

CONTRACT DOCUMENTS
FOR
2017 PROJECT- HAMPSHIRE STREET PIPE LINING
AUBURN, MAINE

February 16, 2017

Tony Beaulieu P.E., *City Engineer*
Derek Boulanger, *Facilities Manager/Purchasing Agent*
Kris Bennett, *Project Engineer*



City of Auburn, Maine

Finance Department

www.auburnmaine.gov | 60 Court Street

Auburn, Maine 04210

207.333.6601

February 21, 2017

Dear Bidder:

The City of Auburn is accepting written proposals for the Auburn Public Services Department's **2017 Project - Hampshire Street Pipe Lining**. The City reserves the right to accept or reject any or all proposals in whole or in part and to waive any informality the City may determine necessary. The City also reserves to itself the exclusive right to accept any proposal when it is deemed by the City to be in its best interest. The City of Auburn is governed by Title 1 M.R.S.A. § 401-410, otherwise known as the Freedom of Information Act, which considers bid specifications as public documents. In awarding any proposal, the City may consider, but not be limited to, any of the following factors: Bidder qualifications, price, experience, financial standing with the City, warranties, references, bonding, delivery date, and service of Bidder. Vendors/Contractors shall be current on all amounts due to the City of Auburn prior to the City entering into any contract agreement. All proposals must include FOB to Auburn, Maine unless otherwise specified.

Proposals will not receive consideration unless submitted in accordance with the following instructions to bidders. Please mark sealed envelopes plainly: **"2017 Project - Hampshire Street Pipe Lining – Bid #2017-025"**.

Bid packages will be available beginning on Tuesday, February 21, 2017. Documents can be obtained from the City of Auburn's website: www.auburnmaine.gov/business/bid-notice. Questions regarding this Request for Bids should be directed to Tony Beaulieu P.E, City Engineer, at (207) 333-6601, ext. 1140. **A mandatory pre-bid will be held on Thursday, March 2, 2017, at 2:00pm in Council Chambers, Auburn City Hall.**

Please submit your proposal to the City of Auburn by 2:00 p.m. **Tuesday, March 14, 2017.** Proposals must be delivered to **Derek Boulanger, Facilities Manager/Purchasing Agent, 60 Court Street, Auburn, Maine 04210** on or before the date and time appointed. No proposals will be accepted after the time and date listed above. Proposals will be opened at 2:00 p.m. on that date in Council Chambers, Auburn City Hall.

Sincerely,

Derek Boulanger

Facilities Manager/Purchasing Agent

CONDITIONS AND INSTRUCTIONS TO BIDDERS

1. Bidders shall use the enclosed bid form for quotations. Whenever, in bid forms, an article is defined by using a trade name or catalog number, the term "or approved equal", if not inserted, shall be implied.
2. Submit a separate unit price for each item unless otherwise specified in the bid request. Award will be made on a basis of each item, or as a group, whichever is in the best interest of the City. Prices stated are to be "delivered to destination".
3. Bid proposals must be completed in full, in ink and must be signed by firm official. Bid proposal **must be notarized** prior to bid being sealed and will be disqualified if not notarized. Bids may be withdrawn prior to the time set for the official opening
4. Bids will be opened publicly. Bidders or representatives may be present at bid opening.
5. Awards will be made to the lowest responsible bidder, considering the quality of the materials, date of delivery, cost which meets specification and is in the best interest to the City of Auburn.
6. All transportation charges, including expense for freight, transfer express, mail, etc. shall be prepaid and be at the expense of the vendor unless otherwise specified in the bid.
7. The terms and cash discounts shall be specified. Time, in connection with discount offered, will be computed from date of delivery at destination after final inspection and acceptance or from date of correct invoice, whichever is later.
8. The City is exempt from payment of Federal Excise Taxes on the articles not for resale, Federal Transportation Tax on all shipments and Maine Sales Tax and Use Taxes. Please quote less these taxes. Upon application, exemption certificate will be furnished with the Purchase Order when required.
9. No contract may be assigned without the written consent of the Purchasing Director or his designate. The contract shall not be considered valid until a purchase order has been issued to the successful bidder.
10. Please state "2017 Project-Hampshire Street Pipe Lining– Bid # 2017-025", on submitted, sealed envelope.
11. The City of Auburn reserves the right to waive any formality and technicality in bids whichever is deemed best for the interest of the City of Auburn.
12. All work must be completed from 7:00AM to 6:00PM. The completion date for this project is August 18, 2017. Liquidated damages of \$500/calendar day will be assessed on uncompleted work.

GENERAL CONDITIONS

1. Equal Employment Opportunity

The City of Auburn is an Equal Opportunity Employer and shall not discriminate against an applicant for employment, and employee or a citizen because of race, color, sex, marital status, physical and/or mental handicap, religion, age, ancestry or natural origin, unless based upon a bona-fide occupation qualification. Vendors and contractor or their agents doing business with the City shall not violate the above clause or the Civil Rights Acts of 1964. Violations by vendors shall be reviewed on a case-by-case basis and may mean an automatic breach of contract or service to the City of Auburn.

2. Save Harmless

The Bidder agrees to protect and save harmless the owner from all costs, expenses or damages that may arise out of alleged infringement of patents of materials used.

3. Subcontracting

The Bidder shall not subcontract any part of the work or materials or assign any monies due it without first obtaining the written consent of the municipality. Neither party shall assign or transfer its interest in the contract without the written consent of the other party.

4. Warranty

The Bidder warrants that all work will be of good quality and free from faults and defects, and in conformance with the specifications. All work not so conforming to these standards may be considered defective. The Bidder agrees to be responsible for the acts and omissions of all of its employees and all subcontractors, their agents and employees, and all other persons performing any of the work under a contract with the Bidder.

