

City of Mt. Pleasant, Michigan

CONTRACT DOCUMENTS

For Construction
of

2014 Storm Sewer Cleaning and Televising Project



SHARON TILMANN
Mayor

NANCY RIDLEY
Interim City Manager

Prepared By:
Division of Public Works

JOHN ZANG
DPW Director

April 2014

City of Mt. Pleasant, Michigan

TABLE OF CONTENTS

2014 Storm Sewer Cleaning and Televising Project

Bidding Information

Notice to Bidders
Instructions to Bidders

Contract Documents

Proposal

Technical Specifications

Supplemental Specifications
Special Provisions



THE CITY OF
MT. PLEASANT, MICHIGAN

CITY HALL
320 W. Broadway • 48858-2447
(989) 779-5300
(989) 773-4691 fax

PUBLIC SAFETY
804 E. High • 48858-3595
(989) 779-5100
(989) 773-4020 fax

PUBLIC WORKS
1303 N. Franklin • 48858-4682
(989) 779-5400
(989) 772-6250 fax

NOTICE TO BIDDERS

2014 Storm Sewer Cleaning and Televising Project

The City of Mt. Pleasant, Michigan, is requesting sealed bids at the Office of the City Clerk, City Hall, 320 W. Broadway, Mt. Pleasant, Michigan 48858, until 1:30 p.m. (local time), on April 22, 2014, at which time and place the bids will be publicly opened and read. All bids shall be submitted in a sealed envelope, plainly marked "2014 Sanitary Sewer Cleaning and Televising Project – April 22, 2014."

Proposals are solicited on a unit price basis, for the following work:

Sewer Cleaning and Televising	266,700	LFT
-------------------------------	---------	-----

All bid proposals must be accompanied by a bid bond, bank cashier's check, bank draft, or certified check for not less than five percent (5%) of the bid price, made payable to the City of Mt. Pleasant.

To view and download complete Plans and Specifications at no charge, visit the City of Mt. Pleasant website at www.mt-pleasant.org and navigate to the [bids and quotes](#) page.

A non-refundable \$30.00 fee is required for plans and specifications picked up at the Public Works Building, 1303 N. Franklin Street, Mt. Pleasant, Michigan 48858, (989) 779-5401, Monday through Friday, 8:00 a.m. to 4:30 p.m. A non-refundable \$40.00 fee is required for plans and specifications that must be mailed.

The City of Mt. Pleasant reserves the right to accept or reject any or all bids, to waive any irregularities in the bids, and to select the bid considered most advantageous to the City.

Jason Moore
City Inspector
(989) 779-5405

Jeremy Howard
City Clerk

City of Mt. Pleasant, Michigan
INSTRUCTIONS TO BIDDERS

1. **Proposals**

Proposals must be made upon the forms provided therefore, with the Bid amount both written and shown in figures, and all other data required submitted.

The Proposal, bound together with all Proposal Documents, must be enclosed in a sealed envelope marked as specified in the Notice to Bidders for such Bid and clearly indicating the name and address of the Bidder and must be received by the City Clerk, City Hall, 320 West Broadway Street, Mt. Pleasant, Michigan 48858, no later than the time and date specified in the Notice to Bidders. At such specified time, Proposals shall be publicly opened and read aloud.

2. **Basis of Proposals**

Proposals are solicited on the basis of unit price(s) and/or lump sum(s), as specified on the Proposal form.

The City of Mt. Pleasant (also referred to as "Owner"), reserves the right to accept any Bid, to reject any or all Bids, to waive any irregularities in the Bids, and to select the Bid considered most advantageous to the city.

3. **Comparison of Bids**

In comparing Bids, consideration shall be given to the time proposed for completion of the Contract, qualifications of Bidder, price differentials, alternate Proposals for the alternate items listed in the Proposal (if applicable), and any other pertinent factors. **The City of Mt. Pleasant grants a preference to businesses located within the Mt. Pleasant City Limits. The preference given is a differential above the low bid if the low bid is not from a City of Mt. Pleasant bidder. The differential allowed is 3% of the total for bids between \$5,000 and \$9,999 and 2% of the total for bids over \$10,000. The maximum credit allowed is \$1500.00.** The Owner reserves the right to make an award to the Bidder whose Proposal is deemed to be in the best interest of the Owner.

4. **Time**

Time is of the essence in the performance of the Contract, and each Bidder, by submitting a Proposal, certifies his/her acceptance of the time allowed by the Contract for the completion of the work specified.

