

**B45-10**

City of Concord, New Hampshire

Purchasing Division

**Storm Sewer Trenchless Lining Project**

**Allison and Pillsbury Streets**

Prepared for, and in coordination with the

**GENERAL SERVICES DEPARTMENT  
HIGHWAY AND UTILITIES DIVISION**

Contract  
Bid Documents  
Specifications

Firm: \_\_\_\_\_

**Bid Due Date/Time: July 16, 2010 Not Later Than 2:00 PM**

**Mandatory Pre-Bid Meeting: July 1, 2010 at 10:00 AM**

**FUNDING FOR THIS PROJECT IS BASED ON CONCORD CITY COUNCIL APPROVING FUNDS  
AT THEIR JULY 12, 2010 MEETING, THEREFORE THE PROJECT WILL BE AWARDED ONLY IF  
FUNDING IS APPROVED**

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## INVITATION FOR BIDS

The Purchasing Division, 311 North State Street, Concord, New Hampshire 03301, will receive sealed Bids for:

### **“B45-10, Storm Sewer Trenchless Lining Project”**

until **2:00 PM on July 16, 2010** at which time and place they will be opened and publicly read. The sealed envelope should be plainly marked:

### **“B45-10, Storm Sewer Trenchless Lining Project”**

Bids may be issued only by the Purchasing Manager, or his designee, to authorized firms and are not transferable unless authorized by the Purchasing Manager, or his designee.

Complete copies of B45-10 may be obtained from the Purchasing Division, 311 North State Street, Concord, NH 03301 (603) 225-8530 or on-line at [www.concordnh.gov/Purchasing](http://www.concordnh.gov/Purchasing).

**A mandatory** pre-bid informational meeting will be held at **10:00 am on July 1, 2010** in the conference room at the City of Concord, Combined Operations Maintenance Facility, 311 North State Street, Concord, NH 03301.

Each bid shall be accompanied by a certified check, cash, check drawn by a New Hampshire bank, or bid bond for and subject to conditions provided in the Instruction to Bidders. The amount of such bid deposit shall be ten percent (10%) of the total bid, made payable to the City of Concord, New Hampshire.

The successful bidder will be required to furnish a Performance bond and a separate Payment Bond, each in the amount of one hundred percent (100%) of the contract price.

**Progress Payments:** On not later than the last day of every month, the Contractor shall prepare and submit an invoice covering the total quantities of work that have been completed from the start of the job up to and including the last day of the preceding month together with such supporting evidence as required by the City.

**Retainage:** The City shall retain a portion of the progress payments, each month, in accordance with the following procedures:

1. Until work is 50% complete, as determined by the City, retainage shall be 10% of the monthly payments claimed. The computed amount of retainage shall be deposited in a non-interest bearing account established by the City.
2. After the work is 50% complete, and provided the Contractor has satisfied the City in quality and timeliness of the work, and provided further that there is no specific cause for withholding additional retainage no further amount shall be withheld.
3. Upon substantial completion, the amount of retainage shall be reduced to 2% of the total contract price plus an additional retainage based on the City's estimate of the fair value of the punch list items and the cost of completing and/or correcting such items of work, with specified amounts for each incomplete or defective item of work. As these items are completed or corrected, they shall be paid out of the retainage until the entire project is declared completed. The final 2% retainage shall be held, in the non-interest bearing account, during the two (2) year warranty period and released only after the City has accepted the project.

**Liquidated Damages:** In the event that the Contractor fails to satisfactorily complete the work contemplated and provided for under this contract, on or before **AUGUST 6, 2010 FOR PHASE I AND SEPTEMBER 17, 2010 FOR PHASE II**, the City shall deduct from the payments due the Contractor each month, the sum of five

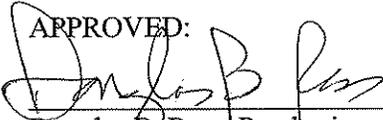
hundred dollars (\$500) plus engineering charges per day for each calendar day of delay, which sum is agreed upon not as a penalty, but as fixed and liquidated damages for each day of such delay, to be paid in full and subject to no deduction. If the payments due the Contractor are less than the amount of such liquidated damages said damages shall be deducted from any other monies due or to become due the Contractor or shall be paid by the Contractor's surety.

The City of Concord reserves the right to reject any or all bids or any part thereof, to waive any formality, informality, information and/or errors in the bidding, to accept the bid considered to be in the best interest of the City, or to purchase on the open market if it is considered in the best interest of the City to do so.

**Failure to submit all information as detailed on the Bid Submission Checklist and/or submission of an unbalanced bid are sufficient reasons to declare a bid as non-responsive and subject to disqualification.**

**All bids are advertised, at the City's discretion, in various publications and are posted publicly as detailed below:**

Name	Advertising Medium	Address	Phone/Fax	Email and Web Address
City of Concord, NH	Posted on City Website and in City Hall Lobby	41 Green Street, Concord NH 033301	603.225.8530 603.230.3656(fax)	<a href="mailto:purchasing@concordnh.gov">purchasing@concordnh.gov</a> <a href="http://www.concordnh.gov/purchasing">www.concordnh.gov/purchasing</a>
Associated General Contractors	Bid House	48 Grandview Drive, Bow NH 03304	603.225.2701 603.226.3859(fax)	<a href="mailto:plansroom@agcny.org">plansroom@agcny.org</a> <a href="http://nh.agc.org">http://nh.agc.org</a>
Construction Summary of NH	Bid House	734 Chestnut St, Manchester NH 03104	603.627.8856 603.627.4524(fax)	<a href="mailto:info@constructionsummary.com">info@constructionsummary.com</a> <a href="http://www.constructionsummary.com">www.constructionsummary.com</a>
Bid Ocean	Bid House	PO Box 40445, Grand Junction, CO 81501	866.347.9657 877.356.9704(fax)	<a href="mailto:bids@bidocean.com">bids@bidocean.com</a> <a href="http://www.bidocean.com">www.bidocean.com</a>
McGraw Hill Construction	Bid House	880 Second Street, Manchester NH 03102	603.645.6554 603.645.6714(fax)	<a href="mailto:Priscilla_littlefield@mcgraw-hill.com">Priscilla_littlefield@mcgraw-hill.com</a> <a href="http://www.construction.com">www.construction.com</a>
New England Construction News - CDC News	Bid House	100 Radnor Rd S-102, State College, PA 16801	1.800.652.0008 1.888.285.3393(fax)	<a href="mailto:mweaver@cdcnews.com">mweaver@cdcnews.com</a> <a href="http://www.cdcnews.com">www.cdcnews.com</a>

APPROVED:  
  
 Douglas B. Ross, Purchasing Agent  
 Date: 6/16/10

**Bid Due Date/Time: July 16, 2010 not later than 2:00 PM**  
**Mandatory Pre-Bid Meeting: July 1, 2010 at 10:00 AM**

## INSTRUCTIONS TO BIDDERS:

Project Name: "B45-10, Storm Sewer Trench less lining Project"

### 1) EXPLANATION TO BIDDERS:

Any explanation regarding the meaning or interpretation of contract drawings, specifications or other contract documents must be requested in writing with sufficient allowance of time for receipt of reply before the time of the bid opening. Any such explanations or interpretations shall be made in the form of an addendum to the documents and shall be furnished to all bidders who shall submit all addenda with their bids. Oral explanations and interpretations made prior to the bid opening shall not be binding. Requests for explanations should be addressed to:

Doug Ross, Purchasing Manager  
City Hall  
311 North State Street  
Concord, NH 03301  
(603) 225-8530  
(603) 230-3656 (Fax)  
dross@concordnh.gov

### 2) BIDDERS UNDERSTANDING:

**FUNDING FOR THIS PROJECT IS BASED ON CONCORD CITY COUNCIL APPROVING FUNDS AT THEIR JULY 12, 2010 MEETING, THEREFORE THE PROJECT WILL BE AWARDED ONLY IF FUNDING IS APPROVED.**

Bidders should visit the work site to familiarize themselves with pertinent local conditions such as location, character, and accessibility of the site, availability of facilities, location and character of existing work within or adjacent thereto, labor conditions, etc. **A submitted bid shall be considered as evidence that the bidder has done so.** The City of Concord shall make available to all prospective bidders, previous to the receipt of bids, information that it may have as to the extraordinary site conditions at the work site. Such information shall be given, however, as the best factual information available without the assumption of responsibility for its accuracy or for any conclusions that the contractor might draw there from.

At the Mandatory Pre-Bid Meeting, Contractors will have an opportunity to view the City's videos of the current conditions if they would like. This will happen at the end of the meeting.

### 3) BID BOND REQUIREMENTS:

Security required must be submitted with the proposal and failure to submit same may be cause for rejection. The bidder, at his option, shall furnish a certified check, a check drawn by a New Hampshire bank, cash, or a bid bond as security in the amount required. Security deposited by unsuccessful bidders will be returned as soon as practicable after the opening.

### 4) PREPARATION OF BIDS:

Bids must be submitted on the forms provided and must be signed by the bidder or authorized representative. The person signing the bid is to initial any corrections to entries made on bid forms. Prices quoted in this

request shall remain open for acceptance for a period of **SIXTY (60) calendar days** after the date and time for the opening of bids.

5) SUBMISSION OF BIDS:

See General Terms and Conditions

6) RECEIPT AND OPENING OF BIDS:

See General Terms and Conditions

7) WITHDRAWAL OF BIDS

See General Terms and Conditions

8) PRESENCE OF BIDDERS AT OPENING:

See General Terms and Conditions

9) BIDDERS INTERESTED IN MORE THAN ONE BID:

See General Terms and Conditions

10) AWARD OF CONTRACT:

See General Terms and Conditions

11) PROGRESS PAYMENTS, RETAINAGE AND LIQUIDATED DAMAGES:

See General Terms and Conditions

12) CONTRACTS, BONDS, INSURANCE:

13) The successful bidder shall enter into a written contract with the City of Concord within the time specified by the proposal. A performance bond and a separate payment bond in the amount of 100 percent (100%) of the contract price shall be furnished at the time of signing the formal Agreement. The Contractor shall secure and maintain the insurance policies required by City of Concord.

14) INSPECTION FEES:

The Contractor (or subcontractor if used) shall not be assessed fees for layout or inspection of work by City of Concord personnel, when such layout and/or inspection is required as part of the Specifications for the project. If, however, additional layout and/or re-establishment of bench marks, etc. is required due to negligence or failure of the Contractor to conform to the Specifications and Standards, then charges shall be made to him, and shall not be reimbursable by the City. The Contractor may be assessed the additional expense for inspection work during overtime or weekend hours should these hours be solely at the convenience of the Contractor.