5. Bonds, Retainage and Payments

A bid bond shall be submitted with appropriate bid forms in the amount of 5% of the total contract value. Also, payment and performance bonds will be required from the contractor who is awarded this contract. Retainage in the amount of 10% will be held from each progress payment and shall be released at the discretion of the Project Engineer. Payments shall be made by the City to the Contractor 30 days after receipt of the request for payment.

BID PROPOSAL FORM

Due: Tuesday, March 14, 2017

To: City of Auburn
Derek Boulanger, Facilities Manager/Purchasing Agent
60 Court Street
Auburn, ME 04210

The undersigned individual/firm/business guarantees this price for Thirty days (30) from the bid due date. The undersigned submits this proposal without collusion with any other person, individual, or firm or agency. The undersigned ensures the authority to act on behalf of the corporation, partnership or individual they represent; and has read and agreed to all of the terms, requests, or conditions written herein by the City of Auburn, Maine. By signing this bid form, the firm listed below hereby affirms that its bid meets the minimum specifications and standards as listed above.

Signature _____ Name (print) _____

Title _____ Company _____

Address _____

Telephone No. _____ Fax No. _____

Email Address: _____

STATE OF MAINE

_____, SS.

Date: _____

Personally appeared and acknowledged the foregoing instrument to be his/her free act and deed in his/her capacity and the free act and deed of said company.

Notary Public _____

Print Name _____

Commission Expires _____

Addendum Acknowledged:

_____ Date _____

_____ Date _____

_____ Date _____

City of Auburn Pipe Lining Bid Form

ITEM NO.	DESCRIPTION	UNIT	QNTY	UNIT COST	TOTAL COST
603.99	Pipe Lining – 24” Storm Drain	LF	1955		
652.38	Flagger	HR	160		
652.381	Police Officer	HR	20	\$65.00	\$1,300.00
652.39	Work Zone Traffic Control	LS	1		
TOTAL AMOUNT OF BID WRITTEN AND IN NUMBERS BASED ON ESTIMATE OF QUANTITIES					
(Written)					

Company Name: _____
 Signed by: _____
 Title: _____

Print Name: _____
 Address: _____
 Tel. # _____ Fax # _____
 Date: _____

BID BOND

KNOW ALL BY THESE PRESENTS, that we, the undersigned, _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto _____ as OWNER in the penal sum of _____ for payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 2017.

The Condition of the above obligation is such that whereas the principal has submitted to _____ a certain BID,

attached hereto and hereby made a part hereof to enter into a contract in writing, for the _____

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for all and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

(L.S)

Principal

Surety

By: _____

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

SAMPLE AGREEMENT

THIS AGREEMENT is made this ### day of Month Year, by and between the CITY OF AUBURN, a municipal corporation existing under the laws of the State of Maine and located in the County of Androscoggin, State of Maine (hereinafter "CITY"), Company Name, Address, EIN, (hereinafter "CONTRACTOR"),

WITNESSETH:

In consideration of the mutual covenants and conditions contained herein, the CITY and the CONTRACTOR agree as follows:

SPECIFICATIONS:

1. The CONTRACTOR shall furnish all of the material and perform all of the work shown on the drawings and described in the specifications entitled: Bid # XXXXX Bid Title which are attached hereto and made a part hereof, and the CONTRACTOR covenants that it shall do everything required by this Agreement, the Special Provisions of the Agreement, the Invitation to Bid and the Specifications in return for payment as provided herein.

COMPLETION DATE:

2. The work to be performed under this Agreement shall be commenced by Month day, year and fully completed on or before Month day, year.

CONTRACT PRICE:

3. The CITY shall pay the CONTRACTOR for the performance of the Agreement the sum of \$XXX

PERFORMANCE BOND:

4. If required by the City, the CONTRACTOR shall furnish to the CITY at the time of the execution of this Agreement a performance bond and a labor and material payment bond each in the amount of \$Dollar amount or N/A (whichever applies) executed by a surety company satisfactory to the CITY, guaranteeing the performance and payment by the CONTRACTOR.

Yes, Required (Initials: ____) No, Waived (Initials ____)

GUARANTEE:

5. The CONTRACTOR shall guarantee his work against any defects in workmanship and materials for a period of one year from the date of the CITY's written acceptance of the project.

PERMITS AND LICENSES:

6. Permits and licenses necessary for the prosecution of the work shall be secured and paid by the CONTRACTOR.

CITY’S RIGHT TO TERMINATE CONTRACT:

7. If the CONTRACTOR should be adjudged a bankrupt, or if it should make a general assignment for the benefit of creditors, or if a receiver should be appointed on account of its insolvency, or if it should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if it should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, and ordinances, or otherwise be guilty of a substantial violation of any provision of the Agreement, then the CITY when sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the CONTRACTOR, and his surety, seven (7) days written notice, terminate the employment of the CONTRACTOR and take possession of the premises and of all materials, tools and appliances thereon and finish the work by whatever method it may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the Agreement price shall exceed the expense of the finishing the work, including compensation for additional architectural, managerial and administrative services, such excess shall be paid to the CONTRACTOR. If such expense shall exceed such unpaid balance, the CONTRACTOR shall pay the difference to the CITY.

CONTRACTOR’S LIABILITY INSURANCE:

8. The CONTRACTOR shall not commence work under this Agreement until he has obtained all insurance required under this paragraph and such insurance has been approved by the CITY, nor shall the CONTRACTOR allow any subcontractor to commence work on his subcontract until all similar insurance required of subcontractor has been so obtained and approved. It is a requirement that the CITY be named as an Additional Insured on the General Liability and Automobile Liability policies.