5. **Indemnification**

The Contractor shall save and hold harmless the city and its employees from and against all claims, damages, losses, or expenses, including attorney's fees, arising out of or resulting from the performance of the work; provided that any such claim, damage, loss or expense is caused in whole or in part by any negligent or willful act of omission of the contractor, subcontractor, employee, or anyone under their direction. The Contractor shall at his/her own expense, defend any and all such actions and shall pay all attorney's fees, costs, and expenses pertaining thereto.

6. **Bid Deposits**

Each Proposal shall be accompanied by a certified check, bank cashier's check, bank draft, or a Bid Bond by a recognized Surety Company similar to a U. S. Government Standard Form Bid Bond, in the amount of five percent (5%) of the total amount of the Bid, made payable to the City of Mt. Pleasant, subject to forfeiture to the Owner in the event of failure on the part of the successful Bidder to enter into the attached form of agreement to do the work specified by said Proposal at the price and within the time stated therein. The Bid Deposit of all Bidders, except the three (3) lowest acceptable Bidders, shall be returned within two (2) weeks after opening of bids. The bid deposits of the three (3) lowest acceptable bidders shall be returned within 48 hours after the executed Contract(s) have been finally approved by the Owner.

7. **Liquidated Damages**

A liquidated damage clause, as given in the Contract form, provides that the Contractor shall pay the Owner as liquidated damages, and not as a penalty, the amount as indicated in Section 108.10 of the 2012 MDOT Standard Specifications for Construction for each and every calendar day that the Contractor may be in default of substantial completion of the work required under said Contract.

8. **Insurance and Bonds**

Unless otherwise stated in the supplemental specifications, the successful Bidder will be required to execute (2) Bonds, in the form attached hereto, with Surety acceptable to the Owner and insurance, as follows:

- a. Bond in the amount of 100% of the Estimated Contract Price running to the City of Mt. Pleasant, Michigan, to insure the completion of the entire work, according to the statutes of the State of Michigan in effect at that time.
- b. Bond in the amount of 100% of the Estimated Contract Price running to the People of the State of Michigan for the protection of Subcontractors and Labor and Material Men, according to the statutes of the State of Michigan in effect at that time.
- c. Insurance in the amounts required by City Ordinance as specified in the Section 1 - General Construction Specifications, attached hereto.

The successful bidder shall be required to furnish for each set of executed Contract Documents, and conformed copies thereof, an original conformed Performance Bond, Labor and Materials Bond, and Insurance Certificates.

9. **Permits and Local Codes**

The Owner shall procure the required permits for municipal sanitary sewer construction, municipal water system construction, and soil erosion control.

The Contractor shall obtain, at his/her expense, all other required local construction permits and shall comply with local building code and inspection requirements.

10. **Qualifications of Bidders**

It is the intent of the Owner to award the Contract to a Bidder fully capable, both financially and with regard to experience, to perform and complete all work in a satisfactory and timely manner. Evidence of such competency must be furnished on the forms included in the proposal, listing projects of similar difficulty, scope of work, and size, which the Bidder has satisfactorily undertaken and completed.

It is the intention of the City to award the contract to a Contractor whose ability and financial resources are fully equal to the task of performing the work in a satisfactory manner. With this in view, the Proposal calls for at least five (5) references, using specific names of persons to contact concerning the Contractor's ability to do this particular class of work. References from municipalities are preferred. The mere ability to furnish a Performance Bond shall not be accepted as sufficient evidence of responsibility on the part of the Bidder. The Bidder may also be required to furnish evidence of his current financial status.

11. **Interpretation of Documents**

If any Bidder is in doubt as to the true meaning of any part of the Plans, Specifications or any Contract Document, he/she may submit to the Owner a written request for an interpretation thereof. Any interpretation made in response to such a query shall be made only by Addendum, duly issued, and a copy of such Addendum shall be mailed or duly delivered to each prospective Bidder. The Owner shall not be responsible for any other explanation or interpretation of the Contract Documents. Alternative proposals that are suggested by bidders will be given consideration, if presented before the bid opening. If accepted, an addendum will be issued and sent out to all potential bidders, so that they may bid on the alternatives that have been identified.

12. **Execution of Bid Proposal**

A Bid Proposal, which is not signed by the individual making it, should have attached thereto a Power of Attorney evidencing authority to sign the Bid Proposal in the name of the person for whom it is signed.