15) INTEREST OF THE CONTRACTOR:

The Contractor hereby covenants that he has at the time of execution of this Agreement, no interest, and that he shall not acquire any interest in the future, direct or indirect, which would conflict in any manner or degree with the performance of the services required to be performed pursuant to this Agreement. The Contractor further covenants that in the performance of this work, no person having any such interest shall be employed.

16) ASSIGNMENT OR SUBCONTRACTING:

See General Terms and Conditions

17) EXTRAS:

Except as otherwise provided herein, no payment for extras shall be made unless and until such extras and the price thereof have been authorized in writing by the City.

18) PROVISION REQUIRED BY LAW DEEMED INSERTED:

See General Terms and Conditions

19) OPPORTUNITIES FOR RESIDENTS:

The Contractor covenants and agrees that in the work to be performed under this Contract, the Contractor will take affirmative action to insure that residents of the City of Concord are given maximum opportunity for employment and that business concerns located in, or owned in substantial part by, residents of the City of Concord are to the greatest extent feasible, awarded contracts.

The City may request, in which case the Contractor shall provide, such information as the Owner shall determine is necessary to ascertain the Contractor's conformance with the provisions of this section.

20) EXTRA WORK:

The Contractor shall do any work incidental to the proper completion of the contract not herein otherwise provided for when and as ordered in writing by the City. The amount of compensation to be paid to the Contractor for extra work as so ordered, shall be determined by the City to be one of the following:

By such applicable unit prices, if any, as set forth in the Contract; or

If no such unit prices are so set forth, then by unit prices or by a lump sum mutually agreed to by the City and the Contractor; or

If no such unit prices are so set forth and if the parties cannot agree upon unit prices or a lump sum, then by the actual net cost in money to the Contractor as approved by the City of the materials and of the wages of applied labor required for such extra work, plus such rental of plant and equipment (other than small tools) required and approved for such extra work, plus ten percent (10%). No extra work will be paid for unless specifically ordered as such by the City in writing.

In the case of extra work performed by subcontractors, whether under the specific contract item provided herein, or otherwise approved by the City, the ten percent (10%) added to the reasonable cost of the work will be allowed only to the subcontractor. On such work, an additional five percent (5%) of the reasonable cost (before addition to the ten percent (10%)) will be paid to the Contractor for his work in directing the operations of the subcontractor and for any overhead involved.

21) NON-DISCRIMINATION:

See General Terms and Conditions

22) QUALIFICATIONS OF BIDDER:

The City of Concord may make such investigations as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the City all such information and data for this purpose as the City may request. The City reserves the right to reject any bid if the evidence submitted by, or investigation of such bidder fails to satisfy the City that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.

23) THE HIGHWAY AND UTILITIES DIVISION TO DECIDE:

The Director of General Services shall decide all questions which may arise as to the performance, continuity and acceptability of work to be done and all materials to be furnished under this contract, and shall decide all questions which may arise as to the interpretation of plans and specifications used and as to the fulfillment of this contract on the part of the Contractor and as to defects in the Contractor's work. The order, progress and methods of construction shall at all times be satisfactory to the Director of General Services. The contractor shall vie his attention constantly to the faithful prosecution of the work, and shall keep the same under his personal control.

24) TIME AND MANNER OF DOING THE WORK:

Before any work is begun, the Contractor shall discuss fully with the Director of General Services the order and manner of doing the work and the operating procedure shall at all items comply with the requirements of Director of General Services. Care should be taken to keep private and commercial entrance (i.e. service roads and walkways) interruptions to a minimum and advance notice should be given the occupant when such interruptions are anticipated.

25) GENERAL PROVISIONS:

Whenever the Contractor is not present on any part of the work where it may be desired to give directions, orders may be given by the Director of General Services and shall be received and obeyed by the superintendent or foreman who may have charge of the particular work in reference to which orders are given.

26) LAWS AND REGULATIONS:

The Contractor shall keep himself fully informed of all state and national laws and municipal ordinances and regulations in any manner affecting those engaged or employed in the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction authority over the same. If any discrepancy or inconsistency is discovered in the plans, drawings, specifications or contract for the work in relation to any such laws, ordinances, regulations, orders or decrees, he shall forthwith report the same to the Director of General Services in writing. He shall at all times himself observe and comply with and shall cause all his agents and employees to observe and comply with such laws ordinances, regulations, orders and decrees; and shall protect and indemnify the City and its officers, agents and servants against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, order or decrees, whether by himself or his employees or subcontractors.

### 27) EXISTING STRUCTURES:

The Contractor shall take full responsibility for maintaining and restoring all existing structures encountered by his construction operations, including paving, catch basins, drains, electric light power, utility poles, gas mains and any other structures encountered above or below ground. Damage to utilities will be repaired by the respective utility and the Contractor will pay all cost of repairs and/or damage incurred. The Contractor shall receive no additional compensation for maintaining, supporting protecting, restoring, and relocating if necessary, all electric light power and telephone poles and lines, and gas mains which are encountered in his work.

### 28) MAINTAIN STREETS PASSABLE:

Unless otherwise specifically permitted by the proper authorities of the City, the Contractor shall at all times maintain the streets passable on which he is conducting his work. The Contractor shall maintain access to all houses, garages, etc., with the least possible interruption and shall conduct his work so that the inconvenience to all property owners adjacent to the work will be at a minimum. All property owners shall be notified in advance if access to their property is to be temporarily interrupted in case of any hardship resulting there-from, the Contractor shall make suitable arrangements with the property owner to the satisfaction of the Director of General Services.

### 29) PERMITS:

The Contractor shall secure all necessary permits from the state, city authorities having jurisdiction in the streets or highways and all other necessary building and construction operations requiring permits, and he will be required to repair any damage caused by his operations to any street, highway or existing structure either above or below ground surface.

### 30) USE OF HIGHWAYS:

The use of state, city and town highways for hauling construction equipment or materials involved in the work will be subject to the rules and regulations of the state highway department, city or town governing such use by contractors and the Contractor shall comply with all such rules and regulations.

### 31) BARRICADES, DANGER, WARNING AND DETOUR SIGNS:

The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient warning lights, danger signals and signs, provide flaggers in numbers as required, and shall take all necessary precautions for the protection of the work and the safety of the public. The Contractor will be required to conduct all operations so as to keep traffic moving steadily and to avoid traffic tie-ups. Highways closed to traffic shall be protected by adequate barricades on which suitable and acceptable warning and detour signs shall be placed and maintained.

As a further precaution, the Contractor shall keep, from any city land or easements at the site of work, all persons not directly connected with the work or authorized by the Director of General Services to be in the work area.

### 32) ACCESS TO WORK:

Authorized agents and employees of the city may, at any time and for any purpose, enter upon the work and premises used by the Contractor, and the Contractor shall provide safe and proper facilities therefore. Other contractors of the GENERAL SERVICES DEPARTMENT, federal, state and city officials and landowners may

also, for all the purposes which may be required by their agreements and contracts, enter upon the work and premises used by the Contractor and other contractors of the GENERAL SERVICES DEPARTMENT, state or landowners in regard to their work as determined by the GENERAL SERVICES DEPARTMENT.

33) SITE MANAGEMENT, DUST CONTROL, ETC.:

The Contractor shall maintain the site of the work in a reasonable condition, shall avoid or promptly remove accumulations of dirt, debris, etc., from highways and storage areas, shall control the creation of a dust nuisance by sprinkling or chloride treatment, shall limit noise, and vibration and take such other measures as may be reasonable or proper to avoid undue nuisance to surrounding property owners.

34) LINES AND GRADES:

The Contractor shall keep the Engineer informed in advance of the items and places at which he intends to do work, in order that ample opportunity shall be given the Engineer to furnish lines and grades and to make necessary measurements. The Contractor shall have no claim for damages or extension of time on account of delays in giving lines and grades or destruction of marks and the consequent necessity for replacement. The Contractor shall be and is required to check all such lines and grades before and during the progress of the work, and the Contractor alone shall be responsible for the proper fit and dimension of all portions of the work.

The work during its progress and at its completion shall conform fully to the established lines and grades and to the directions given to the Contractor as the work progresses, subject to such modifications or additions the Engineer shall determine to be necessary during the execution of the work.

35) ALL WORK TO BE INSPECTED:

Proper notice shall be given the Engineer by the Contractor of the times and places he intends to do work. All work is subject to inspection by the Engineer. Any work which is done contrary to the direction of the Director of General Services shall be considered unauthorized. If such unauthorized work is not accepted by the Director of General Services, the Contractor shall agree to remove and replace such unauthorized work at his own expense to the satisfaction of the Engineer when directed to do so.

36) CLEANING UP OR RESTORATION WORK:

The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by his employees or work, or the employees or work of any of his subcontractors.

37) EMERGENCY REPAIRS, ETC.:

If, in the opinion of the Engineer, at any time while the Contractor is responsible for the work or maintenance thereof, any emergency exists because there are not adequate barricades, lights, signs, etc. to warn and protect the public and/or persons or property in the vicinity of the work, or that the work under construction, or other adjacent streets, ground or structures are in acute danger of damage or injury by reason of inadequate drainage protection or other proper precautions which it is the duty of the Contractor to provide or to have provided; or that a street, road, walk or other premises are unsafe by reason of any settlement of any filling placed by the Contractor, the Engineer may direct the Contractor or the Contractor's representative to remedy the difficulty immediately to furnish and erect the needed barricades, lights, or signs; to provide and set adequate sheeting, shoring and bracing to provide adequate pumps and drainage facilities; to fill settlements; to smooth roads, streets, walks or grounds; or to perform similar urgently needed services. If the Contractor or his representative is not present or is not immediately available or able to receive such orders or to perform the emergency services needed, or fails to act following such notice, the Engineer, acting for the City, may cause such defects to be

corrected; roads and walks made unsafe etc. by such person(s) or means as it may elect, and the Contractor shall reimburse the city of any expense incurred by it in performing such work. The City may deduct from any sum or sums due or to become due to the Contractor such sum or sums as may be proper to reimburse the city of such expense(s), or may collect the costs of such work by other means.

38) ACT OR FAILURE TO ACT ON PART OF ENGINEER DOES NOT REDUCE LIABILITY OF CONTRACTOR:

Given notice, or failure to give notice, or acting as authorized in the preceding sections, or failure to so act on the part of the Engineer; or any questions as to the adequacy of the notice by the Engineer, or of his acts or those of the City as provided in those sections shall not in any way relieve the Contractor from any part of his responsibility or liability for performing any and all of the acts and assuming any and all of the risks, duties and liabilities which the Contractor is obligated to perform or assume.

39) OSHA REGULATIONS:

The Contractor shall follow and shall maintain all safety standards as prescribed by OSHA without exception. The Engineer shall require strict adherence to all safety rules and regulations. The Federal Register Number for Contractor reference is Vol. 37, Part 262. The Federal Register Number for construction work for reference is Vol. 37, Part 243.