Commercial General Liability to include products and completed operations, and blanket contractual. The limits of liability shall be as follows:

Bodily Injury and Property Damage	\$1,000,000
Personal Injury and Advertising Injury	\$1,000,000
Per Project Aggregate	\$1,000,000
General Aggregate	\$2,000,000
Products and Completed Operations Aggregate	\$2,000,000
Medical Payments	\$10,000

(b) Business Automobile Liability

The CONTRACTOR shall maintain and cause all sub-contractors and lower tier contractors to maintain business automobile liability insurance covering all owned non-owned, leased, rented or hired automobiles (symbol 1). The limits of liability shall be as follows:

Bodily Injury and Property Damage	\$1,000,000
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Automobile physical damage coverage shall be at the option of the CONTRACTOR, all sub-contractors and lower tier contractors. The CITY shall not be liable for physical loss or damage to any owned, non-owned, leased, rented or hired automobile.

Workers' Compensation Insurance

The CONTRACTOR shall maintain and cause all sub-contractors and lower tier contractor's to maintain Workers' Compensation and Employers Liability in accordance with the laws and regulations of the State of Maine. The limits of liability provided shall be as follows:

Coverage A:	Statutory
Coverage B:	\$100,000/\$500,000/\$100,000

Professional Liability

If the CONTRACTOR is an Architect, Engineer or Surveyor, they shall maintain a policy of insurance to pay on their behalf whatever amounts that may become legally required to pay on account of an error, omission or negligent act.

Limits of Liability shall be as follows:

\$1,000,000 per occurrence and in the aggregate site specific.

It is a requirement that this policy be maintained for a period of three (3) years following completion of the project.

Certificates of Insurance of the types and in the amounts required shall be delivered to the CITY prior to the commencement of any work by the CONTRACTOR, subcontractor or lower tier contractor or any person or entity working at the direction or under control of the CONTRACTOR. The CONTRACTOR shall assume the obligation and responsibility to confirm insurance coverage for all sub-contractors or lower tier contractors who will participate in the project.

The Certificate of Insurance and the policies of insurance shall include a sixty (60) day notice to the CITY of cancellation, non-renewal or material change in coverage or form.

The CONTRACTOR and his surety shall indemnify and save harmless the CITY, his officers and employees from all suits, actions or claims of any character brought because of any injuries or damage received or sustained by any person, persons or property on account of the operations of the said CONTRACTOR; or on account of or in consequence of any neglect in safeguarding

the work; or through use of unacceptable materials in construction of the work; or because of any act or omission, neglect, or misconduct of said CONTRACTOR; or because of any claims or amounts recovered from any infringements or patent trademark, or copyright; or from any claims or amounts arising or recovered under the “Workmen’s Compensation Act” or of any other law, ordinance, order or decree; and so much of the money due to the said CONTRACTOR under and by virtue of his/her contract as shall be considered necessary by the CITY for such purpose, may be retained; or in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims, for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the CITY.

Waiver of Subrogation

Payment of any claim or suit including any expenses incurred in connection therewith by the CITY, or any insurance company on behalf of the CITY shall not constitute a waiver of subrogation against the CONTRACTOR, sub-contractors or any lower tier contractor in the event that such claim or suit was caused by or contributed to as a result of the negligent acts of the CONTRACTOR, any sub-contractors or lower tier contractors.

Construction Agreement

The CONTRACTOR shall and does hereby agree to indemnify, save harmless and defend the CITY from the payment of any sum or sums of money to any person whomsoever on account of claims or suits growing out of injuries to persons, including death, or damages to property, caused by the CONTRACTOR, his employees, agents or sub-contractors or in any way attributable to the performance and execution of the work herein contracted for, including (but without limiting the generality of the foregoing), all claims for service, labor performed, materials furnished, provisions and suppliers, injuries to persons or damage to property, liens, garnishments, attachments, claims, suits, costs, attorney’s fees, costs of investigation and defense. It is the intention of this paragraph to hold the CONTRACTOR responsible for the payment of any and all claims, suits, or liens, of any nature character in any way attributable to or asserted against the CITY, or the CITY and the CONTRACTOR, which the City may be required to pay. In the event the liability of the CONTRACTOR shall arise by reason of the sole negligence of the CITY and/or the sole negligence of the CITY’s agents, servants or employees, then and only then, the CONTRACTOR shall not be liable under the provisions of this paragraph.

DAMAGES:

9.The CONTRACTOR shall defend, indemnify and save harmless the CITY and all persons acting for or in behalf of it against all claims for injuries (including death), loss or damage, arising out of the performance out this contract.

LIENS:

10.Neither the final payment nor any part of the retained percentage shall become due until the CONTRACTOR, if required, shall deliver to the CITY a complete release of all liens arising out

of the Agreement, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as it has knowledge or information the releases and receipts include all the labor and material for which a lien could be filed; but the CONTRACTOR may, if any SUB-CONTRACTOR refuses to furnish a release or receipt in full, furnish a bond satisfactory to the CITY to indemnify it against any lien. If any lien remains unsatisfied after all payment are made, the CONTRACTOR shall refund to the CITY all moneys that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

ASSIGNMENT:

11. Neither party to the Agreement shall assign the Agreement or sublet it as a whole without the written consent of the other, nor shall the CONTRACTOR assign any moneys due or to become due to it hereunder, without the previous written consent of the CITY.

SUBCONTRACTS:

12. The CONTRACTOR shall not sublet any part of this Agreement without the written permission of the CITY. The CONTRACTOR agrees that it is as fully responsible to the CITY for the acts and omissions of its SUB-CONTRACTORS and of persons either directly or indirectly employed by them, as it is for the acts and omissions of persons directly employed by it.

USE OF PREMISES:

13. The CONTRACTOR shall confine its apparatus, the storage of materials and operations of its workers to limits indicated by law, ordinance and permits and shall not otherwise unreasonably encumber the premises with its materials. If any part of the project is completed and ready for use, the CITY may, by written and mutual consent, without prejudice to any of its rights or the rights of the CONTRACTOR, enter in and make use of such completed parts of the project. Such use or occupancy shall in no case be construed as an acceptance of any work or materials.