A Bid Proposal, which is signed by a partnership, shall be signed by all of the partners or by an Attorney-in-Fact. If signed by an Attorney-in-Fact, there should be attached to the Bid a Power of Attorney evidencing authority to sign the Bid Proposal in the name of the partnership and such Power of Attorney shall be signed by all partners of the partnership.

A Bid Proposal, which is signed for a corporation, should have the correct corporate name thereof and the signature of the President, or other authorized officer(s) of the corporation, manually written below the corporate name and on the line indicating "By:_____." If such a Bid Proposal is manually signed by an officer other than the President of the corporation, a certified copy of a Resolution of the Board of Directors evidencing the authority of such officer(s) to sign the Bid Proposal should be attached thereto. Such a Bid Proposal should also bear the attested signature of the Secretary of the corporation and an impression of the corporate seal.

13. **Execution of Contract**

The successful Bidder to whom an award is made shall be required to enter into a written agreement, in the form attached hereto, within ten (10) days after receipt of a Notice of Award and copies of the documents to be executed. In the event the successful Bidder fails to comply with this provision, he/she may be considered by the Owner to have abandoned all his/her rights and interests in the award and his/her certified check or amount of the Bid Bond may be declared to be forfeited to the Owner, and the Contract may be awarded to another.

14. **Bidder Responsibility For Conditions of Work and Site**

The Bidder, or his/her representative, shall make personal investigation of the site of work and of existing structures and shall determine to his/her own satisfaction the conditions to be encountered, the nature of the ground, the difficulties involved in making connections to existing structures and pipes, and any and all other factors affecting the work proposed under the Contract.

The Bidder to whom the Contract is awarded shall not be entitled to any additional compensation by reason of conditions being different from those anticipated or by reason of his/her failure to fully acquaint himself/herself with the conditions at the site affecting the work of the Contract.

15. **Changes in Work**

If any change is required to be made in the work of the Contract, a payment adjustment therefore shall be determined as specified in Section 103 of the 2012 MDOT Standard Specifications for Construction.

Revised: March 2011

City of Mt. Pleasant, Michigan
2014 Storm Sewer Cleaning and Televising
BID PROPOSAL

TO: City Hall/City Clerk
320 W. Broadway Street
Mt. Pleasant, MI 48858

BID DATE: April 22, 2014
TIME: 1:30 p.m.

The undersigned, as Bidder, hereby declares that his bid is made in good faith without fraud or collusion with any person or persons bidding on the same Contract; that he has carefully read and examined the Contract Documents, including the Notice to Bidders, Instructions, Bond Forms, Technical and Detailed Specifications, and Contract Drawings, for the designated work and understands all of the same; that he, or his representative, has made such a personal investigation at the site as is necessary to determine the character and difficulties attending the execution of the proposed work; and he proposes and agrees that if this Proposal is accepted, he will contract with the Owner in the form of the Contract hereto annexed, to provide necessary machinery, tools, apparatus and other means of construction, including utility and transportation services, necessary to do all the work and furnish all the materials and equipment specified or referred to in the Contract Documents, including Addenda No. __, __, and __, in the manner and time therein prescribed, and according to the requirements of the Owner as therein set forth to furnish Contractor Bonds and Insurance required of the Contractor by the Contract Documents, and that he will take in full payment therefore the unit prices set forth in the following Proposal.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any irregularities in the bidding.

The Bidder agrees that his bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving the bids.

Upon receipt of a written Notice of Award of the Bid, the Bidder shall execute the formal Contract Agreement attached hereto within ten (10) days and shall deliver to the Owner a Surety Bond or Bonds required. In the event the Contract and Bond are not executed within the time above set forth, the Bid Deposit attached in the sum of five percent (5%) of the Bid Proposal shall become the property of the Owner as liquidated damages for the delay and additional expense to the Owner caused thereby.

The Bidder hereby agrees to commence work under this Contract on or before the date to be specified in the written Notice to Proceed executed by the Owner and to fully complete the project as stipulated in the Special Conditions of these Specifications. The Bidder further agrees to pay as liquidated damages the sum indicated in the Special Conditions for each consecutive calendar day thereafter, until substantial completion, that is when all work items in the proposal are complete and notification of substantial completion of work items and final quantities is given to the Director of Public Works by the contractor.