40) INSURANCE:

The successful bidder shall furnish to the City of Concord, prior to the start of any work, insurance certificates for comprehensive general liability, automobile liability, worker's compensation and other coverages in accordance with the enclosed sheet entitled "Insurance Requirements for all Contractors".

41) TECHNICAL SPECIFICATIONS: As per the attached.

## GENERAL TERMS AND CONDITIONS

### PREPARATION OF BIDS:

Bids shall be submitted on the forms provided and must be signed by the Bidder or the Bidder's authorized representative. The person signing the bid shall initial any corrections to entries made on the bid forms.

Bidders must quote on all items appearing on the bid forms unless specific directions in the advertisement, on the bid form or in the special provisions allowed for partial bids. Failure to quote on all items may disqualify the bid. When bids on all items are not required, bidders shall insert the words "no bid" where appropriate.

Alternative bids will be considered, unless otherwise stated, only if the alternate is: (1) Described completely, including, but not limited to, sample(s), if requested, and specifications sufficient so that a comparison to the request can be made; and (2) Submitted as part of the base bid response, i.e. it shall not be a separate document which could be construed as a second bid.

Unless otherwise stated in the Request, the bidder agrees that the bid shall be deemed open for acceptance for **sixty (60) calendar days** subsequent to submittal to the City of Concord.

Any questions or inquiries must be submitted in writing, and must be received by the Purchasing Agent no later than **seven (7) calendar days** before the Request for Bids due date to be considered. Any changes to the Request for Bids will be provided to all bidders of record.

The bidder shall not divulge, discuss or compare this bid with the bid of any other bidders and shall not collude with any other bidder or parties to a bid whatever. (Note: No premiums, rebates or gratuities permitted either with, prior to, or after any delivery of materials shall be allowed. Any such violation will result in the cancellation and/or return of materials, as applicable, and the removal from Bid List).

The name of manufacturer, trade name, or catalog number mentioned in this request for bids description is for the purpose of designating a minimum standard of quality and type. Such references are not intended to be restrictive, although specified color, type of material and specified measurements may be mandatory. Proposals will be considered for any brand that meets or exceeds the quality of the specifications listed. On all such proposals, the bidder shall specify the product they are proposing and shall supply sufficient data to enable a comparison to be made with the particular brand or manufacturer specified. Failure to submit the above may be sufficient grounds for rejection of the proposal.

When samples are required, they must be submitted free of cost and will be returned unless otherwise specified. Items left for demonstration purposes shall be delivered and installed free of charge and shall be removed by the vendor at no cost to the City. Said demonstration units shall not be offered to the City as new equipment unless mutually agreed to.

The vendor may be required to supply proof of compliance with bid specifications. When requested, the vendor must immediately supply the City with certified test results or certificates of compliance. Where none are available, the City may require independent laboratory testing. All costs for such testing, certified test results or certificates of compliance, shall be the responsibility of the vendor.

**Unless otherwise stated, all prices are F.O.B.: Destination. No charge for packing or drayage will be allowed. All deliveries are to be pre-paid, C.O.D.'s will not be accepted. Each shipment shall be identified by Purchase Order and/or Bid number, commodity description and packing list. All items, packages, etc. shall have clearly identifiable external markings or tags for ease of identification.**

### SUBMISSION OF BIDS:

Bids must be submitted as directed in the Invitation for Bids, and on the forms provided unless otherwise specified. Bids must be typewritten or printed in ink. Bids must be mailed or delivered in person. Bids that are faxed or e-mailed will not be accepted.

### WITHDRAWAL OF BIDS:

Bids may be withdrawn prior to the opening date and time upon written, faxed, e-mailed or telegraphic request of the bidder to the Purchasing Agent. Negligence on the part of the bidder in preparing this bid shall not constitute a right to withdraw bid subsequent to the bid opening. Bids may not be withdrawn for a period of sixty (60) days after the date of opening indicated herein or as modified by addenda.

### BIDDERS INTERESTED IN MORE THAN ONE BID:

If more than one bid is offered by any one party, or by any person or persons representing a party, all such bids shall be rejected. A party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders or from submitting a direct bid in its own behalf.

### RECEIPT AND OPENING OF BIDS:

Bids shall be submitted prior to the time fixed in the Invitation for Bids. Bids received after the time so indicated shall be returned unopened. Bids must be mailed or delivered in person. Bids that are faxed or e-mailed will not be accepted.

### PRESENCE OF BIDDERS AT OPENING:

At the time and place fixed for opening bids, the contents of all bids will be made public for the information of all bidders and other interested parties who may be present in person or by representative.

### BID EVALUATION:

In an attempt to determine if a bidder is responsible, the City, at its discretion, may obtain technical support from outside sources. Each bidder will agree to fully cooperate with the personnel of such organizations.

### BID RESULTS:

Bidders may secure information pertaining to the results of a bid by visiting the Purchasing office weekdays between the hours of 8:30 AM and 4:00 PM; or by enclosing a self-addressed envelope along with a two-dollar (\$2.00) handling fee to receive the results by mail.

### **NO TELEPHONE REQUESTS FOR RESULTS WILL BE ACCEPTED OR GIVEN.**

### TIE BIDS:

When identical low bids are received, with respect to price, delivery and quality, award may be made by a toss of coin, with the following exception: When a tie bid exists between a local (a business establishment within City limits) bidder and an out-of-town bidder, preference will be given to the local bidder. Any bidder having a local agent who is a bona fide resident of the City is considered a local bidder. If a tie bid exists between two local bidders, or two out-of-town bidders, the decision may be made by a toss of coin.

## LIMITATIONS:

This bid document does not commit the City to award a contract, to pay any costs incurred in the preparation of a bid response, or to procure or contracts for goods, services or supplies. The City reserves the right to accept or reject any or all bids received as a result of this request, or to cancel in part or in its entirety this bid document, if it is in the best interests of the City to do so.

## AWARD OF CONTRACT:

Because this project impacts the scheduling and completion of 2 other projects, it is critical that all bidders understand and agree to the scheduling requirements detailed in B45-10. Submission of a bid indicates acceptance of these scheduling requirements.

The contract may be awarded to the lowest responsive and responsible bidder as soon as practical after the bid opening unless otherwise stated, but generally not before ten (10) working days from the bid opening.

It is the policy of the City that contracts are awarded only to responsive and responsible bidders. In order to qualify as responsive and responsible, a prospective vendor must meet the following standards as they relate to this request:

- Have adequate financial resources for performance or have the ability to obtain such resources as required during performance;
- Have the necessary experience, organization, technical and professional qualifications, skills and facilities;
- Be able to comply with the proposed or required time of completion or performance schedule;
- Have a demonstrated satisfactory record of performance; and
- Adhere to the specifications of this bid and provide all documentation required of this bid

It is requested that interested parties refrain from making inquiries during this period. A "Letter of Award" and accompanying "Notice of Award" will announce the contract award. The City of Concord reserves the right to waive any formality, informality, information and/or errors in the bids submitted and the right to reject any or all bids at its discretion and to accept the bid which will be in the best interest of the City; or to purchase on the open market if it is considered in the best interest of the City to do so. In case of error in the extension of prices, the unit prices bid shall govern and the unit prices in writing shall take precedence over the unit prices in figures. Also, in the event of a discrepancy between the total of the items and the lump sum total stated, the total of the items shall govern.

## CANCELLATION OF AWARD:

The City reserves the right to cancel the award without liability to the bidder, except for the return of the bid bond, at any time before a contract has been fully executed by all parties and is approved by the City.

## MODIFICATIONS AFTER AWARD:

The City reserves the right to incorporate minor modifications that may be required by it. The Contractor will incorporate these changes at no additional cost, but may protest such action and not be bound by any such request if it can prove that the timing or extent of the modifications implies a major effort on its part.

### RETURN OF BID BOND:

All bid bonds, except that of the lowest bidder, will be returned after the City has awarded a contract. The successful bidder's bid bond will be returned as soon as an agreement has been fully executed.

### REQUIREMENTS OF SURETY BONDS:

At the time of the execution of the agreement, the successful bidder shall furnish the City with surety bonds, which have been fully executed by the bidder, guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bonds shall be acceptable to the City. Unless otherwise specified, the surety bonds shall be in the sum equal to the full amount of the agreement.

### INSURANCE:

The successful bidder shall procure and maintain insurance, in the amounts and coverage detailed by the bid documents, acceptable to the City, at the bidder's sole expense, with reputable and financially responsible insurance companies, insuring against any and all public liability, including injuries or death to persons and damage to property, arising out of or related to the goods or bidder's performance hereunder and shall furnish to the City certificates of such insurance and renewals thereof signed by the issuing company or agent upon the City's request. Such certificates shall name the City of Concord as an additional insured. Such policies shall provide for cancellation only subsequent to 30 days prior written notice to the City.

The City's examination of, or failure to request or demand, any evidence of insurance hereunder, shall not constitute a waiver of any requirement and the existence of any insurance shall not limit the bidder's obligation under any provision hereof.

Except to the extent of comparable insurance acceptable to, or express waiver by the City, the bidder shall, or shall cause any carrier engaged by the bidder, to insure all shipments of goods for full value.

If the agreement with the bidder involves the performance of work by the bidder's employees at property owned or leased by the City, the bidder shall furnish such additional insurance as the City may request in respect thereof, but in any event and without such request, workers' compensation insurance and unemployment compensation insurance as required by laws of the State of New Hampshire and public and automotive liability and property damage insurance. In no event shall such employees of the bidder be deemed to be the employees of, or under the direction or control of the City for any purpose whatsoever.

### WORKER'S COMPENSATION:

All bidders and subcontractors at every tier under the bidder will conform with the requirements of RSA 281 Title XXIII, Section 281-A:2 with close attention to sections VI(a), VI(c) and VII(a) as well as Section 281-A:4.

### CONTRACT:

The contract between the City and the Contractor shall consist of (1) the bid documents and any amendments there to and (2) the Contractor's bid. In the event of a conflict in language between documents (1) and (2) referenced above, the provisions and requirements set forth and referenced in the bid documents shall govern. However, the City reserves the right to clarify any contractual relationship in writing with the concurrence of the Contractor and such written clarification shall govern in case of conflict with the applicable requirements contained in the bid documents and the Contractor's bid. In all other matters, not affected by written

clarification, if any, the bid documents shall govern. The bidder is cautioned that this bid shall be subject to acceptance without further clarification.

EXECUTION OF AGREEMENT:

The successful bidder shall sign (execute) the necessary agreements for entering into the contract and return such signed agreements to the City, along with the fully executed surety bonds, within ten (10) calendar days from the date mailed or otherwise delivered to the successful bidder.

APPROVAL OF AGREEMENT:

Upon receipt of the agreement and surety bonds that have been fully executed by the successful bidder, the owner shall complete the execution of the agreement in accordance with local laws or ordinances and return the fully executed agreement to the Contractor. Delivery of the fully executed agreement, along with a Notice to Proceed and a City purchase order, to the Contractor shall constitute the City's approval to be bound by the successful bidder's proposal and the terms and conditions of the agreement.

