that the performance of the Services will comply with applicable laws and regulations, including without limitation, the rules of TCEQ codified at 30 TAC § 213.5(c)(3)(E). Services not conforming to these requirements may be considered defective. Contractor shall promptly correct any Services determined by District to be defective or to fail to conform to the requirements of this Agreement, whether discovered before or after the Completion Date. Costs of correcting such defective or nonconforming Services shall be at Contractor's expense. In addition to the foregoing, if, within one year after the date of completion, any of the Services are deemed by District not to be in accordance with the requirements of this Agreement, Contractor shall correct it promptly after receipt of written notice from District to do so. If Contractor fails to correct defective or nonconforming Services within a reasonable time, District may correct such defective or non-conforming Services and may deduct the reasonable cost thereof from any payment then or thereafter due Contractor.

**(h) Licenses, Permits, and Fees.** Contractor shall be responsible for obtaining any and all licenses and any other legal, statutory and regulatory qualifications, permits and approvals for Contractor and Agents, so that Contractor may perform the Services in full and complete compliance with the legal, statutory and regulatory requirements of Texas and each other applicable jurisdiction. Contractor shall comply with all federal, state and local laws, ordinances, rules and regulations, which are now or may become applicable to the Services. Unless the Parties agree, District shall pay the fee for any required building permit and any other governmental fee required for the proper execution and completion of the Services, including fees for inspections.

**(i) Cleaning Up.** Contractor shall keep all sites and surrounding areas where the Services are conducted free from waste materials, debris or rubbish accumulated in connection with the Services

by collecting and removing such waste materials, debris or rubbish from each site. At completion of the Services at each site, Contractor shall remove from and about the job site and surrounding area waste materials, rubbish, Contractor's tools, construction equipment, machinery, and surplus material. Failure to comply with the clean-up requirements set forth in this Contract shall constitute a breach of this Agreement.

**(j) Contractor's Representations and Additional Warranties.** Contractor represents and warrants to District that, with respect to Contractor and each of the Agents:

(i) Contractor and Agents are authorized and licensed, if applicable, to perform the Services, or their respective portion thereof, in Texas and any other applicable jurisdiction;

(ii) Contractor has the full right, power, legal capacity and authority to enter into, execute and deliver this Agreement and to perform the obligations to be performed by Contractor or Agents hereunder; and

(iii) Contractor and Agents are not parties to or bound by any agreement or contract or subject to any restrictions that would prevent the Contractor or Agents from entering into and performing the obligations under this Agreement.

**4. Payment.** Payment for the Services shall be made to Contractor by District as provided herein below.

**(a) Total Compensation.** Contractor is entitled to receive compensation for the Services performed hereunder to District's satisfaction in the amount of \$ \_\_\_\_\_ provided Contractor properly completes all Services for the sewer lines identified in **Exhibit "B"** attached hereto (the "Contract Sum"). Payments by the District to the Contractor for the Services shall be based upon the actual linear footage of sewer line for which the Services are completed in accordance with the requirements of this Agreement, as reflected on the video files and corresponding inspection logs, and shall be equal to the unit costs specified in Contractor's Response to the District's Request for Pricing, which unit costs are hereby incorporated by reference, multiplied by the number of linear footage of sewer line for which the Services have been properly completed in accordance with the requirements of this Agreement. The actual linear footage of sewer line may be more or less than specified in the proposal, and the final Contract Sum shall be adjusted accordingly.

**(b) Progress Payments.** Contractor shall submit its applications for progress payments by the 5<sup>th</sup> of each month for work completed during the previous calendar month. District shall pay Contractor for said work within twenty-five (25) calendar days after receipt of a properly submitted application for payment, which must include all required video files and corresponding pipeline inspection records and logs/reports required under this Agreement. A progress payment made to Contractor shall not constitute acceptance of the Services thereafter determined by District to be defective or nonconforming.