The below unit prices shall include all labor, materials, overhead, profit, insurance, etc., to cover the finished work of the several kinds specified, and the Bidder agrees to perform all of the work described in the Specifications and/or shown on the Plans for the following unit prices:

DIVISION 1

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
1	Sewer Cleaning, Catch Basin Lead	36,200	LFT	\$	\$
2	Sewer Cleaning, Storm, 06-12 inch	64,400	LFT	\$	\$
3	Sewer Cleaning, Storm, 14-18 inch	61,000	LFT	\$	\$
4	Sewer Cleaning, Storm, 21-32 inch	48,165	LFT	\$	\$
5	Sewer Cleaning, Storm, 36-54 inch	49,800	LFT	\$	\$
6	Sewer Cleaning, Storm, 60-84 inch	7,200	LFT	\$	\$
7	Sewer Televising, Catch Basin Lead	36,200	LFT	\$	\$
8	Sewer Televising, Storm, 06-12 inch	64,400	LFT	\$	\$
9	Sewer Televising, Storm, 14-18 inch	61,000	LFT	\$	\$
10	Sewer Televising, Storm, 21-32 inch	48,165	LFT	\$	\$
11	Sewer Televising, Storm, 36-54 inch	49,800	LFT	\$	\$
12	Sewer Televising, Storm, 60-84 inch	7,200	LFT	\$	\$

TOTAL DIVISION 1 \$ _____

1 Deduction for Multiple Contract Award

1 LSUM \$ _____ \$ _____

DIVISION ALTERNATE #1

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
1	Sewer Televising, Catch Basin Lead	36,200	LFT	\$	\$
2	Sewer Televising, Storm, 06-12 inch	64,400	LFT	\$	\$
3	Sewer Televising, Storm, 14-18 inch	61,000	LFT	\$	\$
4	Sewer Televising, Storm, 21-32 inch	48,165	LFT	\$	\$
5	Sewer Televising, Storm, 36-54 inch	49,800	LFT	\$	\$
6	Sewer Televising, Storm 60-84 inch	7,200	LFT	\$	\$

TOTAL DIVISION ALTERNATE #1 \$ _____

TOTAL ALL DIVISIONS \$ _____

===== (figures)

(written) _____ and ____/100 Dollars

RESPECTFULLY SUBMITTED:

Company Name _____
 Address _____
 City _____ ST _____ Zip Code _____
 Area Code/Telephone Number _____ Date _____
 Fax _____ E-Mail _____
 Authorized Signature _____
 Print of Type Name and Title _____

EXPERIENCE QUESTIONNAIRE

To be furnished by Bidder

The signatory of this proposal guarantees the truth and accuracy of all statements and of all answers hereinafter made.

1. How many years have you been in business as a contractor under your present name?

2. How many years have you been a principal officer of a firm under a different name?

Name of Firm _____

3. What projects of a similar nature has your organization contracted for within the past five years? (NOTE: Fill out each blank completely.)

Name of Owner & Location	Name/Address/Phone # of Person in Charge as Reference	Type of Work	Value of Work	Date Completed
---	--	-----------------------------	------------------------------	---------------------------

1. _____

2. _____

3. _____

4. _____

**City of Mt. Pleasant, Michigan
SUPPLEMENTAL SPECIFICATIONS**

2014 Storm Sewer Cleaning and Televising Project

Construction Specifications

The work under this contract shall be completed following the 2012 MDOT Standard Specifications for Construction along with the City of Mt. Pleasant 2012 Standard Special Provisions, except as modified herein. Unless otherwise stated this is not a state sponsored project; therefore, the payment of prevailing wages is not a requirement of this contract.

1. Scope of Work

The work under this contract involves cleaning and televising various diameters of sanitary sewer and producing records as detailed in the City of Mt. Pleasant Special Provision for SEWER CLEANING AND TV INSPECTION OF SEWER PIPELINE.

2. Sewer Runs to be Televised

The sewers to be televised are at various locations. See the attached map for the currently anticipated locations. Specific location maps along with manhole and main ID numbers will be provided by the City as work progresses.

The quantities listed in the proposal should be considered estimates and may vary.

The City reserves the right to stop cleaning and televising operations at any time if an excessive number of sewers are found to be in poor enough condition that collapses are occurring.

3. Time Constraints

All cleaning and televising work shall be completed no later than December 31, 2015. At least half, by value, must be completed before December 31, 2014.

4. Holidays

No work is to take place on weekends, holidays or within one day of a holiday without prior approval of the city.