FAILURE TO EXECUTE AGREEMENT:

Failure of the successful bidder to execute the agreement and/or furnish acceptable surety bonds within ten (10) calendar days from the date mailed or otherwise delivered to the successful bidder shall be just cause for cancellation of the award and forfeiture of the bid bond, not as a penalty, but as liquidation of damages to the City.

DISQUALIFICATION:

Awards will not be made to any person, firm or company in default of a contract with the City, the State of New Hampshire or the Federal Government.

DISAGREEMENTS AND DISPUTES:

All disagreements and disputes, if any, arising under the terms of any agreement, either by law, in equity, or by arbitration, shall be resolved pursuant to the laws and procedures of the State of New Hampshire, in which state any agreement shall be deemed to have been executed. No action at law, or equity or by arbitration shall be commenced to resolve any disagreements or disputes under the terms of any agreement, in any jurisdiction whatsoever other than the State of New Hampshire and Merrimack County.

TERMINATION OF CONTRACT FOR CAUSE:

If through any cause, the Contractor shall fail to furnish, in a timely and proper manner, its obligations under any contract, or if the Contractor shall violate any of the covenants, agreements or stipulations of any contract, the City shall thereupon have the right to terminate any contract by giving written notice to the Contractor of such termination and specifying the effective date thereof at least five (5) days before the effective date of such termination. In such event, all finished or unfinished work, documents, plans, data programs and reports prepared by the Contractor under any contract shall, at the option of the City, become its property and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed. Notwithstanding the above, the Contractor shall not be relieved of liability to the City for damages sustained by the City by virtue of any breach of the contract, and the City may withhold any payments until such time as the exact amount of damages due the City is determined.

### TERMINATION FOR THE CONVENIENCE OF THE CITY:

The City may terminate any contract at any time by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least fifteen (15) days before the effective date of such termination.

In that event, all finished or unfinished work, documents, plans, data programs and reports prepared by the Contractor under any contract shall, at the option of the City, become its property and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed.

### SAFETY DATA SHEET (Right to Know):

Any vendor who receives an order resulting from this invitation agrees to submit a Material Safety Data Sheet (MSDS) for each toxic or hazardous substance or mixture containing such substance, pursuant to RSA 277-A when deliveries are made. The vendor agrees to deliver all containers properly labeled pursuant to RSA 277-A. Failure to submit an MSDS and/or label on each container will place the vendor in noncompliance with that purchase order. Failure to submit MSDS and/or labels on each container may result in civil or criminal penalties, including bid debarment and action to prevent the vendor from selling said substances, or mixtures containing said substances within the State. All vendors furnishing substances or mixtures subject to RSA 277-A are cautioned to obtain and read the law referenced above.

### PATENT PROTECTION:

The successful bidder agrees to indemnify and defend the City of Concord from all claims and losses resulting from alleged and actual patent infringements and further agrees to hold the City of Concord harmless from any liability arising under RSA 382-A, 2-312 (3). (Uniform Commercial Code).

### OWNERSHIP OF REPORTS:

All data, materials, plans, reports and documentation prepared pursuant to any contract between the City of Concord and the successful bidder shall belong exclusively to the City.

### ASSIGNMENT PROVISION:

The successful bidder hereby agrees that it will assign to the City of Concord all cause of action that it may acquire under the anti-trust laws of New Hampshire and the United States as the result of conspiracies, combination of contracts in restraint of trade which affect the price of goods or services obtained by the City under this contract if so requested by the City of Concord.

### DELIVERY:

Deliveries are to be made only to the department or division indicated on the order and in accordance with accepted commercial practices, without extra charge for packing or containers. Deliveries that do not conform to the specifications or are not in good condition upon receipt; shall be replaced promptly. Deliveries shall be inside the building, and accepted weekdays between the hours of 8:30 AM and 3:30 PM unless otherwise stated. Delivery arrangements must be made with requesting department prior to delivery.

INVOICING:

Unless otherwise stated, invoices are to be submitted in duplicate upon delivery or pick-up to the user department or division. The invoice must include an itemization of all items, supplies, repairs or labor furnished, including unit list price, net price, extensions and total amount due. In addition, on projects that will involve partial/progress payments and/or retainage a summary statement in the following format will be provided with each invoice:

Original Contract Amount	\$\$\$\$\$\$\$\$
Plus/minus Change Orders	\$\$\$\$\$\$\$\$
Total Adjusted Contract Amount	\$\$\$\$\$\$\$\$
Work Completed to Date	\$\$\$\$\$\$\$\$
Less Previous Invoices	\$\$\$\$\$\$\$\$
Less Retainage (if any)	\$\$\$\$\$\$\$\$
Equals: Balance due this Invoice	\$\$\$\$\$\$\$\$
Balance Remaining on Contract	\$\$\$\$\$\$\$\$

All invoices must reference a valid City of Concord Purchase Order Number

PROGRESS PAYMENTS AND RETAINAGE:

Progress Payments: On not later than the last day of every month, the Contractor shall prepare and submit an invoice covering the total quantities of work that have been completed from the start of the job up to and including the last day of the preceding month together with such supporting evidence as required by the City.

Retainage: The City shall retain a portion of the progress payments, each month, in accordance with the following procedures:

1. Until work is 50% complete, as determined by the City, retainage shall be 10% of the monthly payments claimed. The computed amount of retainage shall be deposited in a non-interest bearing account established by the City.
2. After the work is 50% complete, and provided the Contractor has satisfied the City in quality and timeliness of the work, and provided further that there is no specific cause for withholding additional retainage no further amount shall be withheld.
3. Upon substantial completion, the amount of retainage shall be reduced to 2% of the total contract price plus an additional retainage based on the City's estimate of the fair value of the punch list items and the cost of completing and/or correcting such items of work, with specified amounts for each incomplete or defective item of work. As these items are completed or corrected, they shall be paid out of the retainage until the entire project is declared completed. The final 2% retainage shall be held, in the non-interest bearing account, during the two (2) year warranty period and released only after the City has accepted the project.

PAYMENT:

Unless otherwise stated, payment will be made within thirty (30) days of the completion of delivery of all items or service, in acceptable condition, to the City and receipt of invoice, whichever is later.

**ANY CASH DISCOUNT SHALL BE READ TO MEAN CITY PAYDAY, CPD.**

TAX:

The City is exempt from all sales and Federal excise taxes. Our exemption number is 02-6000177. Please bill less these taxes.

FUNDING OUT:

The City of Concord's obligations to pay any amount due under a contract are contingent upon availability and continuation of funds for the purpose. The City may terminate the contract, for non-appropriation of funds, and all payment obligations of the City cease on the date of termination.

ASSIGNMENT OR SUB-CONTRACTING:

None of the work or services covered by the contract shall be assigned in full or in part, or sub-contracted without the prior approval of the City.

EXCLUSIVITY:

This contract will be for the goods/services described above; however, this agreement should not be considered exclusive. As deemed necessary, the City reserves the right to obtain these goods/services from any other vendor.

PRICING:

Unless otherwise specified all prices listed are firm for the term of the contract. All prices should include all labor, material and transportation costs, and any discounts offered. No additional fuel surcharges shall be allowed at any time.

AUDIT:

For a period of at least three (3) years after completion of any contract, it is the responsibility of the vendor to make available at the vendor's place of business, upon demand, all price lists, documents, financial records and other records pertaining to purchases made and/or work performed under contract for the purposes of audit by the City of Concord.

INSPECTION & EVALUATION:

The City of Concord reserves the right to inspect the vendor's facilities during operating hours to determine that the level of inventory is adequate for the City's needs. The conditions and operations of the facility shall be taken into consideration in making the award of this contract.

FUGITIVE DUST AND PUBLIC NUISANCE ORDINANCES

All work shall be conducted in conformance with Title I, General Code

1. Chapter 11, Public Nuisances, Article 11-3 Fugitive Dust: and
2. Chapter 13, Public Health, Article 13-6-8 Public Nuisance

## GUARANTEES & WARRANTY:

All parts and labor related to agreements must be guaranteed and include a warranty. If any work is unable to be guaranteed, the Contractor must inform the City, in writing, prior to the delivery of an item or any work being performed. Non-guaranteed work must be offered at a discount rate from the bid prices. **Inspection, testing and final determination of non-warranty work shall be performed at no cost to the City.**

## FORCE MAJEURE:

Neither party shall be liable for any inability to perform its' obligations under any subsequent agreement due to war, riot, insurrection, civil commotion, fire, flood, earthquake, storm or other act of God.

## NOTIFICATION:

Notification of the parties shall be considered to have been constructively received when it is mailed via the United State Postal Service or delivered in hand to the parties as stated in the contract.

## SEVERABILITY:

If any of the GENERAL TERMS AND CONDITIONS is held to be invalid or unenforceable, it will be construed to have the broadest interpretation which would make it valid and enforceable under such holding. Invalidity or unenforceability of a term or condition will not affect any of the other GENERAL TERMS AND CONDITIONS.

## PROVISION REQUIRED BY LAW DEEMED INSERTED

Each and every provision and clause required by law to be inserted in any subsequent Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion or correction.

## LIQUIDATED DAMAGES

In the event that the Contractor fails to satisfactorily complete the work contemplated and provided for under this contract, on or before **AUGUST 6, 2010 FOR PHASE I AND SEPTEMBER 17, 2010 FOR PHASE II**, the City shall deduct from the payments due the Contractor each month, the sum of five hundred dollars (\$500) plus engineering charges per day for each calendar day of delay, which sum is agreed upon not as a penalty, but as fixed and liquidated damages for each day of such delay, to be paid in full and subject to no deduction. If the payments due the Contractor are less than the amount of such liquidated damages said damages shall be deducted from any other monies due or to become due the Contractor or shall be paid by the Contractor's surety.

## NON-RECRUITMENT OF PERSONNEL

During the term of the Agreement and for twenty-four (24) months thereafter, the City and the successful vendor party agree not to solicit or hire current or former employees without the other's prior written consent

## DISADVANTAGED BUSINESS ENTERPRISES

The City hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this Invitation for Bids, disadvantaged business enterprises will be afforded full opportunity to submit bids in

response to this invitation and will not be discriminated against on the grounds of race, color, national origin, religion, sex, age or disability in consideration for an award.

#### NON-DISCRIMINATION

Contracts for work resulting from this Invitation for Bids shall obligate the Contractor and the Subcontractors not to discriminate in employment practices on the grounds of race, color, national origin, religion, sex, age or disability. Statements as to non-discriminatory practices may be requested from the successful bidder(s).

#### DEFINITIONS:

Bid shall also mean quotation, proposal, offer, qualification/experience statement, and services.