**(c) Requirements for Progress Payments.** Contractor shall submit with each application for payment such documentation as may be required or requested by District to substantiate the amounts for which payment is requested, along with (a) a sworn representation and warranty by Contractor that it has properly performed and completed all Services for which payment is requested, and (b) a sworn representation and warranty by Contractor (a "bills paid affidavit") that it has fully paid all known bills or obligations for Services covered in previously paid applications for payment. Upon request by District and as a further condition of payment, Contractor shall obtain similar releases and waivers of lien rights and bills paid affidavits from its subcontractors.

**(d) District's Right to Withhold Payment.** District shall be entitled to withhold payment from Contractor to the extent reasonably necessary to protect District as a result of (a) defective Services not remedied, (b) third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to District is provided by the Contractor, (c) failure of the Contractor to make payments properly to subcontractors or for labor, materials or equipment, (d) reasonable evidence that the Services cannot be completed for the unpaid balance of the Contract Sum, (e) damage to District property, (f) reasonable evidence that the Services will not be completed within the time allowed for Completion, and that the unpaid balance of the Contract Sum will not be adequate to cover the damages for the anticipated delay, or (g) the persistent failure to carry out the Services in accordance with the requirements set forth in the Agreement.

**(e) Requirements for Final Payment.** As a condition to final payment, Contractor will be required to furnish to District (a) a sworn representation and warranty by Contractor that it has properly performed and completed all Services, (b) a sworn representation and warranty by Contractor (a "bills paid affidavit") that it has fully paid all known bills or obligations for Services, and (c) upon District's timely request, a bills paid affidavit and release of lien from each subcontractor and supplier who furnished labor and/or materials to the construction of improvements hereunder.

**5. Termination.** This Agreement will continue in effect unless terminated by either Party as provided herein below.

**(a) Termination of the Agreement by District.** District may terminate the Agreement at any time for convenience or for cause (due to Contractor's material breach). District may terminate the Agreement immediately following delivery of a written notice of termination to Contractor. If the termination is for cause, at District's sole option, Contractor may be given time to cure such breach as specified in the notice, after which the Agreement will terminate immediately if the breach is not cured. Upon receipt of District's notice of termination, Contractor shall stop all work immediately. In the event of termination for cause, Contractor shall not be entitled to any further payment except to the extent of any amount by which the Services completed or installed by Contractor prior to termination and not previously paid for by District exceeds the amount due by Contractor to District, including all damages which District is entitled to recover against Contractor for breach of the Agreement. In the event that termination is for convenience, Contractor shall be paid for the Services properly executed in accordance with the Agreement prior to the effective date of termination (to the extent not previously paid to or for the benefit of Contractor). District shall not be responsible for damages or recoveries arising from the termination of the Agreement.

**(b) Termination of the Agreement by Contractor.** Contractor may terminate the Agreement only for cause (due to District's material breach). Contractor may deliver a written notice of termination of the Agreement to District setting forth in reasonable detail the basis for such termination and providing District with a period of not less than ten (10) calendar days to cure such default. If District fails to cure the default within the time period stated in the initial notice of termination letter, Contractor may terminate the Agreement no less than five (5) calendar days following delivery of a final notice of termination letter to District. Contractor access to the Services sites shall cease upon the effective termination of the Agreement. In the event of Contractor's termination for cause, Contractor shall be entitled to recover payment for the Services properly executed in accordance with the Agreement prior to the effective date of termination (to the extent not previously paid to or for the benefit of Contractor). District shall not be responsible for damages or recoveries arising from the termination of the Agreement.

**(c) Survival of Obligations following Termination.** Except as may be expressly agreed in writing by the Parties, all warranty obligations or other obligations of the Contractor to complete or repair

defective Services arising under the Agreement shall survive any termination of such Agreement (other than Contractor's termination of the Agreement for cause). Contractor shall provide reasonable cooperation to District in effecting a smooth and orderly transition of all matters that were being handled by Contractor prior to termination. All records, including all documents, articles or items that may be supplied by District to Contractor or Agents, shall be and remain the sole and exclusive property of District and shall be surrendered to it upon demand (and, in any event, within five (5) days of termination). Upon the termination of the Agreement (or this Agreement) or upon the demand of District prior to termination, Contractor shall immediately deliver to District at such place or places as may be designated by it, any and all other property of District in its possession or under its control.