Access to driveways for local residents, schools, and businesses shall be maintained and available for use. All driveways shall be opened by the contractor when the contractor is not working, including all evenings, Sundays,

and holidays, except as approved in writing by the inspector and with written notification to the residents/owners.

5. Insurance

The contractor shall carry insurance that will provide for the full replacement cost of any property that is damaged during the project. The contractor shall also pay the immediate costs of the homeowner/resident in the event an incident occurs, while waiting for the insurance company to make compensation. Immediate costs include but are not limited to: Hotel/Motel bills and meals if the building is unusable, costs for basic necessities such as beds or clothes in the event they are damaged.

6. Alternate and Special Pay Items

The alternate televising pay items for this contract are for televising using a 3D recording and reporting system equivalent to the Rapid View Panorama® system.

The bid price for the “Deduction for Multiple Contract Award” pay item should be the credit that the city would receive if the contractor is awarded the 2014 Storm Sewer Televising and Cleaning contract along with this contract. Upon contract completion this credit will be adjusted proportionally based on the actually final contract amount.

7. Project Meetings

The contractor shall attend weekly progress meetings with the Engineer to provide updates on the project, the schedule of work for the following week, and to resolve outstanding issues.

City of Mt. Pleasant
SPECIAL PROVISION
FOR

SEWER CLEANING AND TV INSPECTION OF SEWER PIPELINE

City of MtPleasant

1 of 9

April 14

A) General

1) Description

- i) This section includes cleaning of existing sewers and removal of debris, and internal television (TV) inspection of sewers.

(1) Clean existing sewer pipelines.

(2) Inspect sewer interior using color closed-circuit television (CCTV) camera, and document inspection on DVD with audio location and date information, DVD title information, and continuous tape counter. Provide hard copy and digital copy of inspection logs. All inspections and reports shall be performed in accordance with Pipeline Assessment and Certification (PACP) Standards

(3) Additional TV inspections may be required at other stages of operation, to meet requirements specified in Field Quality Control article.

- ii) The onsite operator is required to have PACP certifications and a minimum of 5 years of experience prior to the start of the work. Certification number shall be listed on reports.

2) Submittals

- i) Quality Assurance: Submit one example DVD of previous sewer inspection and lateral inspection work that shows operational and structural defects in sewers and laterals complete with audio commentary and inspection log(s). Prior to submittal, finalize the DVD to prevent re-recording.

(1) DVD and inspection logs will be reviewed to determine if quality of CCTV image is acceptable, and if defects were properly identified and documented according to the Owners requirements.

(2) Modify equipment and/or inspection procedures to achieve report material of acceptable quality.

(3) Do not commence Work prior to approval of report material quality by Owner. Upon acceptance, report material shall serve as standard for remaining work.

- ii) Inspection Logs: Unless otherwise indicated, submit inspection logs both digital and hard copy using PACP format that include the following as a minimum:
 - (1) Project title
 - (2) Name of City
 - (3) Time of day
 - (4) Street Name
 - (5) Manhole to manhole pipe section
 - (6) Pipe segment length
 - (7) Pipe material
 - (8) Compass direction of viewing
 - (9) Direction of cameras travel
 - (10) Pipe depth
 - (11) Operator name
 - (12) Tape counter reading at beginning and end of each manhole to manhole pipe segment.
 - (13) PACP defect codes shall be used and will be recorded on electronic media and a copy of such records will be supplied to the Owner.
 - (14) Digital photographs of the pipe condition and all defects shall be taken by the Contractor.
 - (15) All other requirements of NASSCO PACP Standards shall be followed.
 - iii) DVDs: Submit completed DVDs after cleaning and rehabilitation. Prior to submittal, finalize the DVD to prevent re-recording. DVDs must be in a readable format with standard viewing software such as Windows Media Player, and if a specific program is needed, provide a read only version of the software used. Provide separate MPEG video files for each section (manhole to manhole). Submit for preapproval
 - iv) Maintain copy of all inspection documentation (DVDs, databases, and logs) for duration of Work and warranty period.
- 3) Contractors responsibilities incidental to the project:
- i) Removal and replacement of landscape borders, fences (including posts)
 - ii) Care and Protection of all Trees and tree branches
 - iii) Restoration of all out lawn areas disturbed
 - iv) Required cleanups if a backup is caused by (as determined by the owner) the Contractors operations resulting in sewage in buildings or residential homes. Any claims by the homeowner determined to be the responsibility of the contractor shall be covered by the contractor or under the contractors insurance at replacement value.
 - v) Contractor shall notify all affected residents in writing with a door hanger a minimum of 48 hours prior to cleaning and taping mainline sewers and laterals.