CLEANING UP:

14. The CONTRACTOR shall at all times keep the premises free from accumulation of waste materials or rubbish caused by its employees or work, and at the completion of the work it shall remove all its rubbish from and about the project, and all its tools, scaffolding and surplus materials and shall leave its work "broom-clean" or its equivalent, unless more exactly specified. In case of dispute, the CITY may remove the rubbish and charge the cost to the CONTRACTOR.

PAYMENTS:

15. Unless otherwise agreed to, the CITY shall make payments on account of the Agreement as follows:

Within 30 days, as invoices are submitted for work completed to the satisfaction of the CITY.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

BY: _____ BY: _____
Witness Finance Director

BY: _____ BY: _____
Witness Contractor

SCOPE OF WORK

The following scope of work is being proposed for the Hampshire Street Pipe Lining for the City of Auburn. The scope of work is a brief overview of the expected extent of work included in this contract.

Hampshire Street Pipe Lining

- Existing 24” dia. drainage trunk line system to be cleaned of all debris.
- The trunk line system will be video inspected.
- Pipe lining of 24” dia. drainage trunk line system, approximately 2,000 feet in length.
- Holes will be cut to connect newly relined pipe with existing drainage connections.

SPECIAL PROVISIONS

The following Supplemental Specifications and Special Provisions shall amend the “Maine, Department of Transportation Standard Specifications, **November 2014 Edition**” including any and all applicable revisions and special provisions. In case of conflicts, these Supplemental Specifications (1) and Special Provisions (2) shall take precedence and shall govern.

(1) Supplemental Specifications - modifications, additions and deletions to the existing Standard Specifications.

(2) Special Provisions - specifications in the contract which are for additional items not covered in the Standard Specifications

F-1 Work Hours

No work shall proceed on this project prior to the hour of 7:00 AM or after 6:00 PM (prevailing time) on any working day unless the City has granted prior approval. The definition of work for this specification shall include starting or moving of equipment, machinery, or materials. Any day worked for four hours or more will be considered a full working day.

F-2 Notification of Residents

Residents shall be notified sufficiently in advance of any construction affecting the driveway and sidewalk to allow adequate time for their removal of personal vehicles. Locations of cuts for drive access affecting individual residents shall be brought to their attention.

F-3 Traffic Signs

All existing traffic signs, which are to be removed during construction, shall be dismantled and the posts removed and shall be stacked in an area approved by the Engineer. Contractor shall protect the signs from damage while in his possession and shall repair, at no additional cost to the City, any damages cause by his operations.

Stop signs are to be maintained at their original locations at all times during the progress work.

Prior to the start of any construction work, the Contractor shall prepare an acceptable inventory of all signs within the project limits which shall be used as a guide for replacement should signs be removed for construction purposes.

This work shall be considered as subsidiary obligation of the contract for which no special payment will be made.

F-4 Protection of Trees

The Contractor shall be responsible for the preservation of all trees on the project, which are not to be removed. Any trees damaged by the Contractor's operations shall be repaired as approved by tree dressing or paint in accordance with the appropriate provisions of Section 201 of Standard Specifications.

F-5 Maintenance and Protection of Traffic

The Contractor shall be responsible for the maintenance and protection of all vehicular and pedestrian traffic at all times during construction and shall erect suitable warning signs, flashing barriers or temporary lighting devices of sufficient size and number to afford protection to the traveling public in accordance with the most recent edition of "Manual on Uniform Traffic Control Devices for Streets Highways" published by the Department of Transportation of the Federal Highway Administration.

The Contractor shall be held responsible for all damage to the work due to any failure of the warning devices to properly protect the work from the traffic, pedestrians or other causes. Traffic control shall be in accordance with the City of Auburn's Traffic Detail Policy effective April 1, 2006.

F-5A Materials

Materials shall meet the requirements specified for the various subsections of the Specifications. Equals shall be approved only prior to the bid opening.

F-6 Survey

The City of Auburn, Department of Public Services will establish, at their discretion, a benchmark location and one construction baseline. The Contractor shall be responsible for maintaining these controls during construction and providing all additional survey required, which shall be done by a competent Engineer or Surveyor.

F-7 Waste Areas

The disposal of waste and surplus material and slash from tree cutting shall be as outlined in Section 203.06 - Waste Areas.

F-8 Occupational Safety and Health

The Contractor is hereby advised that all work to be furnished to the City shall be performed with equipment, methods, and use of personnel in conformance with the pertinent Occupational Safety and Health Act requirements of the State of Maine and with the regulations for construction as specified by the Department of Labor and Occupational Safety and Health Administration (OSHA) as currently amended.

F-9 Pre-Construction Conference

A conference will be held at 60 Court Street, Auburn, Maine within ten (10) days after the awarding of the contract. At this time, the contractor will be required to submit a graphically illustrated schedule and a plan showing project activities. City officials and representatives of the various utility companies involved in the project will be present at this meeting.

It is the purpose of this meeting to inform the various agencies of the proposed work schedule, and to give them the opportunity of discussing any difficulties and of offering suggestions to the Contractor concerning his proposed schedule in order that full cooperation may be reached.

F-10 Schedule of Operations

The above-mentioned schedule of operations in Section F-9 shall consist of a bar chart detailing the activities included in the contract. Although a bar chart is acceptable as a minimum, more complex and detailed schedules (i.e., flow charts, critical paths, etc.) are encouraged and will be accepted by the City. Updates will be required.

F-11 Traffic Officers

Traffic control shall be the responsibility of the Contractor and as directed. Traffic control officers (flaggers) will be employed by the Contractor. City of Auburn police officers may be required in certain traffic situations (signalized intersections). Contractor will pay for police officers at a fixed rate of \$65.00/hour.