Bidders shall also mean vendors, offerers, Contractors or any person or firm responding to an invitation for bids.

#### GOVERNING LAW:

The Laws of the State of New Hampshire shall govern all contracts entered into by the City of Concord. Any disputes shall be resolved within the venue of the State of New Hampshire and Merrimack County.

*FAILURE TO ACKNOWLEDGE THIS BID MAY RESULT IN WITHDRAWAL FROM THE BID LIST FOR THIS COMMODITY OR SERVICE.*

*FAILURE TO COMPLY WITH THESE REQUIREMENTS COULD RESULT IN THE CANCELLATION OF AN ORDER OR CONTRACT.*

## SCOPE OF WORK

Project Name: "B45-10, Storm Sewer Trench less lining Project"

Description of work to be performed:

The following is a general description of the limits of work to be performed as part of this Storm Sewer trench less lining project. It includes work on Allison St, from South St. to Glen St. Pillsbury St. from a DMH west of Dunklee St. to a DMH west of Dakin St. and a short piece in the intersection of Broadway.

As an add alternate pricing will be requested to rehabilitate the existing brick drain manhole structures with a spray on ½" to ¾" thick fiber reinforced cement or equal in order to add structural strength to these structures. There are approximately 12 manholes with approximately 210 vertical feet to be rehabilitate.

It is noted that the following design assumptions have been made for design purposes:

- a) Groundwater is assumed to be 1 foot above crown of pipe for entire project.
- b) Pipe condition is assumed to be partially deteriorated (unless specifically noted in this section) for entire project.

The contractor will be responsible for providing all necessary labor, furnish all materials and perform all work needed to complete the project as described in the specifications and shown on the drawings.

This project will be broken up into two phases because there is work under 2 separate contracts, one for paving of these streets and one for drain line replacement on Allison St. that depend on portions of this work being completed before those contracts can be completed.

**Because of this impact awarding of the contract will not be solely based on price, it will also take into account the start date.**

### PHASE I: Completed by August 6, 2010.

#### ALLISON STREET

From DMH 9792 to DMH 9791 clean and line approximately 260 LF of 30" VC pipe. From DMH 1980 to DMH 1971 clean and line approximately 305 LF of 24" by 36" brick pipe.

### PHASE II: Complted by September 17, 2010

#### ALLISON STREET

From DMH 9785 to DMH9792 clean an line approximately 220 LF of 28" by 30" brick pipe and 130 LF of 30" VC, there is an in line change of pipe in this run. From DMH 1971 to DMH 1969 clean and line 350 LF of 24" by 36" brick pipe.

#### PILLSBURY STREET

From DMH 1974 to DMH 1975 clean and line 8 LF of 15" VC pipe. From DMH 4227 to DMH 4218 clean and line approximately 444 LF of 15" VC pipe with 4 pipe runs in this line.

## **ALTERNATE PRICING:**

There are approximately 12 Brick manholes in this area with approximately 210 vertical feet of structures that will be rehabilitated with a spray on  $\frac{1}{2}$ " to  $\frac{3}{4}$ " thick fiber reinforced cement or equal.

### Purpose:

The purpose of the lining project is to stabilize the existing pipe before any more collapses and before the final wearing course of pavement is placed on these streets.

### Work to be performed (including but not limited to):

- a) All internal debris will be removed from the original pipeline.
- b) Inspection of the pipeline to confirm suitability for lining.
- c) Point repair excavation to remove any obstructions if necessary.
- d) Line 1,720' of 15" VC, 30" VC and 24" by 36", 28"x30" brick drain pipe.
- e) Rehabilitate 12 brick drain manhole structures.

## **TRENCHLESS LINING GENERAL PROVISIONS AND EXPECTATIONS:**

This project shall utilize trenchless technology.

All streets shall remain open to traffic throughout the duration of the project.

All work under this contract shall conform to the New Hampshire Department of Transportation "Standard Specifications for Road and Bridge Construction", as amended to date.

**All work under this agreement shall be in accordance with the City of Concord's 2009 Construction Standards unless superseded by other standards.**

**The City reserves the right to reduce or expand the limits of work (bid quantities) in order to comply with the budgetary authorization by City Council.**

**As noted earlier, FUNDING FOR THIS PROJECT IS BASED ON CONCORD CITY COUNCIL APPROVING FUNDS AT THEIR JULY 12, 2010 MEETING, THEREFORE THE PROJECT WILL BE AWARDED ONLY IF FUNDING IS APPROVED.**

### 1) LABOR, EQUIPMENT AND MATERIAL:

The contractor shall supply all labor, equipment and materials necessary to complete the lining of storm sewers as stipulated herein and shown on the Contract Drawings. At all times, the contractor will be responsible for ensuring the safe and timely completion of the lining project. The contractor will ensure that all equipment used for the project is in proper working order. The contractor will repair or remove any equipment that is not functioning properly. The city's representative is authorized, but not responsible, to require any extra equipment, labor or material necessary to ensure the safe and timely completion of the lining project.

The General Services Department of the City of Concord will supply water service for the project. The contractor shall not use any city hydrant without specific authorization from the city's representative. All hydrant connections will be made by the authorized city representative. All connections to the city's water system will be made with an approved back-flow prevention device.

### 2) SCHEDULING:

Prior to the commencement of work, the contractor shall submit to the city for review and approval, proposed schedule, including the number of working days required to complete each task, as specified on the construction plan.

### 3) SAFETY AND TRAFFIC:

The contractor shall at all times require, obey and perform all applicable safety laws, regulations and ordinances that apply during the performance of the project. All OSHA and city regulations will be followed concerning confined space entry procedures.

The contractor shall furnish, erect and maintain all temporary construction signs, cones, etc. necessary for the completion of the construction activities. Operation signs and warning devices shall be provided in sufficient type, quantity and placement configuration to meet the standards of the Manual of Uniform Traffic Control Devices.

The contractor will supply to the city representative a detailed drawing of all proposed traffic control. The drawings will show, at least, number and location of Flaggers, location and text of all signs and designated work area. Work will not commence until all traffic controls are in place.

NOTE: Flaggers are expected to wear all appropriate clothing use all appropriate signs and equipment.

#### 4) EXCAVATIONS:

The contractor is responsible for notifying Digsafe and locating all other utilities prior to any digging

The contractor is responsible for securing and complying with all requirements of the City of Concord Community Development Excavation Permit. Excavation fees will be waived for this project.

#### 5) NOTIFICATION:

Advance notices in the local media sources such as newspaper and radio as well as notification to local businesses, Police, and Fire Departments will be required.

The contractor will notify all residents in the project area one week prior to the commencement of the project of the date, time and nature of the project.

24 hours prior to the commencement of the project the contractor will notify all residents in the project area of the specific times that there service will be interrupted.

After the lining has been installed, the services have been opened and are flowing, the contractor shall notify the affected residents that there services are back in service.

#### 6) PREPARATION:

The contractor is responsible for the accuracy of all measurements, including but not limited to elevations, distances and size of pipe. If any discrepancies are found the contractor will notify the city's representative immediately. If any discrepancies are found any changes resulting from the discrepancies must be authorized by the city's representative prior to the continuation of work.

The contractor shall clean all mains and manhole structures, prior to lining, and remove all debris or obstacles that could damage the liner, impede the insertion of the liner or impede the application of manhole coating materials. During the cleaning process all debris will be removed from the sewers and manholes. It shall be the contractor's responsibility to properly dispose of all debris removed from the sewers and manholes.

#### 7) PRE-LINING VIDEO INSPECTION:

After cleaning and prior to the liner being inserted the contractor will inspect the interior of the sewer line using a closed circuit television. All inspections will be recorded. The contractor will use a camera with pan and tilt capabilities, will stop at each service connection and turn the camera lens to view each

service. The city's representative will be present during the video inspection. The liner will not be installed until the city's representative has approved the cleaning job.

The contractor will be responsible for verifying active service connections. The city will not be responsible for paying for non-active service connection cut outs (unless special agreement).

#### 8) INSTALLATION OF LINER:

The contractor shall install the liner as per manufacturers' specifications. The contractor will supply to the city's representative an installation plan, including manufacturers' specifications, prior to the commencement of lining. The contractor will not begin the lining process until the city representative has approved the installation plan.

At no time during the installation process will "tail-backs" be allowed to remain in the storm sewer during the curing process. Where applicable, all liners will be turned up and the end brought up and out of the manhole.

The contractor shall be responsible for ensuring that all adjoining storm sewers remain functional during the project. Where necessary or as directed by the city's representative the contractor will by-pass pump flows into an approved adjacent storm sewer manhole.

The contractor will be responsible for recording times and temperatures during the curing process. The contractor will supply to the city's representative copies of all time and temperature logs.

If the liner does not expand and/or form properly so as to be pressed tightly to the existing pipe wall, if the liner is damaged or if the liner is unacceptable for any reason the contractor will be responsible for repairing or removing and replacing the liner at no additional cost to the city. The city's representative will make the final decision as to any corrective measures to be accepted.

The finished liner pipe shall be one continuous solid sleeve over the entire length of run between the two manholes. The ends of the liners will be trimmed at the manholes to a length that is mutually acceptable to the contractor and the city's representative.

#### 9) REINSTATEMENT OF SERVICE CONNECTIONS:

After the liner has been formed in place, cured and cooled, the contractor shall reconnect the active existing service connections. The services shall be reconnected without any excavation or disturbance of the surface. The services shall be reinstated from the inside of the lined pipe. The contractor shall reinstate the services using an appropriate cutting device that will allow the operator to cut open the service to 100% of original size. All services will be "brushed" to smooth the edges of the cut out and remove all rough spots. There will be no edges or rough spots that could impede flow or catch material coming out of the service connection. All services will be opened and cleaned to the inspector's satisfaction.

#### 10) POINT REPAIRS:

It shall be the responsibility of the contractor to clear the line of obstructions such as solids, dropped joints, protruding service connections or collapsed pipe that will prevent the insertion of the liner. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, then the installer shall make a point repair excavation of the obstructed area. A point repair should normally require no more than the replacement of six feet of pipe. Point repairs will be inclusive of all

excavation and backfill, labor and materials required to meet the City of Concord's Construction Standards including street reconstruction. The City's inspector must approve all point repairs.

## 11) MANHOLE REHABILITATION:

Manhole rehabilitation shall include securing any loose or unsound material, cleaning, repairing and filling voids, repairing and filling inverts and benches, eliminating all active infiltration and application of coating.

The contractor will apply the coating as per manufacturer's specifications. The contractor will supply to the city's representative an application plan, including manufacturer's specification, prior to the application of the coating.