B) Material and Equipment

- 1) DVD: 120 minute minimum, high-quality color, type DVD-R, DVD-RW, or DVD+R.

- i) Audio portion of composite DVD shall be sufficiently free from electrical interference and background noise to provide complete intelligibility or oral report.
 - ii) Store in upright position with temperature range of 45 to 80 degrees F (7 to 27 degrees C) in an appropriate CD or DVD case to prevent scratches.
 - iii) Identify each disk with tape labels showing Community name, Contractors name and each manhole to manhole pipe segment of sewer line represented on DVD or provide and index or table of contents if more than one segment is on the disk. Owner will provide a base map of the system for manhole numbering.
- 2) Television Inspection Camera(s): Equipped with rotating head, capable of 90-degree rotation from horizontal and 360-degree rotation about its centerline.
- i) Minimum Camera Resolution: 3000 line of vertical resolution in the side view and a minimum of 500 lines in the perspective view.
 - ii) Camera Lens: Minimum of 185 degree viewing angle, with automatic or remove focus and iris control.
 - iii) Front Mounted pan and tilt/zoom camera (40:1 Optical/Digital Zoom)
 - iv) Cameras shall be intrinsically safe and operative in 100 percent humidity conditions.
 - v) Lighting Intensity: Remote-controlled and adjusted to minimize reflective glare.
 - vi) Lighting and Camera Quality: Provide clear, in-focus picture of entire inside periphery of sewer.
- 3) Footage Counter: Measures distance traveled by camera in sewer and lateral, accurate to plus or minus 1 foot in 1,000 feet
- 4) DVD Titling: Each segment shown on the DVD should have its own Chapter titles with the beginning and end point of the pipe segment.
- 5) High Velocity Cleaning Equipment
- i) High velocity cleaning equipment is to be capable of producing a flow rate of 65 gals/minute at 2000 psi of pressure, complete with the following:
 - i. Selection of nozzles capable of effectively scouring and removing grease from the sewer pipe wall and transporting debris in all sizes of the sewers to be cleaned.
 - ii. Water tank.
 - iii. Auxiliary engines.
 - iv. Pumps.
 - v. Approved backflow prevention devise and approved water meter for filling water tank from a hydrant.
 - vi. Provide special nozzles if deterioration of any pipe walls are discovered in order to prevent pipe collapse or additional pipe wall deterioration. Notify Owner

immediately if these conditions exist.

6) Debris Removal Equipment

- i) Vacuum unit(s) used for removing sewer debris to be complete with the following:
 - i. Positive displacement pumps or fans producing a minimum 25 cubic feet per second of air movement.
 - ii. Storage tank.
 - iii. Minimum 6 inch diameter suction hoses attached to a hydraulic boom.
- ii) Configure the storage tank to allow the liquid portion of the debris to be returned to the sewer.

7) Communication Equipment

- i) Equip cleaning crews with cellular telephones and a suitable communication system linking all crewmembers.

8)

C) Sewer flow requirements:

- 1) Do not exceed depth of flow shown in Table 1 for respective pipe sizes as measured in manhole when performing TV inspection.
- 2) When depth of flow at upstream manhole of sewer line section being worked is above maximum allowable for TV inspection, reduce flow to level shown in Table 1, by plugging or blocking of flow, or by pumping and bypassing of flow as specified.

TABLE 1

Maximum Depth of Flow for TV Inspection

Nominal Pipe Diameter	Maximum Depth of Flow
6" – 10"	20% of pipe diameter
> 12"	25% of pipe diameter

D) Sequence of work:

Perform Work in the following sequence:

- A. Clean sewer lines in accordance with requirements of this Section.
- B. Repeat TV inspection in the same direction as previous inspection, after cleaning of sewer lines has been performed.