F-12 Limitation of Operations

The Contractor shall conduct the work at all times in such a manner and in such sequence as will assure the least interference with traffic. The Contractor shall not open up work to the prejudice or detriment of work already started. The Engineer may require the Contractor to finish a section on which work is in progress before work is started on any additional sections, if finishing such section is essential to public convenience.

Waste and surplus material shall not be stockpiled, but shall be disposed of in areas as designated in Section 203.06, Waste Areas, of the Standard Specifications.

F-13 Questions Regarding Plans and Documents

Questions from prospective bidders relative to this Contract shall be submitted no later than five days before bid opening and directed to:

Tony Beaulieu P.E.
City Engineer
Engineering Division
Tel. 333-6601 ext. 1140

F-14 Record Drawings

The Contractor shall keep daily records of all changes in the work and records of underground infrastructure. Upon completion of the project, the Contractor shall deliver to the Engineer copies of daily records. Final payment will not be made until Engineer receives copies of daily records.

F-15 Waste Material

All waste material shall be removed from the site and the area left clean upon completion of work. Any equipment or structures damaged by the Contractor shall be repaired or replaced at no additional cost to the City.

F-16 Quality Assurance

The Contractor shall be responsible at all times for maintaining top quality assurance during performance of his work.

F-17 Bids

No bids shall be withdrawn within a period of sixty -(60)- days after the opening of the bids.

F-18 Manhole Structures

The contractor shall be responsible for removing the frame and cover of sewer manholes during construction. Steel plates shall be used to cover the existing manhole opening. Offsets shall be installed to determine location. This work shall be considered incidental to the contract. The Auburn Water & Sewer District will be responsible to adjust sewer manhole frames and covers to grade, including water shutoffs.

F-19 Aggregate Base Courses

All gravel products shall meet MaineDOT specifications and shall also be produced from quarry rock.

F-20 Pipe Stubs

Any pipe stubs required to connect existing pipes to proposed catch basins shall be considered incidental to the item.

F- 21 Pipe Materials

All pipe supplied on this project shall be meet the requirements on Supplemental Specifications Section 603 unless otherwise specified.

F- 22 Weekly Quantity Reports

The Contractor shall submit weekly electronic reports of daily quantities by the end of the day the following Monday. These reports shall be emailed to kbennett@auburnmaine.gov.

SUPPLEMENTAL SPECIFICATIONS SECTION 100 - GENERAL PROVISIONS

1. SCOPE

The work covered by this section includes furnishing all labor, equipment, materials, incidentals, and the performing of all operations in connection with the work encompassed by these contract documents. All work shall be subject to the terms and conditions of the contract documents.

2. STANDARD SPECIFICATIONS

The City of Auburn, Maine has adopted for this project, the “State of Maine, Department of Transportation, Standard Specifications, **November 2014 Edition**”, and the Standard Details (November 2014) and the following Supplemental Specifications including all current additions or modifications thereof. In the case of conflict with the following Supplemental Specifications, addenda shall take precedence and shall govern.

Wherever in the Specifications and in this Contract the term “Department”, “the Department of Transportation”, “MDOT”, or any reference to the “State of Maine, Department of Transportation” or its “Engineers” is mentioned, the intent and meaning shall be interpreted to refer to the CITY OF AUBURN, MAINE, or their authorized representative.

SUPPLEMENTAL SPECIFICATIONS
SECTION 105 - GENERAL SCOPE OF WORK
(Limitations of Operations)

The Limitations of Operations noted in this section are related to coordination with the Hampshire Street Reconstruction Project.

1. Coordination between this Contractor and the Hampshire Street Reconstruction Contractor is required. Construction of both projects will be occurring within the same work zone at the same time.
2. Work shall be completed in a manner that allows both projects to be completed on schedule. The schedule of work shall be as follows:
 - a. The Hampshire Street Reconstruction Contractor shall complete the proposed drainage work and removal of existing drainage items (including cistern removal work) as defined on those plans on or before June 30, 2017.
 - b. The Pipe Lining Contractor shall start the pipe lining work after the drainage work is completed and shall complete the pipe lining work as defined on the plans on or before July 31, 2017.
 - c. Proposed roadway pavements shall not be placed by the Hampshire Street Reconstruction Contractor until after the pipe lining work is completed.
3. Sequencing of the work in a manner that allows the work to be completed in sections will be allowed as long as it is approved by both contractors and the inspector.
4. Adjustment of the completion dates as defined in item #2 above is allowed as long as the revised dates are approved by both contractors and the inspector.
5. The Pipe Lining Contractor will be allowed up to 31 calendar days (approximately one month) to complete the pipe lining work.

SUPPLEMENTAL SPECIFICATIONS

SECTION 603 – PIPE CULVERTS AND STORM DRAINS

(PIPE LINING – 24” STORM DRAIN)

The provisions of Section 603 of the Standard Specifications shall apply with the following additions and modifications.

603.01 DESCRIPTION

This work shall consist of the furnishing and installing storm drain pipe liner, by means of trenchless installation.

This item shall consist of preparatory work and operations including, but not limited to those necessary to the movement of personnel, equipment, supplies and incidentals to the project site; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various items on the project site.

603.013 CONSTRUCTION REQUIREMENTS

Maintenance of Existing Flows:

1. Keep existing drains in operation including foundation drains.
2. If existing drains are disturbed, provide for maintenance of such flows until work is completed.
3. Do not allow raw sewage (if encountered) to flow or stand on ground surface or in an excavation.

603.01381 CIPP MATERIALS

Liner Tube:

The sewn Tube shall consist of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216, Section 5.1 or ASTM F1743, Section 5.2.1 or ASTM D 5813, Sections 5 and 6. The tube shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe, and stretch to fit irregular pipe sections.