**6. Relationship of Parties.** The Parties understand and agree that Contractor shall provide the Services to District as a non-exclusive independent contractor, with all of its attendant rights and liabilities, and not as an agent or employee of District. Nothing in the Agreement or otherwise is intended or will be construed to create a joint venture, partnership, employment or similar relationship. Neither Contractor nor any of Contractor's employees, representatives or agents will be deemed to be employed by District or be eligible for any employee benefits from District and, except as may be required by lawful authority, District will make no deductions or payment for taxes, insurance, bonds or other sums. The name "District" may not be used by Contractor in any manner tending to give the impression that any authority has been delegated to Contractor or Agents other than that as an independent contractor. Neither Party shall have the authority to bind the other to any contract or agreement whatsoever. Nothing in the Agreement shall be interpreted as authorizing Contractor or Agents to act for District in the collection of money, extension of credit, acceptance of service of process, or to make any commitment that would bind District to any contract or agreement. Contractor has sole authority and responsibility to hire, fire and otherwise control its employees and neither Contractor nor its employees are employees of District. Contractor acknowledges and agrees that nothing herein shall entitle or render Contractor eligible to participate in any benefits or privileges provided by District for its employees.

**7. Taxes.** Contractor agrees to timely withhold and pay all taxes and fees assessed on Contractor or required of Contractor to pay or withhold to, for, or with respect to Agents or any other person in connection with or incident to the performance of the Agreement, by the United States, any state and any governmental agency, as well as unemployment compensation insurance, social security, or any other taxes upon Contractor and its agents. Contractor agrees to require the same agreements and be liable for any breach of such agreements by any of the agents. Contractor acknowledges that Contractor is responsible for payment of all income taxes, including estimated quarterly payments. Contractor shall pay all sales tax for taxable materials and labor or services (to the extent such labor or services are taxable) purchased by or furnished to Contractor by its subcontractors and suppliers. All subcontracts shall be separated so that no sales tax is incurred, charged or paid on non-taxable labor or services.

**8. Insurance.** As an independent contractor, Contractor acknowledges that it is solely responsible for providing its own insurance coverage, including, but not limited to, unemployment compensation and workers' compensation to its employees, and that such coverage shall be maintained by Contractor in the statutory limits which are presently in effect or which may be in effect in each of the applicable jurisdictions where Contractor will perform the Services. Without limiting the foregoing, Contractor shall, at Contractor's sole cost and expense, maintain the following insurance with insurers satisfactory to District and with limits no less than those stated as follows:

(a) **Statutory Workers Compensation** insurance (statutory coverage) and **Employer's Liability** insurance with limits of not less than \$500,000 per occurrence.

(b) **Commercial General Liability** insurance providing coverage against liability arising out of or based on any act, error or omission of Contractor or any of the Agents under this Agreement, with

limits of not less than \$1,000,000 for each occurrence of bodily injury and property damage liability, \$2,000,000 general aggregate and products/completed operations coverage; and

(c) **Business Automobile Liability** insurance with a limit of not less than \$500,000 per occurrence for bodily injury and property damage liability written to cover all owned, hired and non-owned automobiles arising out of the use thereof by or on behalf of the Contractor and Agents.

All such insurance shall be primary. All policies shall include a waiver of subrogation in favor of District, and all policies shall require at least thirty (30) days prior written notice to District of any intention to cancel, terminate or reduce coverage provided thereby. District shall be named as additional insureds on the commercial general liability and business automobile liability policies. Prior to the commencement of the Services, Contractor shall furnish to District a Certificate of Insurance, endorsements, or evidence of coverage signed by authorized representatives of the companies providing the coverage required under the terms of the Agreement. Upon request and without expense to District, Contractor shall furnish District with certified copies of said insurance policies signed by authorized representatives of the insurance companies. Failure to secure the insurance coverages, or the failure to comply fully with any of the insurance provisions of the Agreement as may be necessary to carry out the terms and provisions of the Agreement shall be deemed to be a material breach of the Agreement. The lack of insurance coverage does not reduce or limit Contractor's responsibility to indemnify District as set forth in the Agreement. Any and all deductibles and premiums associated with the above-described insurance policies shall be assumed by, for the account of, and at the sole risk of Contractor. District reserves the right to review the insurance coverage requirements of the Agreement. Contractor shall require similar insurance levels from its sub-contractors and other Agents.