E) Sewer cleaning:

- 1) Notify the owner of the location where sewer cleaning will be done one full day before starting the cleaning work at that location. Deliver notices to residents and businesses as directed by the Owner.
- 2) Clean sewers completely of debris including sludge, dirt, sand, gravel, rocks, bricks, grease and other solid and semi-solid materials removed from the sewer by the equipment identified in the Material and Equipment section of this special provision.
- 3) Remove grease deposits on pipe walls to within 0.5 inch of the inside surface of the pipe wall or as directed by the Owner.
- 4) Take necessary precautions to ensure that no flooding of public or private property occurs during sewer cleaning. Reduce pressure of cleaning equipment as directed by the Owner.
- 5) Start the cleaning operation with the upstream sewers in the system and proceed downstream with the direction of flow.
- 6) Clean all contributing upstream sewers before proceeding with cleaning downstream sewers.
- 7) The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned.
- 8) The NASSCO Jetter Code of Practice shall be consulted as a guide for the selection of different type nozzles and recommended pressure applications for various cleaning requirements.
- 9) Advise the Owner immediately when pipe material or backfill material is observed during the cleaning of a sewer. The Owner will direct one of the following operations be performed.
 - i) Complete or attempt to complete cleaning of the sewer.
 - ii) Suspend cleaning operations and inspect the sewer.
 - iii) Simultaneously clean and inspect the sewer.
- 10) The method and amount of Heavy Cleaning shall be pre-approved by the Owner before work begins. Heavy cleaning shall include anything more than 3 passes of cleaning as well as cutting of roots and removal of debris beyond what would normally be encountered in the given type of sewer main.

F) Removal of equipment that becomes lodged in a sewer:

- 1) Advise the Owner immediately if equipment becomes lodged in a sewer. Attempt to remove equipment that is lodged using whatever means are necessary for at least 4 hours. Advise the Owner if the equipment cannot be freed after 4 hours and mark the position on the surface over the sewer where the equipment is lodged.

- 2) The Contractor will arrange to have an excavation made to the top of the sewer where the equipment is lodged within 48 hours of notification the equipment cannot be freed.
- 3) Be present during the excavation and once the top of the sewer is exposed and the excavation is secured remove the top of the sewer pipe and retrieve the equipment lodged in the sewer.
- 4) The Contractor will arrange to have the sewer repaired after removal of the equipment that was lodged.
- 5) Clean and remove backfill and debris that may have entered the sewer during removal of the equipment and subsequent repair of the sewer.
- 6) The cost of all this work will be the Contractors responsibility and incidental to the project

G) Debris removal:

- 1) Continuously remove debris from the downstream manhole during sewer cleaning. Do not allow debris to be passed into the downstream sewer unless approved by the Owner.
- 2) Decant or dewater debris removed from sewers and legally dispose of solid and semi-solid debris at the City waste water treatment plant. Coordinate dump location at City waste water plant with waste water supervisor. Return decanted or dewatered liquid to the sewer of origin as soon as possible.
- 3) Coordinate dump location at City Waste Water Plant with the plant Supervisor.

H) Flow control:

- 1) Undertake flow control measures such as off peak work, plugging, use of sewer cleaning equipment to lower downstream flow levels or plugging and bypass pumping if sewer flows are hampering effective sewer cleaning.
- 2) Provide the Owner with at least 48 hours' notice and proposed method of flow control before undertaking flow control measures.
- 3) Use sewer plugs to stop or reduce sewer flow that tether to and are removable from the ground surface.
- 4) Monitor flow levels upstream of a plugged sewer at all times to ensure flooding of public or private property does not occur.
- 5) Demonstrate that off peak work, plugging, sewer cleaning equipment, or a combination of methods cannot effectively reduce the flow levels to the specified maximum before requesting the use of bypass pumping.

- 6) Provide the Owner with information on capacity of pumping equipment for review before setting up by-pass pumping.
- 7) Remove plugs placed in sewers and re-establish normal flow when directed by the Owner.
- 8) Provide additional by-pass pumping equipment when directed to do so by the Owner.
- 9) Provide approved traffic ramps for by-pass pumping discharge hoses where crossing roadways and traffic lanes and locate where directed and approved by the Owner.
- 10) This work shall be incidental to the project.

I) Water supply for sewer cleaning:

- 1) The Owner will select the hydrant(s) that will be used for a water supply for sewer cleaning. Coordinate the location with the water department.
- 2) The Owner will supply water required to the Contractor at a NO charge.