The wet out Tube shall have a relatively uniform thickness that when compressed at installation pressures will equal or exceed the calculated minimum design CIPP wall thickness.

The Tube shall be manufactured to a size that when installed will tightly fit the internal circumference and length of the original pipe. Allowance shall be made for circumferential stretching during installation.

The outside layer of the Tube shall be coated with an impermeable, flexible membrane that will contain the resin and allow the resin impregnation (wet out) procedure to be monitored.

The Tube shall contain no intermediate or encapsulated elastomeric layers. No material shall be included in the Tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident.

The wall color of the interior pipe surface of CIPP after installation shall be a relatively light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made.

Seams in the Tube shall be stronger than the non-seamed felt material.

The Tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 ft. Such markings shall include the Manufacturers name or identifying symbol. The tubes must be manufactured in the USA.

Resin:

The resin system shall be a corrosion resistant polyester or vinyl ester system including all required catalysts, initiators that when cured within the tube create a composite that satisfies the requirements of ASTM F1216, ASTM D5813 and ASTM F1743, the physical properties herein, and those which are to be utilized in the submitted and approved design of the CIPP for this project. The resin shall produce a CIPP that will comply with the structural and chemical resistance requirements of this specification.

603.01382 CIPP STRUCTURAL REQUIREMENTS

The Cured-In-Place Pipe (CIPP) shall be designed as per ASTM F1216, Appendix X.1. The CIPP design shall assume no bonding to the original pipe wall.

The Contractor must have performed long-term testing for flexural creep of the CIPP pipe material installed by their Company. Such testing results are to be used to determine the long-term, time dependent flexural modulus to be utilized in the product design. This is a performance test of the materials (Tube and Resin) and general workmanship of the installation and curing as defined within the relevant ASTM standard. A percentage of the instantaneous flexural modulus value (as measured by ASTM D790 testing) will be used in design calculations for external buckling. The percentage, or the long-term creep retention value utilized, will be verified by this testing. Retention values exceeding 50% of the short-term test results shall not be applied unless substantiated by qualified third party test data to the Owner's satisfaction. The materials utilized for the contracted project shall be of a quality equal to or better than the materials used in the long-term test with respect to the initial flexural modulus used in the CIPP design.

The Enhancement Factor 'K' to be used in 'Partially Deteriorated' Design conditions shall be assigned a value of 7.

The layers of the cured CIPP shall be uniformly bonded. It shall not be possible to separate any

two layers with a probe or point of a knife blade so that the layers separate cleanly or the probe or knife blade moves freely between the layers. If the layers separate during field sample testing, new samples will be required to be obtained from the installed pipe. Any reoccurrence may cause rejection of the work.

The cured pipe material (CIPP) shall conform to the structural properties, as listed below.

MINIMUM CIPP PHYSICAL PROPERTIES			
Property	Test Method	Cured Polyester Composite	
		Min. per ASTM F1216	Enhanced Resin
Modulus of Elasticity	ASTM D790	250,000 psi	400,000 psi
Flexural Stress	ASTM D790	4,500 psi	4,500 psi

The required structural CIPP wall thickness shall be based as a minimum, on the physical properties in Section 5.5 or greater values if substantiated by independent lab testing and in accordance with the design equations in the Appendix X1. Design Considerations of ASTM F1216, and the following design parameters:

Design Safety Factor (typically used value)	2.0
Retention Factor for Long-Term Flexural Modulus to be used in Design	50% - 75%
(As determined by long-term tests described in this section and approved by the City)	
Ovality* (calculated from (X.1.1 of ASTM F1216)	5%
Enhancement Factor K	7
Groundwater Depth (above invert of existing pipe)	Varies
Soil Depth (above crown of existing pipe)	7-10'
Soil Modulus**	NA
Soil Density**	NA
Live Load**	H20 Highway
Design Condition (partially or fully deteriorated)***	partially
* Denotes information which can be provided here or in inspection videotapes or project construction plans. Multiple line segments may require a table of values	
** Denotes information required only for fully deteriorated design conditions	
*** Based on review of video logs, conditions of pipeline can be fully or partially deteriorated. (See ASTM F1216 Appendix) The City will be sole judge as to pipe conditions and parameters utilized in design.	

Any layers of the tube that are not saturated with resin prior to insertion into the existing pipe shall not be included in the structural CIPP wall thickness computation.

603.01383 CIPP TESTING REQUIREMENTS

Chemical Resistance - The CIPP shall meet the chemical resistance requirements of ASTM F1216, Appendix X2. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meet these chemical-testing requirements.

Hydraulic Capacity - Overall, the hydraulic cross-section shall be maintained as large as possible. The CIPP shall have a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.

CIPP Field Samples - When requested by the Inspector, the Contractor shall submit test results from field installations of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified in Section 5.5 have been achieved in previous field applications. Samples for this project shall be made and tested as described in Section 10.1.

603.01384 CIPP INSTALLATION RESPONSIBILITIES AND INCIDENTAL ITEMS

It shall be the responsibility of the Contractor to locate and designate all manhole access points open and accessible for the work, and provide rights-of-access to these locations. If a street must be closed to traffic because of the orientation of the pipe, the Contractor shall institute the actions necessary to provide access during this for the mutually agreed time period. The City shall provide free access to water hydrants for cleaning, installation and other process related work items requiring water.

Cleaning of Storm Lines - The Contractor, when required, shall remove all internal debris out of the storm line that will interfere with the installation of CIPP. The Contractor shall also provide a dumpsite for all debris removed from the sewers during the cleaning operation. Any hazardous waste material encountered during this project will be considered as a changed condition.

Bypassing Storm Water - The Contractor shall provide for the flow of storm water around the section or sections of pipe designated for repair. Plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system shall make the bypass. The pump(s) and bypass line(s) shall be of adequate capacity to accommodate the flow. The City may require a detail of the bypass plan to be submitted.