### MANHOLE PREPARATION

- A. Place covers over sewer inverts to prevent extraneous material from entering the storm sewer lines.
- B. Remove foreign, loose and unsound concrete and masonry material from the interior surfaces of the manhole by means of high pressure (1,500 psi minimum) water spray.
- C. Loose, unsound, and protruding concrete and masonry material not able to be removed by high pressure water spray may require the use of mason's or mechanical tools for removal.
- D. Clean the interior surfaces of the manhole with high pressure (1,500 psi minimum) water spray, using detergent, muriatic acid, antibacterial agent or other chemicals to remove grease, oil and other contaminants that would prevent good bond between the existing manhole interior surface and the liner material.
- E. Active hydrostatic leaks (infiltration) shall be stopped using the rapid-setting specially formulated infiltration control mix.
- F. Very active hydrostatic leaks (infiltration) shall be stopped using one of the rapid-setting grouting mixes specially formulated for control of very active infiltration.
- G. Clean and prepare exposed reinforcement steel, and apply and cure bonding compound, in accordance with the product manufacturer's instructions and recommendations.
- H. Prepare cracks and voids to be patched and filled, and apply and cure patching mix, in accordance with the product manufacturer's instructions and recommendations.
- I. Areas of manholes that are found to be structurally damaged and in need of repair beyond the scope of this specification shall be brought to the attention of the Engineer. A suitable repair method shall be developed for each area and submitted to the Engineer for review prior to commencing the repair.
- J. Prepare, clean and repair manhole benches and inverts in the same manner as prescribed above.

## LINER APPLICATION, CURING AND TESTING

- A. Prepare manhole surfaces, wet batch-mix liner material, low pressure spray apply liner mix to manhole ceiling, wall and bench surfaces and allow liner to cure in accordance with the product manufacturer's instructions and recommendations.
- B. Liner application shall be 0.5 to 0.75 inch minimum thickness. The application shall be completed with a minimum of two coats. The first coat shall be applied at a thickness adequate to cover the substrate and be troweled to compact the material into voids and set the bond. The second coat shall be applied to ensure complete coverage at the specified 0.5 to 0.75 inch minimum thickness.
- C. Inverts shall be lined with patching mix, trowel applied in one coat to 0.5 to 0.75 inch minimum thickness.
- D. Prepare, label and submit recommended daily or per lot test specimens for testing.

## CLEANING

- A. Clean manhole interiors and remove all construction-related materials, equipment and appliances from the manholes prior to reinstatement of the manholes to service.

## 12) FINAL INSPECTION:

After the lining process is completed and all service connections have been fully reinstated, the contractor will perform a final video inspection of the line. The final inspection will be performed with a pan and tilt camera. The operator will stop the camera at each service connection and turn the lens to fully view the entire cut out area at each service connection. In addition, a video inspection will be required after the newly lined system has been in operation for a period of not less than 6 months and not to exceed 10 months after final project acceptance.. This inspection will be to determine the proper functioning off all main lines and services. This inspection will be performed prior to the release of Final retainage and maintenance bond being held by the City of Concord.

The contractor shall be responsible for all video inspections.

A copy of all pre and post lining video inspections and the accompanying logs will be supplied to the city at the end of the project. The contractor shall make available to the city all videos for viewing prior to the completion of the project. These videos will be on DVD's or CD's, VHS tapes will not be acceptable.

## 13) MEASUREMENT:

Linear foot measurements for cleaning and lining shall be from centerline of manhole structure to centerline of manhole structure. Vertical foot measurements for manhole grout, seal and coating shall be measured from the bottom of the invert to the top of the rim.

- A. Incidentals:

Manhole preparation, liner application, curing and testing, and cleaning shall be considered incidental to the unit price bid per vertical foot of manhole lining.

#### 14) MINIMUM DISTURBANCE:

Given the nature of the work site involved, it is the intent of this contract to complete all work in a continuous manner to minimize the projects' duration. The CONTRACTOR shall cooperate with the CITY in scheduling work at times, which are mutually agreeable. The CITY will cooperate with the CONTRACTOR to do its best to make the work area available in accordance to the predetermined work schedule.

At all times the contractor is responsible for ensuring that residents of the project area experience as little disturbance and disruption as possible and shall make every reasonable effort to accommodate the residents.

The Contractor shall provide pedestrian and vehicular traffic to all private property in affected areas. The Contractor's activities shall not shut down or close any business. The Contractor may be required to supply and post temporary business access signs. The Contractor shall meet with merchants affected to promote good public relations

This project is scheduled to start work at 7:00 AM, or a time that has been approved by the City Inspector, however the Contractor may be required by the Department to do evening and weekend work without additional cost to the Department.

The Contractor shall be particularly aware of and comply with the noise limitations established within the City's Code of Ordinances as they effect operations during the hours between 7:00 PM and 7:00 AM each day.

#### 15) SUPERVISION AND RESPONSIBILITY:

The Contractor shall keep on the job at all times during its progress, a Competent Resident Superintendent, who shall not be replaced without written notice to the Department except under extraordinary circumstances. The Superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the Superintendent shall be as binding as if given to the Contractor.

The Contractor shall supervise and direct the work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the Contract Documents. The Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. The Contractor shall be responsible to see that the finished work complies accurately with the Contract Documents.

#### 16) DOT CERTIFICATION:

The Contractor shall provide the City of Concord certification that all affected employees comply with the United States Department of Transportation, Federal Highway Administration Drug and Alcohol Testing Rules as stated in 49 C.F.R. Part 382. The Contractor further agrees not to utilize any affected employee,

within the scope of this agreement, that does not comply with all of the criteria in the Federal Motor Carrier Safety Regulations, of the U.S. D.O.T., Parts 40, 382, 383, 387, 390-399.

17) STAGING AREAS:

The Contractor shall identify any and all locations from which, or upon which it intends to base its operations, or to store or park equipment, or to store materials. No other site shall be so used without prior approval of the GENERAL SERVICES DEPARTMENT.

18) MISCELLANEOUS PROVISIONS:

Given the nature of the work site involved, it is the intent of this contract to complete all work in a continuous manner to minimize the project's duration and inconvenience to the traveling public.

Prior to the commencement of work, the Contractor shall submit to the GENERAL SERVICES DEPARTMENT for review and approval, the following:

- a) Proposed construction schedule, including the number of working days required to complete each stage of the work.
- b) Proposed location of equipment and materials storage.

Upon completion of the work, the improvement areas shall be cleaned up to the satisfaction of the GENERAL SERVICES DEPARTMENT including, but not limited to, removal of all spoil from the job site and cleanup of materials. It shall be the Contractor's responsibility to restore the adjacent areas to their former condition and the work will not be considered complete until all such restoration has been completed to the satisfaction of the General Services Director.

A pre-construction conference with involved city staff and utility personnel will be coordinated with the successful contractor prior to the start of work.

A *Street Excavation Permit* will be required from the Community Development Department prior to any construction within the right-of-way. The permit fee will be waived for this project.

**Notify "DIGSAFE" 1-888-344-7233 prior to any excavation.**

## BID SUBMISSION CHECKLIST

In order to be considered responsive, each prospective contractor must submit the following documents, in one (1) original as part of their bid:

1. Bid Sheet
2. Itemized Bid Sheet
3. Add Alternate Itemized Bid Sheet
4. 10% Bid Bond
5. Alternate Form W-9
6. City of Concord Indemnification Agreement
7. Qualifications Statement and Product Information

The successful contractor must submit, prior to contract signing, the following documentation:

1. 100% Payment Bond
2. 100% Performance Bond
3. Insurance Certificate (Naming the City of Concord as an **Additional Insured**) that meets the minimum requirements for coverage

The successful contractor must submit the Certificate of Compliance, after contract signing, at the request of the HIGHWAY AND UTILITIES DIVISION staff.

**BID SHEET**

SEND TO: Purchasing Agent, 311 North State St., Concord, NH 03301

In compliance with your invitation for bids dated \_\_\_\_\_ 2010 for the above captioned project, the undersigned hereby proposes to furnish all labor, equipment and materials and perform all work for said project for the lump sum of:

\_\_\_\_\_ Dollars (\$) \_\_\_\_\_ )  
Written Figures

Said work to be done in strict accordance with the plans, specifications and all Contract Documents; and the undersigned agrees that upon written acceptance of this bid, he/she will within **ten (10) calendar days** of receipt of such notice, execute a formal Contract Agreement with the City of Concord, and that he/she will provide the necessary Payment and Performance Bonds and Certificate(s) of Insurance. The undersigned further agrees that, if awarded the Contract he/she will commence the work within **(ten) 10 calendar days** after the written notice to proceed and that the work shall be completed by **August 6, 2010 for Phase I and September 17, 2010 for Phase II.**

The City reserves the right to increase or decrease the unit quantities of each item of work and add or delete items of work as the project and available funds require.

**FUNDING FOR THIS PROJECT IS BASED ON CONCORD CITY COUNCIL APPROVING FUNDS AT THEIR JULY 12, 2010 MEETING, THEREFORE THE PROJECT WILL BE AWARDED ONLY IF FUNDING IS APPROVED.**

**ITEMIZED BID SHEET**

The BIDDER shall fill in the following bid sheets, as part of this proposal, with the unit prices written in both words and numerals and the extensions made by him/her. In case of discrepancy between words and numerals, the amount shown in words shall govern.

BIDDER agrees to perform all necessary labor, furnish all materials and do all work described in the specifications and shown on the drawings, for the unit prices or extended prices indicated.

ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	EXT. PRICE
1)	MOBILIZATION	LS	1	_____	_____
	<i>Written Unit Price:</i>			_____	
2)	MAINT. OF TRAFFIC	LS	1	_____	_____
	<i>Written Unit Price:</i>			_____	
3)	POINT REPAIRS	LF	0	_____	_____
	<i>Written Unit Price:</i>			_____	
4)	FINAL CLEAN-UP RESTORATION	LS	1	_____	_____
	<i>Written Unit Price:</i>			_____	
5)	PIPE CLEANING DEBRIS	LF	1,717	_____	_____
	<i>Written Unit Price:</i>			_____	

ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	EXT. PRICE
------	-------------	-------	----------	------------	------------

6)	LINE 15" VC STORM SEWER	LF	452	_____	_____
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*Written Unit Price:* \_\_\_\_\_

7)	LINE 30" VC STORM SEWER	LF	390	_____	_____
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*Written Unit Price:* \_\_\_\_\_

8)	LINE 24"x36" Brick STORM SEWER	LF	655	_____	_____
----	--------------------------------	----	-----	-------	-------

*Written Unit Price:* \_\_\_\_\_

9)	LINE 28"x30" Brick STORM SEWER	LF	220	_____	_____
----	--------------------------------	----	-----	-------	-------

*Written Unit Price:* \_\_\_\_\_

10)	FLAGGERS	HR	150	_____	_____
-----	----------	----	-----	-------	-------

*Written Unit Price:* \_\_\_\_\_

**PROJECT START DATE:** \_\_\_\_\_

**BID SUMMARY**

**Total Bid Price (figures):**

\$ \_\_\_\_\_

**Total Bid Price (written):**

\_\_\_\_\_ **Dollar**

**ADD ALTERNATE ITEMIZED BID SHEET**

The BIDDER shall fill in the following add alternate bid sheet, as part of this proposal, with the unit prices written in both words and numerals and the extensions made by him/her. In case of discrepancy between words and numerals, the amount shown in words shall govern.