## 9. Indemnity.

**CONTRACTOR AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS DISTRICT OR ANY OF DISTRICT'S EMPLOYEES, DIRECTORS, OFFICERS, MANAGERS, MEMBERS, AGENTS, AFFILIATES OR REPRESENTATIVES (COLLECTIVELY "*DISTRICT REPRESENTATIVES*") FROM AND AGAINST ANY AND ALL CLAIMS, LIABILITY, DEMANDS, ACTIONS, JUDGMENTS, SETTLEMENTS, PENALTIES, LOSSES, COSTS, DAMAGES, FINES OR EXPENSES OF ANY KIND, INCLUDING REASONABLE ATTORNEYS' FEES AND COURT COSTS, ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY (INCURRED BY DISTRICT OR DISTRICT REPRESENTATIVES WHICH ARISE OUT OF: (1) ANY ACTS, ERRORS, OMISSIONS, OR NEGLIGENCE OF CONTRACTOR OR AGENTS, OR OTHER INDIVIDUALS FOR WHOM CONTRACTOR IS LIABLE; (2) THE SERVICES PERFORMED HEREUNDER; (3) THE BREACH OF THIS AGREEMENT BY CONTRACTOR; OR (4) ALL CLAIMS OR CAUSES OF ACTION BROUGHT AGAINST DISTRICT OR DISTRICT REPRESENTATIVES BY ANY THIRD PARTY OR BY AGENTS ARISING FROM CONTRACTOR'S EMPLOYMENT OF, OR THE ACTS OR OMISSIONS OF ANY OF THE AGENTS, EXCEPT TO THE EXTENT THAT A CLAIM, DAMAGE, LOSS OR EXPENSE IS CAUSED BY THE GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT OF DISTRICT OR DISTRICT REPRESENTATIVES. THIS PROVISION RELATING TO INDEMNIFICATION SHALL SURVIVE THE TERMINATION OF THIS AGREEMENT AND MAY BE ENFORCED BY DISTRICT, OR ITS SUCCESSORS OR ASSIGNS.**

10. **Notices.** All notices and correspondence pertaining to the Agreement shall be in writing delivered by hand or certified mail, return receipt requested and postage prepaid, or by nationally

recognized courier service, or by facsimile transmission, and shall be addressed as follows, unless a Party notifies the other in accordance with this Section 12 of a change of address or other information provided herein:

If to District:

Brushy Creek Municipal Utility District  
16318 Great Oaks Drive  
Round Rock, Texas 78671  
Attn: Mike Petter  
Telephone: (512) 255-7871  
Facsimile: (512) 255-0332

If to Contractor:

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

Notice shall be effective only upon receipt by the party being served, except notice shall be deemed delivered and received seventy-two (72) hours after posting by the United States Post Office, by the method described above. Confirmation of receipt of any facsimile sent must be received in order to presume that the transmission was received.

## 11. General Provisions.

**(a) Assignment.** This Agreement and Contractor's obligation and duties to District hereunder are not transferable or assignable by either Party without the prior written consent of the other Party, which consent shall not be unreasonably withheld, delayed or conditioned.

**(b) Waiver.** Failure of District at any time to enforce any provisions of this Agreement shall not be construed to be a waiver or relinquishment of District's rights granted hereunder or of the future performance of such provision, and the obligations of Contractor with respect thereto shall continue in full force and effect. No provision of this Agreement will be deemed waived and no breach excused unless such waiver or consent will be in writing and signed by the Party giving the waiver or consent.

**(c) Choice of Law.** This Agreement is made under, and will be enforced and construed in accordance with the laws of the State of Texas. All claims, disputes or causes of action arising hereunder will be shall be filed in the court of competent jurisdiction in Williamson County, Texas, which venue shall be exclusive.