Inspection of Pipelines - Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections using close circuit television (CCTV) inspection techniques. The pipeline interior shall be carefully inspected to determine the location of any conditions that may prevent proper installation of CIPP. These shall be noted and corrected. A videotape and suitable written log for each line section shall be produced for later reference by the City.

Line Obstructions - It shall be the responsibility of the Contractor to clear the line of obstructions such as solids and roots that will prevent the insertion of CIPP. If pre-installation inspection reveals an obstruction such as a protruding service connection, dropped joint, or a collapse that will prevent the installation process, that was not evident on the pre-bid video and it cannot be removed by conventional sewer cleaning equipment, then the Contractor shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the City's representative prior to the commencement of the work and shall be considered as a separate pay item.

The Contractor shall be responsible for confirming the locations of all branch service connections and foundation drains prior to installing the CIPP.

603.0185 CIPP INSTALLATION

CIPP installation shall be in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6, with the following modifications:

Resin Impregnation - The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the potential loss of resin during installation through cracks and irregularities in the original pipe wall, as applicable.

Tube Insertion – The wet out tube shall be positioned in the pipeline using either Inversion or a pull-in method as defined within relevant ASTM standards previously stipulated. If pulled into place, a power winch or its equivalent should be utilized and care should be exercised not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through an existing manhole or approved access point and fully extend to the next designated manhole or termination point.

Temperature gauges shall be placed between the tube and the host pipe's invert position to monitor the temperatures during the cure cycle.

Curing shall be accomplished by utilizing hot water under hydrostatic pressure or steam pressure in accordance with the manufacturer's recommended cure schedule. A cool-down process shall be conducted that complies with the resin manufacturer's specification.

If due to broken or misaligned pipe at the manhole wall, CIPP fails to make a tight seal, Installer shall apply a seal at that point. The seal shall be of a resin mixture compatible with the CIPP.

603.01386 CIPP REINSTATEMENT OF BRANCHING CONNECTIONS

It is the intent of these specifications that branch connections and foundation drains to buildings be re-opened without excavation, utilizing a remotely controlled cutting device, monitored by a CCTV. The Contractor shall certify a minimum of two complete functional cutters plus key

spare components are on the job site before each installation or are in the immediate area of the jobsite and can be quickly obtained. Unless otherwise directed by the inspector, all laterals will be reinstated. No additional payment will be made for excavations for the purpose of reopening connections and the Contractor will be responsible for all costs and liability associated with such excavation and restoration work.

603.01387 CIPP INSPECTION

CIPP samples shall be prepared for each installation designated by the owner/engineer or approximately 20% of the project's installations. Pipe physical properties will be tested in accordance with ASTM F1216 or ASTM F1743, Section 8, using either method proposed. The flexural properties must meet or exceed the values listed in the table on page 4 of this specification, Table 1 of ASTM F1216 or the values submitted to the City/Inspector by the contractor for this project's CIPP wall design, whichever is greater.

Wall thickness of samples shall be determined as described in paragraph 8.1.6 of ASTM F1743. The minimum wall thickness at any point shall not be less than 87½% of the submitted minimum design wall thickness as calculated in paragraph 5.6 of this document.

Visual inspection of the CIPP shall be in accordance with ASTM F1743, Section 8.6.

603.01388 CIPP CLEANUP

Upon acceptance of the installation work and testing, the Contractor shall restore the project area affected by the operations to a condition at least equal to that existing prior to the work.

603.033 TESTING

Storm drain shall be tested by one of the following methods:

- A. Low pressure air
- B. Infiltration
- C. Exfiltration

Approval of method will be made by the Engineer with due consideration for subsurface conditions and size and type of pipe.

The Contractor shall have the proper plugs, weirs, and other equipment to perform all required tests.

A. Low Pressure Air:

When low pressure air test is used, it shall be conducted in compliance with the following: After completing pipe lining of the storm drain line, the Contractor shall, at no additional cost to the City, conduct a line acceptance test using low pressure air. The test shall be performed according to stated procedures and in the presence of the Engineer.

Procedures:

All pneumatic plugs shall be seal tested before being used in the actual test installation. One (1) length of pipe shall be laid on the ground and sealed at both ends with the pneumatic plugs to be checked. Air shall be introduced into the plugs at 25 psig. The sealed pipe shall be pressured to 5 psig. The plugs shall hold against this pressure without bracing and without movement of the plugs out of the pipes.

After a manhole to manhole reach of pipe has been lined and cleaned, and the pneumatic plugs are checked by the above procedure, the plugs shall be placed in the line at each manhole and inflated to 25 psig. Low pressure air shall be introduced into this sealed line until the internal air pressure reaches 4 psig greater than the average back pressure off any ground water that may be over the pipe. At least two minutes shall be allowed for the air pressure to stabilize.

After the stabilization period (3.5 psig minimum pressure in the pipe), the air hose from the control panel to the air supply shall be disconnected. The portion of line being tested shall be termed "acceptable" if the time required in minutes for the pressure to decrease from 3.5 to 2.5 psig (greater than average back pressure of any ground water that may be over the pipe) shall not be less than the time shown for the given diameters in the following table:

<u>Pipe Diameter</u> <u>(In Inches)</u>	<u>Minutes</u>
4.....	2.0
6.....	3.0
8.....	4.0
10.....	5.0
12.....	5.5
15.....	7.5
18.....	8.5
21.....	10.0
24.....	11.5

In areas where groundwater is known to exist, the Contractor shall install a one-half inch diameter capped pipe nipple, approximately 10" long, through the manhole wall on top of one of the sewer lines entering the manhole. This shall be done at the time the sewer line is installed. Immediately prior to the performance of the Line Acceptance Test, the groundwater shall be determined by removing the pipe cap, blowing air through the pipe nipple into the ground so as to clear it, and then connecting a clear plastic tube to the nipple. The hose shall be held vertically and a measurement of the height in feet shall be divided by 2.3 to establish the pounds of pressure that will be added to all readings. (For example, if the height of the water is 11-1/2 feet, then the added pressure will be 5 psig, and the 2.5 psig to 7.5 psig. The allowable drop of one pound and the timing shall remain the same.)