BIDDER agrees to perform all necessary labor, furnish all materials and do all work described in the specifications and shown on the drawings, for the unit prices or extended prices indicated.

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNITS</b>	<b>QUANTITY</b>	<b>UNIT PRICE</b>	<b>EXT. PRICE</b>
11)	Rehabilitate Brick Manholes	VF	210	_____	_____
	<i>Written Unit Price:</i>			_____	_____

**ADD ALTERNATE BID SUMMARY**

**Total Bid Price (figures):**

\$ \_\_\_\_\_

**Total Bid Price (written):**

\_\_\_\_\_ **Dollar**

THE UNDERSIGNED ACKNOWLEDGES:

1. THAT HE/SHE IS AN AUTHORIZED AGENT OF THE VENDOR SUBMITTING THIS BID
2. THE RECEIPT OF THE FOLLOWING ADDENDA \_\_\_\_\_
3. THE FIRM SUBMITTING THIS BID HAS NEVER DEFAULTED ON ANY MUNICIPAL, COUNTY, STATE, FEDERAL OR PRIVATE CONTRACT

COMPANY: \_\_\_\_\_

SIGNED BY: \_\_\_\_\_

PRINTED OR TYPED NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_ FAX NUMBER: \_\_\_\_\_

TOLL FREE NUMBER: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

CELL PHONE NUMBER: \_\_\_\_\_ PAGER: \_\_\_\_\_

PRIMARY POINT OF CONTACT: \_\_\_\_\_

PROMPT PAYMENT TERMS: \_\_\_\_\_

PLEASE FILL OUT, SIGN AND RETURN TO:

The City of Concord  
Douglas B. Ross, Purchasing Manager  
311 North State Street  
Concord, NH 03301  
603-225-8530  
603-230-3656 (Fax)  
dross@concordnh.gov

**Due Date/Time: July 16, 2010 Not Later Than 2:00 PM**

**Mandatory Pre-Bid Meeting: July 1, 2010 at 10:00 AM**

Name (as shown on your income tax return)	
Business name, if different from above	
Check appropriate box: <input type="checkbox"/> Individual/ Sole proprietor <input type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Limited Liability Company -- Enter the tax classification (D=Disregard entity, C= Corporation, P= Partnership) <input type="checkbox"/> <input type="checkbox"/> Other	Exempt from backup withholding <input type="checkbox"/>
Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
City, state, and ZIP code	City of Concord 41 Green Street Concord NH 03301
List account number(s) here (optional)	

**Part I Taxpayer Identification Number (TIN)**

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). For other entities, it is your employer identification number (EIN).

Social Security number --	Employer identification number --
---------------------------	-----------------------------------

**Part II Certification**

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number, and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. person (including a U.S. resident alien).

Certification instructions: You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN.

<b>Sign Here</b>	<b>Signature of U.S. Person</b>	<b>Date:</b>
------------------	---------------------------------	--------------

**Purpose of Form**  
 A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA. Pursuant to IRS Regulations, you must furnish your Taxpayer IRS Identification Number (TIN) to the City whether or not you are required to file tax returns. If this number is not provided, you may be subject to required withholding on each payment made to you. To avoid this withholding & to ensure that accurate tax information is reported to the IRS, **A RESPONSE IS REQUIRED.**

**City of Concord, New Hampshire**  
**B45-10, Storm Sewer Trench Less Lining Project**  
**Insurance Requirements for All Contractors**

Additional Coverage is Required if Checked Minimum Limits Required

**Commercial General Liability**

General Aggregate	\$2,000,000
Products-Completed Operations Agg.	\$2,000,000
Personal and Advertising	\$1,000,000
Each Occurrence Injury	\$1,000,000
Fire Damage (Any One Fire)	\$ 50,000
Medical Expense (Any One Person)	\$ 10,000

- Occurrence
- Claims Made

**Additional Coverage to Include**

- Owners & Contractors' Protective – Limit NA
- Underground/Explosion and Collapse

**Commercial Automobile Liability**

Combined Single Limit \$1,000,000

- Any Auto, Symbol 1
- Include Employees as Insured

**Additional Coverage to include:**

- Garage Liability NA
- Garage Keepers Legal Liability NA

**Workers Compensation**

NH Statutory including Employers Liability

- Each Accident/Disease-Policy Limit/Disease-Each Employee \$100,000/\$500,000/\$100,000

**Commercial Umbrella**

May be substituted for higher limits required above \$1,000,000

- Follow Form Umbrella on ALL requested Coverage

**Other**

- 1. Professional/Errors & Omissions NA
- 2. Builders Risk – Renovation Form NA
- All Risk completed value form including Collapse NA
- Sublimit for Soft Cost Coverage NA
- 3. Installation Floater (Equipment) NA
- 4. Riggers Liability NA
- 5. Environmental – Pollution Liability NA
- 6. Aviation Liability NA
- 7. Watercraft – Protection & Indemnity NA

(X) **The City of Concord must be named as Additional Insured**

**CITY OF CONCORD, NEW HAMPSHIRE  
B45-10, STORM SEWER TRENCH LESS LINING PROJECT  
THE FOLLOWING INDEMNIFICATION AGREEMENT SHALL BE, AND IS  
HEREBY A  
PROVISION OF ANY CONTRACT**

The successful contractor agrees to indemnify, investigate, protect, defend and save harmless the City, its officials, officers, agents and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, suppliers, laborers and any other person, firm, or corporation furnishing or supplying work, services, materials or supplies in connection with the performance of this contract, and from any and all claims and losses accruing or resulting to any person, firm or corporation which may be injured or damaged by the contractor in the performance of this contract. In any case, the foregoing provisions concerning indemnification shall not be construed to indemnify the City for damage arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence of the City or its employees. This indemnification shall survive the expiration or early termination of this contract.

**COMPANY** \_\_\_\_\_

**TAXPAYER IDENTIFICATION NUMBER** \_\_\_\_\_

**AUTHORIZED SIGNATURE** \_\_\_\_\_

**ADDRESS** \_\_\_\_\_

**TELEPHONE** \_\_\_\_\_

**TOLL-FREE NUMBER** \_\_\_\_\_

**FAX NUMBER** \_\_\_\_\_

**E-MAIL ADDRESS** \_\_\_\_\_

Failure to submit this form with your Bid may result in your Bid being rejected as unresponsive.

**BIDDER'S QUALIFICATION STATEMENT AND PRODUCT INFORMATION**

(Please make additional copies as needed)

The undersigned submits answers to the following questions to enable the City of Concord to judge experience and ability in, and facilities for, the work proposed to be done

**1) Bidder information:**

Company name: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State/Zip: \_\_\_\_\_

Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_ E-mail: \_\_\_\_\_

**2) The work, if awarded to you will have the resident personal supervision of whom?**

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

Qualifications: \_\_\_\_\_

**3) Describe the equipment you propose to furnish:      a) Your own    b) Rented**

a) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

b) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4) Bidder background Information:**

a) How many projects completed in 2008 and 2009      \_\_\_\_\_ Projects

b) Any penalties imposed by clients or others      ( )yes    ( )no

c) Any pending law suits by clients      ( )yes    ( )no

- d) Any pending law suits for patent encroachment    ( )yes ( )no
- e) Year company formed \_\_\_\_\_
- f) Year company began work of this type \_\_\_\_\_
- g) Total footage installed of product proposed \_\_\_\_\_ Ft
- h) Number of crews \_\_\_\_\_ Crews

**5) Please list your last 3 projects (of similar scope):**

- a) Owner: \_\_\_\_\_ Address: \_\_\_\_\_  
     Contact person: \_\_\_\_\_ Phone number: \_\_\_\_\_
- b) Owner: \_\_\_\_\_ Address: \_\_\_\_\_  
     Contact person: \_\_\_\_\_ Phone number: \_\_\_\_\_
- c) Owner: \_\_\_\_\_ Address: \_\_\_\_\_  
     Contact person: \_\_\_\_\_ Phone number: \_\_\_\_\_

**6) Intended sub-contractors:**

- a) Company Name: \_\_\_\_\_ Owner: \_\_\_\_\_  
     Work sub-contractor will perform: \_\_\_\_\_
- b) Company Name: \_\_\_\_\_ Owner: \_\_\_\_\_  
     Work sub-contractor will perform: \_\_\_\_\_
- c) Company Name: \_\_\_\_\_ Owner: \_\_\_\_\_  
     Work sub-contractor will perform: \_\_\_\_\_

**7) List the lining material to be used for each pipe size:**

- | Host pipe<br>Size/material | Liner material / Product Name |
|----------------------------|-------------------------------|
| a) 15" VCP                 | _____                         |
| b) 30" VC                  | _____                         |
| c) 24"x36" Brick           | _____                         |
| d) 28"x 30" Brick          | _____                         |

NOTE: The contractor will use the lining material listed in this section to line the corresponding pipe size. Any changes must be approved in writing by the city's representative.

**8) For each liner material being used complete the following:**

	Product name	Manufacturer	Installation method
a)	_____	_____	_____
b)	_____	_____	_____
c)	_____	_____	_____
d)	_____	_____	_____

**9) Manhole rehabilitation material:**

	Liner Material	Wall Thickness	Diversion Ratio	Flexural Strength
a) Brick Manholes	_____	_____	_____	_____

**NOTICE OF AWARD**

Dated \_\_\_\_\_, 2010

TO: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY'S PROJECT NO.: B45-10

PROJECT: Storm Sewer Trenchless Lining Project

CITY'S CONTRACT NO.: B45-10

CONTRACT FOR: Storm Sewer Trenchless Lining Project

You are notified that your Bid dated \_\_\_\_\_, 2010 for the above Contract has been considered. You are the apparent successful bidder and have been awarded a contract for the Storm Sewer Trench Less Lining Project. All terms, conditions, specifications and prices shall be in accordance with the CITY'S bid documents (B45-10 and all addenda) and the CONTRACTOR'S bid opened and publicly read on July 16, 2010.

The Contract Price of your contract shall be the not to exceed sum of: \_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

One original of the Agreement accompanies this Notice of Award.

You must comply with the following conditions precedent within **ten (10) calendar days** of the date of this Notice of Award, which is by \_\_\_\_\_, 2010. You must deliver to the CITY:

1. One fully executed counterpart of the Agreement.
2. The Contract Security (100 % Payment and Performance Bonds) and Insurance Certificate(s) as specified in the Invitation for Bids and General Terms and Conditions.
3. (List other conditions precedent)

\_\_\_\_\_

Failure to comply with these conditions within the time specified will entitle the **CITY** to consider your bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

Within ten (10) calendar days after you comply with these conditions, the **CITY** will return to you one fully signed counterpart of the Agreement and your bid bond security.