J) Inspection requirements:

- 1) Access: The Owner shall have access to observe monitor and other operations at all times.
- 2) DVD Commentary: Record the following information on audio track of inspection DVD: narrative of location, direction of view, manhole numbers, pipe diameter and material, date, time of inspection, and location of laterals and other key features.
 - i) DVD shall visually display this information at beginning and end of each manhole-to-manhole pipe segment.
 - ii) DVD between manholes shall visually display length in feet from starting point of given segment.
- 3) Sewer Identification: DVD and inspection documentation shall include sewer line and manhole identifiers shown on Drawings provided by the Owner.
- 4) Image Perspective: Camera image shall be down center axis of pipe when camera is in motion.
 - i) Provide 360-degree sweep of pipe interior at points of interest, to more fully document existing condition of sewer.
 - ii) Points of interest may include, but are not limited to the following: defects, cracks, voids, joints connections, encrustations, mineral deposits, debris, sediment, and any location determined not to be clean or part of an improper line installation, and defects in liner that include, but are not limited to bumps, folds, tears, and dimples.
 - iii) Cabling system employed to transport camera and transmit its signal shall not obstruct camera's view.
- 5) Sewer Reach Length: Physically measure and record length of each sewer reach from centerline of its terminal manholes.

- 6) Inspection Rate: Camera shall be pulled through sewer in either direction, but both inspections are to be in the same direction. Maximum rate per of travel shall be 30 feet (9 m) per minute when recording.

K) Field quality control:

- 1) The Owner will review DVD's and logs to ensure compliance with requirements listed in this specification.
- 2) If sewer line, in sole opinion of the Owner, is not adequately clean, it shall be recleaned and CCTV-inspected by Contractor and no additional cost.
- 3) All Inspection logs and reports will comply with NASSCO PACP Standards.

L) Acceptance of work:

- 1) Submit required video inspections of sewer and lateral cleaning, solid debris cutting and intruding sewer service removal to the Owner for review and determination if work performed is acceptable. The Owner will review the inspection videos within 20 days of submission.
- 2) Perform remedial work for sewer and cleaning, cutting of solid debris and removal of intruding sewer services and a re-inspection for the locations where the work was determined by the Owner as not being acceptable.

M) Measurement and Payment

- 1) Cleaning the Sanitary Sewer and Storm Sewer (up to three passes) will be measured and paid for by the lineal foot.
- 2) Televising, including reports, for the Sanitary Sewer and Storm Sewer will be measured and paid for by the lineal foot
- 3) Heavy Cleaning will be paid by the foot for the entire run where it is required. Heavy Cleaning will be paid in addition to the regular pay item for the given size of pipe. Approval by the City is required before this work is done.
- 4) Final Report will be paid for on a Lump Sum basis.
- 5) Construction signing and barricades: Incidental
- 6) Flag control: Incidental
- 7) Maintaining traffic: Incidental
- 8) The Catch basin Lead pay item will be used in place of the regular cleaning and televising pay item on storm sewer that is 12" or less in diameter and shorter the 50 feet that connect catch basins or inlets to the wider storm water collection system.

Contract Item (Pay Item)	Pay Unit
Sewer Cleaning, Sanitary, 6-12 inch.....	Lft
Sewer Cleaning, Sanitary, 14-18 inch.....	Lft
Sewer Cleaning, Sanitary, 24 inch.....	Lft
Sewer Cleaning, Sanitary, 42 inch.....	Lft
Sewer Cleaning, Catch basin Lead.....	Lft
Sewer Cleaning, Storm, 6-12 inch.....	Lft
Sewer Cleaning, Storm, 14-18 inch.....	Lft
Sewer Cleaning, Storm, 21-32 inch.....	Lft
Sewer Cleaning, Storm, 36-54 inch.....	Lft
Sewer Cleaning, Storm, 60-84 inch.....	Lft
Sewer Televising, Sanitary, 6-12 inch.....	Lft
Sewer Televising, Sanitary, 14-18 inch.....	Lft
Sewer Televising, Sanitary, 24 inch.....	Lft
Sewer Televising, Sanitary, 42 inch.....	Lft
Sewer Televising, Catch basin Lead.....	Lft
Sewer Televising, Storm, 6-12 inch.....	Lft
Sewer Televising, Storm, 14-18 inch.....	Lft
Sewer Televising, Storm, 21-32 inch.....	Lft
Sewer Televising, Storm, 36-54 inch.....	Lft
Sewer Televising, Storm, 60-84 inch.....	Lft
Sewer Heavy Cleaning, Sanitary.....	Lft
Sewer Heavy Cleaning, Storm.....	Lft

River

Bamber

Crawford

Legend

Televising

<all other values>

Diameter

<Null>

0-10 <12

12-18 12-18

21-30 21-30

32-48 32-48

54-72 54-72

78-84 78-84

StreetCenterLines