If the installation fails the air test, the Contractor shall, at no additional cost to the City, determine the source of the leakage. Contractor shall then repair or replace all defective materials and/or workmanship.

B. Infiltration:

An infiltration test requires groundwater levels to be a minimum of one foot above the crown of the pipe of the high end of the section being tested. Infiltration test procedures are:

1. Engineer to determine length of storm drain to be tested.
2. With all connecting pipes plugged (other than those included in test section) install a V notch weir in downstream end of pipe. The V notch weir must be constructed accurately and installed to maintain a watertight seal between weir and pipe.
3. Allow time for water to build up behind weir until steady, uniform flow passes through V notch.
4. Readings shall be taken and recorded.

C. Ex-filtration:

Ex-filtration test procedures are:

1. Engineer to determine length of storm drain to be tested.
2. Properly cap or plug and block service laterals, stubs and fittings into sewer lines being tested.
3. Plug upstream and downstream ends of test section providing a water supply connection downstream and standpipe in manhole upstream.
4. Fill test section and upstream standpipe and allow time for water absorption in manholes.
5. Measure drop in upstream standpipe over 3 or 4 -15 minute periods and compute leakage. Note: The upstream manhole may be used as the standpipe. Test sections shall be kept short enough to maintain a reasonably low head to prevent excess pressures.

Leakage in storm drains shall not exceed 300 gallons per inch diameter, per day, per mile of pipe when tested by either internal pressure or external pressure means. Should the pipe as laid fail to meet these requirements, the Contractor shall perform the necessary work, at no additional cost to the City, to meet these requirements.

603.034 INSPECTION

Pipe may be inspected at the manufacturing plant, or on the work site and shall be subject to rejection at any time, even though sample pipes may have been accepted as satisfactory at the manufacturing plant.

All pipe shall be subject to thorough inspection and tests. All tests shall be made in accordance with the methods prescribed by, and the acceptance or rejections shall be based on, applicable ASTM specifications.

Pipe will be inspected upon delivery and all pipe which does not conform to the requirements of this contract will be rejected and shall be immediately removed from the work area by the Contractor.

Unsatisfactory pipe will be either permanently rejected or minor repairs made. After delivery, any pipe will be rejected which has been damaged beyond the possibility of satisfactory repair.

If such pipe is found in the pipeline, it shall be removed and replaced or encased in a Class A concrete collar or envelope as directed, at no additional cost to the City.

An inspection of the interior of all mainline pipe and catch basin lateral connections installed as part of the project shall be completed prior to final paving of the project by experienced personnel trained in locating breaks, obstacles and service connections by closed circuit television. A video tape and suitable log shall be provided to the City for review prior to final paving.

603.11 METHOD OF MEASUREMENT

Pipe lining will be measured by the linear foot in place within the limits specified on the plans.

For measurement purposes the end of the pipe in closed structures will be considered at the inside face of the wall, and in masonry headwalls it will be considered to be at least the face of the headwall.

603.12 BASIS OF PAYMENT

The cost of maintaining flows in existing storm water lines and manholes and any maintenance and cleaning of said lines that may be required as a result of installing the trenchless pipe will be made incidental to the related pay item and no separate payment for this work will be made.

The accepted quantities of pipe lining will be paid for at the contract unit price per linear foot, for the size and thickness specified, complete in place; and shall include the final flush cleaning, pre-installation inspection (including video inspection and final check of inventory of connections to be re-opened), installation of the liner by the inversion method, curing, and final inspection (including video inspection of the rehabilitated storm drain).

Payment for bypass pumping associated with storm drain pipe lining shall be considered incidental to the appropriate pipe item and no additional payment shall be made. Bypass pumping shall be manhole to manhole unless otherwise directed by the Inspector.

Payment for the mobilization of all equipment and materials necessary to complete the work shall be made incidental to item 603.99 Pipe Lining – 24” Storm Drain.

Payment will be made under:

Pay Item	Pay Unit
603.99 Pipe Lining – 24” Storm Drain	Linear Foot

SUPPLEMENTAL SPECIFICATIONS

SECTION 652 – MAINTENANCE OF TRAFFIC

The provisions of Section 652 of the Standard Specifications shall apply with the following additions and modifications.

652.3.6 TRAFFIC CONTROL

The Contractor must submit a written Traffic Control Plan before the Preconstruction Meeting to the City Engineer for approval.

652.7 METHOD OF MEASUREMENT

The subsection is amended by the addition of the following:

Work Zone Traffic Control shall be measured as a percentage of work completed to date relative to the total work as shown on the Contract Plans.

652.8 BASIS OF PAYMENT

This work shall consist of providing and maintaining all equipment, labor and materials necessary to provide for a safe work zone to the travelling public including all transportation modes. Traffic control items include but are not limited to: construction signs, barrels, cones, barricades, flashing lights, raised plastic markers, etc. All work shall be in accordance with the MUTCD. Payment for all related work will be Lump Sum, except for flaggers and police officers.

Flaggers and police officers will be paid by the Hour.

Police officers shall be Auburn police officers. The set unit price will be \$65.00/hour which is the same unit price that will be billed to the Contractor by the City of Auburn Police Department.

Payment will be made under:

Pay Item	Pay Unit
652.38 Flagger	Hour
652.381 Police Officer	Hour
652.39 Work Zone Traffic Control	Lump Sum