**(d) Counterparts.** This Agreement may be executed in multiple counterparts, each of which shall constitute one of the same Agreement. Faxed signatures and countersignatures shall be deemed originals for all purposes and proper evidence of assent of this Agreement.

**(e) Additional Requirements.**

(i) The Contractor represents and warrants, for purposes of Chapter 2270 of the Texas Government Code, that at the time of execution and delivery of this Agreement, neither the Contractor,

nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of Contractor, boycotts Israel. The Paying Agent agrees that, except to the extent otherwise required by applicable federal law, including, without limitation, 50 U.S.C. Section 4607, neither the Contractor, nor any wholly-owned subsidiary, majority-owned subsidiary, parent company, or affiliate of the Contractor, will boycott Israel during the term of this Agreement. The terms "boycotts Israel" and "boycott Israel" as used in this clause (A) has the meaning assigned to the term "boycott Israel" in Section 808.001 of the Texas Government Code.

(b) The Contractor represents and warrants, for purposes of Subchapter F of Chapter 2252 of the Texas Government Code, that at the time of execution and delivery of this Agreement neither the Contractor, nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of the Contractor, (i) engages in business with Iran, Sudan or any foreign terrorist organization as described in Chapters 806 or 807 of the Texas Government Code, or Subchapter F of Chapter 2252 of the Texas Government Code, or (ii) is a company listed by the Texas Comptroller under Sections 806.051, 807.051 or 2252.153 of the Texas Government Code. The term "foreign terrorist organization" as used in this clause (B) has the meaning assigned to such term in Section 2252.151 of the Texas Government Code

**IN WITNESS WHEREOF**, the Parties hereto have executed this Agreement effective as of the date signed by the last signatory hereto.

**Contractor:**

\_\_\_\_\_

Signature: \_\_\_\_\_

Printed name: \_\_\_\_\_

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

Date: \_\_\_\_\_

**District:**

**Brushy Creek Municipal Utility District**

Signature: \_\_\_\_\_

Printed name: \_\_\_\_\_

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

Date: \_\_\_\_\_

\_\_\_\_\_  
District Secretary:

## **EXHIBIT A**

### **SCOPE OF SERVICES AND PERFORMANCE STANDARDS**

Contractor shall perform internal wastewater line filming for those sewer lines identified in **Exhibit “B”** using a color television camera to verify that the lines are free of structural damage such as offsets, open joints, or cracked or crushed lines that would allow exfiltration to occur.

The Services shall be performed in accordance with the performance standards set forth below, and in accordance with all applicable rules and regulations of TCEQ, including 30 TAC § 213.5(c)(3)(E).

### **SHOP DRAWINGS AND STANDARDS**

- A. The following shall be submitted to District prior to beginning work.
  - 1. Sample Pipeline Inspection Log / Report Sheet
  - 2. Standardized Coding Used for Completing Log / Report Sheets. Codes must conform to National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP). The Contractor shall add Owner specific defect codes to the database as required to insure uniform defect identification and naming.
- B. The following shall be submitted to the District at least once every two weeks as work is completed:
  - 1. Pipeline Inspection Log / Report Sheets
  - 2. Manhole Inspection Logs

### **SAFETY**

- A. Contractor shall be solely responsible for safety during the performance of all Services. Contractor shall not enter into any sewer segment where hazardous conditions may exist until such time as the source of those conditions is identified and eliminated by Contractor and/or District. Contractor shall perform all work in accordance with the latest OSHA confined space entry regulations. Contractor shall coordinate his work with local fire, police and emergency rescue units.
- B. Contractor shall be responsible for any damage to public or private property resulting from its activities and shall repair or otherwise make whole such damage at no cost to District.

### **EQUIPMENT**

- A. Television inspection equipment shall have an accurate footage counter that displays on a remote monitor the travel distance of the camera along the sewer centerline from the starting manhole. The camera shall be of the remotely operated pan and tilt type when inspecting manholes and sewer lines six (6) inches and greater in diameter. The rotating camera and light head configuration shall provide 240 degrees of pan and tilt angle measuring centerline to centerline and 70 degree lens viewing angle.

- B. The camera shall be color and shall provide a minimum of 470 lines of horizontal resolution and 400 lines of vertical resolution. The image pick-up device shall contain in excess of 379,000 picture elements (pixels). Geometrical distortion of the image shall not exceed one percent.
- C. The color camera shall be equipped with the necessary circuitry to allow for the remote adjustment of the optical focus and iris from the power control unit at the viewing station.
- D. Lighting system shall be adequate for quality color picture at least 5 feet in front of the camera's lens.
- E. The camera shall be equipped to capture still images of pipeline defects.

## **EXECUTION**

### **A. Inspection of Pipelines**

1. Contractor shall internally inspect, via closed circuit television inspection, the sewer segments as required. Generally, inspection shall be completed one sewer line section at a time. Access for televising purposes shall only be via existing manholes and cleanouts.
2. Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles, and service connections by closed-circuit television inspection techniques. The interior of the pipeline shall be carefully inspected to determine the location and extent of all pipeline defects. The location of any conditions which may result in a limitation of rehabilitation techniques that could be used and/or prevent proper installation of designated rehabilitation materials in the pipelines shall be noted so that these conditions can be considered and, if necessary, corrected prior to actual rehabilitation.
3. Should access to particular sewer section be difficult and adjacent sections require television inspection, Contractor may complete inspection in multiple sewer line sections. When multiple sewer line sections are inspected using one setup, Contractor shall zero the camera's footage metering device at each subsequent sewer manhole to establish uniform starting location of Station 0+00 for each line section televised.
4. The Contractor shall move the camera downstream at a uniform rate not greater than 30 feet per minute. The Contractor shall stop and thoroughly inspect each of the following:
  - a) Collapsed pipe, obstructions;
  - b) Structural cracking, with and without deflection;
  - c) Missing portion of wall;
  - d) Sag, excessively deflected joint;
  - e) Cracked and open joints;
  - f) Root intrusion;
  - g) Protruding joint sealing material;
  - h) Corrosion conditions including exposed aggregate, exposed reinforcement, and disintegrated wall which exposes the soil surrounding the pipe;
  - i) Protruding lateral joint; and
  - j) Inflow point.

5. At all defects and service connections, the camera shall be stopped and the pan and tilt features shall be used to obtain a clear picture. Where possible, the camera shall be panned to view up each lateral or point of connection. Locations and details of all defects, laterals and connection points shall be noted in the inspection logs / reports and NASSCO defect logging software.

B. Pipeline Inspection Records and Logs / Reports

1. Contractor shall record these inspections in a video file in a standard format such as MP4 and on a suitable log / report. Lighting and camera quality shall provide a clear, in-focus picture of the entire inside periphery of the sewers and laterals for all conditions except submergence. The video file shall include a visual and audio narrative noting:
  - a) Project name
  - b) Date, time of day, and depth of flow;
  - c) Sewer segment number. Segment numbers shall be designated by District;
  - d) Upstream manhole number;
  - e) Downstream manhole number;
  - f) Diameter of sewer line;
  - g) Sewer materials of construction;
  - h) Closest street addresses at points of entry and exit and street name or interceptor on which sewer is located;
  - i) Beginning and ending tape counter numbers for each run (manhole to next manhole) of sewer inspected;
  - j) Direction of movement of camera, heading, and direction of flow;
  - k) Locations of service connections into sewer by clock position and with counter distance in feet from beginning manhole's centerline; and
  - l) Location (start and end counter distances in feet travelled along the sewer centerline from the beginning manhole) and description of obstructions, structural defects, missing pieces of pipe, longitudinal and/or circumferential cracking, joint deterioration including open and/or offset joints, ovality, leakage or evidence thereof, corrosion, erosion, break-in connections, protruding connections, mineral deposits, roots, previous repairs, grease/fats/oil deposits on pipe walls, sags, and other abnormalities with respect to the sewer's condition with counter distance in feet from the beginning manhole's centerline.
  - m) Still photographs or screen captures shall be taken at all defects.
2. Contractor shall immediately bring to the attention of the District any manholes or cleanouts identified or located by CCTV that are not shown on the collection system maps. The District will flag/mark previously unidentified manholes for later surveying. Contractor shall provide GPS coordinates for newly located manholes accurate within three (3) feet of manhole center.
3. Contractor's log / report shall contain the same information as visual and audio recording. Contractor may use any log / report sheet approved by District.
4. The video file shall visually display at a minimum the date, pipe segment number (manhole number) and travel distance along the sewer centerline from the

- upstream manhole.
5. The entire length of any one sewer segment shall be on one video file. No segment shall be split between two video files. Electronic deliverables shall be provided to the District as described in Section D. Video files of all sections will be provided to District along with the respective television inspection field logs / reports.
  6. The importance of accurate distance measurements is emphasized. Measurement for location of defects shall be above ground by means of a meter device. Marking on the cable, or the like, which would require interpolation will not be allowed. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, or other suitable device. If the counter distance and the taping distance differ by more than 2 feet per 100 feet, the run shall be re-televised by Contractor at no additional cost to District.
  7. If the video recording fails for any reason, the run shall be re-televised by Contractor at no additional cost to District.
  8. The Contractor shall use CCTV defect logging software that is PACP- certified, which assures that the software can be used to export a database of all inspection and defect details that conform to the NASSCO PACP database standard. The following tables shall be included in the report file: Conditions, Inspections, media conditions and media inspections

#### C. Obstructions and Reverse Set-ups

1. If during television operation, television camera will not pass safely through the entire sewer line section being investigated, Contractor shall, at no additional cost to District, set up equipment so that inspection can be performed from opposite (downstream) manhole. Where an obstruction is encountered and a reverse set up is required, the distance shall be entered into the log / report and verbally noted on the video from which manhole the measurements are being made. If under the reverse set-up the camera again fails to pass through the entire sewer line section, inspection shall be considered complete.
2. All obstructions in the sewer segment that prohibit passage of the television camera shall be immediately reported to the District by Contractor referencing location and nature of the obstruction. No rehabilitation work shall proceed until Contractor receives direction from District regarding removal of the obstruction.
3. Should Contractor's televising equipment become lodged in any sewer line, it shall be removed by Contractor at its expense. This shall include, if necessary, excavation and repair of the sewer, underground utility repairs, backfilling and surface restoration. Contractor shall re-televise any line segment in which his equipment became lodged after said equipment has been removed to demonstrate to the District that no damage exists as a result of his televising operations.

#### D. Deliverables

1. The Contractor shall provide two complete sets of all video recordings, manhole

inspection forms, pipeline inspection logs / reports, and an electronic file containing pipeline defects logged in an export format conforming to the NASSCO PACP standards to District.

2. All video and electronic files shall be maintained and delivered in a portable digital media device (external hard drive or USB drive) that will become property of the District. Two devices with all files on each shall be provided. The device shall be labeled with the following information at a minimum:
  - a. Contractor Name and Contact Information
  - b. Project name
  - c. Segments included (Manhole from and to numbers)
  - d. Date of inspection
  - e. Date submitted
  
3. The following information at a minimum shall be provided for each video file in a separate electronic file (Excel spreadsheet) listing the following:
  - a. Media Location/electronic path/filename
  - b. Name of Street
  - c. From Manhole Number and counter number
  - d. To Manhole Number and counter number
  - e. Pipe length and diameter
  - f. Project name
  - g. Date Inspected
  - h. Date Submitted
  
4. For each video file, the Contractor shall prepare an inspection report which shall be a complete written log / report of pipe conditions and connections, indexed to the footage counter. Contractor may use any inspection log / report form approved by District. Electronic PDF (.pdf) files of each inspection log and digital still photographs (.jpg) files shall accompany the video inspections for each pipeline segment inspected and defect noted. Filenames for inspection logs shall be the from and to manhole ID numbers separated by a dash. File names for digital still photographs shall be the from and to manhole ID numbers separated by a dash, followed by the date and time the photograph was taken.
  
5. Inspection reports shall be compiled/arranged in numerical sequence by the upstream manhole ID of the sewer line cleaned and inspected. Manholes and sewer lines not cleaned and/or not televised shall also be identified with rationale as to why work was not accomplished.

**Exhibit B – Map**