CITY OF CONCORD, NEW HAMPSHIRE  
(CITY)

**BY** \_\_\_\_\_  
(AUTHORIZED SIGNATURE)

Douglas B. Ross, Purchasing Manager  
(NAME/TITLE)

Copy to GENERAL SERVICES, HIGHWAYS & UTILITIES DIVISION

# AGREEMENT

**THIS AGREEMENT**, made this \_\_\_\_\_ day of \_\_\_\_\_ 2010 by and between The City of Concord, New Hampshire, hereinafter called "**CITY**" and \_\_\_\_\_ doing business as (an individual,) or (a partnership,) or (a corporation) hereinafter called "**CONTRACTOR**".

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

1. The **CONTRACTOR** will commence and complete the storm sewer trenchless lining project for Allison and Pillsbury Streets. All terms, conditions, specifications and prices shall be in accordance with the requirements and provisions of the Contract Documents which are defined in Division 100, entitled "General Provisions", as contained in the Standard Specifications for Road and Bridge Construction of the State of New Hampshire, Department of Transportation, approved and adopted (most current version), the **CITY'S** bid documents (B45-10) and the **CONTRACTOR'S** bid opened and publicly read on **July 16, 2010**.
2. The **CONTRACTOR** will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the completion of the **PROJECT** as detailed by B45-10.
3. The **CONTRACTOR** will commence the work required by the **CONTRACT DOCUMENTS** within a set amount of time after the date of the **NOTICE TO PROCEED** as agreed upon by the **CITY** and the **CONTRACTOR**. The date of completion for the project shall be no later than **August 6, 2010 for Phase I and September 17, 2010 for Phase II**.
4. The **CITY** shall pay the **CONTRACTOR** for the performance of the **AGREEMENT**, the amounts determined for the total number of each of the units of work completed at the unit price stated. The numbers of units contained in the bid documents are approximate only and the final payment shall be made for the actual number of units that are incorporated in or made necessary by the work covered by this Agreement. The **AGREEMENT** price shall be the not-to-exceed price of:

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)  
Written \_\_\_\_\_ Figures

5. The term "**CONTRACT DOCUMENTS**" means and includes the following:
  - (A) B45-10 ISSUED BY THE CITY
  - (B) CONTRACTOR'S BID IN RESPONSE TO B45-10
  - (C) ALTERNATE FORM W-9
  - (D) INDEMNIFICATION AGREEMENT
  - (E) QUALIFICATIONS STATEMENT
  - (F) INSURANCE CERTIFICATE
  - (G) BID BOND
  - (H) PERFORMANCE AND PAYMENT BONDS
  - (I) LETTER OF AWARD AND NOTICE OF AWARD
  - (J) AGREEMENT
  - (K) NOTICE TO PROCEED
  - (L) CITY OF CONCORD PURCHASE ORDER
  - (M) ADDENDA:

No. \_\_\_\_\_, dated \_\_\_\_\_, 2009  
No. \_\_\_\_\_, dated \_\_\_\_\_, 2009

The contract between the **CITY** and the **CONTRACTOR** shall consist of (1) the bid documents and any amendments there to and (2) the **CONTRACTOR'S** bid. In the event of a conflict in language between documents (1) and (2) referenced above, the provisions and requirements set forth and referenced in the bid documents shall govern. However, the **CITY** reserves the right to clarify any contractual relationship in writing with the concurrence of the **CONTRACTOR** and such written clarification shall govern in case of conflict with the applicable requirements contained in the bid documents and the **CONTRACTOR'S** bid. In all other matters, not affected by written clarification, if any, the bid documents shall govern.

6. The **CITY** will pay to the **CONTRACTOR** in the manner and at such times as set forth in the General Terms and Conditions such amounts as required by the **CONTRACT DOCUMENTS**. There will be no retention from progress payments in accordance with the General Terms and Conditions.
7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS HEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in one (1) original.

CITY:

CITY OF CONCORD, NEW HAMPSHIRE

By: \_\_\_\_\_

Name/Title: Douglas B. Ross, Purchasing Manager

(SEAL)

ATTEST:

\_\_\_\_\_

Name: \_\_\_\_\_  
(Please Type)

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

CONTRACTOR:

\_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(Please Type)

Address: \_\_\_\_\_

\_\_\_\_\_

(SEAL)

ATTEST:

\_\_\_\_\_

Name: \_\_\_\_\_  
(Please Type)

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

**NOTICE TO PROCEED**

Dated: \_\_\_\_\_

TO: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY'S PROJECT NO.: B45-10

PROJECT: Storm Sewer Trench less Lining Project

CITY'S CONTRACT NO.: B45-10

CONTRACT FOR: Storm Sewer Trench less Lining Project

\_\_\_\_\_  
(Name of Contractor)

You are notified that the Contract Time under the above contract will commence to run upon receipt of this Notice to Proceed. You are to start performing your obligations under the Contract Documents within **ten (10) calendar days** of the date of this Notice to Proceed. In accordance with the Agreement, the dates of completion shall be **August 6, 2010 for Phase I and September 17, 2010 for Phase II.**

Before you may start any Work at the site the Invitation for Bids and General Terms and Conditions provides that you must deliver to the CITY:

1. Certificates of insurance which you are required to purchase and maintain in accordance with the Contract Documents.
2. A Payment Bond in the amount of 100% of the contract price.
3. A Performance Bond in the amount of 100% of the contract price.

CITY OF CONCORD, NEW HAMPSHIRE  
(CITY)

**BY** \_\_\_\_\_  
(AUTHORIZED SIGNATURE)

Douglas B. Ross, Purchasing Manager  
(NAME/TITLE)

Copy to GENERAL SERVICES, HIGHWAYS & UTILITIES DIVISION

**BID BOND**

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

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

The Condition of the above obligation is such that whereas the Principal has submitted to the City of Concord, New Hampshire a certain BID attached hereto and hereby made a part hereof to enter into a contract in writing, for the **B45-10, Storm Sewer Trenchless Lining Project**.

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 their 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 any 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 the 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 offices, the day and year first set forth above.

\_\_\_\_\_  
Principal (L.S.)

\_\_\_\_\_  
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 of New Hampshire.

**PAYMENT BOND**

Bond No. \_\_\_\_\_

**KNOW ALL MEN BY THESE PRESENTS:**

That we \_\_\_\_\_ as Principal, and \_\_\_\_\_ as Surety, are held and firmly bound unto the City of Concord as Obligee, totaling \_\_\_\_\_ dollars (\$ \_\_\_\_\_) to be paid to the Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has made a contract with the Obligee, bearing the date of \_\_\_\_\_, 2009 for project **B45-10, Storm Sewer Trenchless Lining Project.**

NOW the conditions of this obligation are such that the Principal and all subcontractors under said contract shall pay for all labor performed or furnished and for all materials used or employed in said contract and in any and all duly authorized modifications, alterations extensions of time, changes or additions to said contract that hereafter be made, notice to the Surety of such modifications, alterations, extensions of time, changes or additions being hereby waived, the foregoing to include any other purposes required by law, then this obligation shall become null and void; otherwise it shall remain in full force and virtue.

IN WITNESS THEREOF, the Principal and Surety have hereto set their hands and seals this

\_\_\_\_\_ day of \_\_\_\_\_, 2010.

**PRINCIPAL:**

**SURETY:**

\_\_\_\_\_

\_\_\_\_\_

(Name & Seal)

Attorney-In-Fact (Seal)

(Title)

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

The rate for this bond is \_\_\_\_\_ % for the first \$ \_\_\_\_\_ for the next \$ \_\_\_\_\_. The total rate for this bond is \$ \_\_\_\_\_.

**PERFORMANCE BOND**

Bond  
No. \_\_\_\_\_

**KNOW ALL MEN BY THESE PRESENTS:**

That we, \_\_\_\_\_ as Principal and \_\_\_\_\_ Surety, are held and firmly bound unto the City of Concord, Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrator, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has made a contract with the Obligee, bearing the date of \_\_\_\_\_ 2010, for project **B45-10, Storm Sewer Trenchless Lining Project.**

NOW, the condition of this obligation is such that if the Principal and Subcontractors under said contract shall well and truly keep and perform all the undertakings, covenants, agreement, terms and conditions, of said contract on its part to be kept and performed during the original term of said contract and any extensions thereof that may be granted by the Obligee, with or without notice to the Surety, and during the life and any guarantee required under the contract, and shall also well and truly keep and perform all the undertakings, covenants, agreements, terms, and conditions of any and all duly authorized modifications, alterations, changes, or additions being hereby waived, then these obligations become null and void; otherwise, it shall remain in full force and virtue.

IN THE EVENT, that the Contract is abandoned by the Principal, or in the event that the Obligee, under the General Terms & Conditions of said Contract terminates the employment of the Principal or the Principal's authority to continue the work, said Surety further agrees that said Surety shall, if requested in writing by the Obligee, take any required steps to complete said Contract.

IN WITNESS THEREOF, the Principal and Surety have hereto set their hands and seals this

\_\_\_\_\_ day of \_\_\_\_\_, 2010.

**PRINCIPAL:**

**SURETY:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
(Name & Seal)

\_\_\_\_\_  
Attorney-In-Fact (Seal)

\_\_\_\_\_  
(Title)

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

The rate for this bond is \_\_\_\_\_% for the first \$ \_\_\_\_\_ for the next \$ \_\_\_\_\_. The total rate for this bond is \$ \_\_\_\_\_.

**CONTRACTORS AFFIDAVIT**

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

Before me, the undersigned, a \_\_\_\_\_  
(Notary Public, Justice of Peace, Alderman)

in and for said County and State personally appeared,

\_\_\_\_\_  
(Individual, Partner or duly authorized representative of

\_\_\_\_\_ who being duly sworn according to law deposes and  
corporate contractor)  
says that the cost of all the Work, and outstanding claims and indebtedness of whatever nature

arising out of the performance of the contract  
between \_\_\_\_\_

\_\_\_\_\_ of \_\_\_\_\_ (Owner) dated  
\_\_\_\_\_

(Contractor)

for the construction of the

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

and necessary appurtenant installations have been paid in full.

\_\_\_\_\_  
(Individual, Partner, or duly authorized representative  
of corporate contractor)

Sworn to and subscribed before me

This \_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_

**CONTRACTORS RELEASE**

KNOW ALL MEN BY THESE PRESENTS that \_\_\_\_\_  
\_\_\_\_\_  
(Contractor)  
of \_\_\_\_\_, County of \_\_\_\_\_  
and State of \_\_\_\_\_ do \_\_\_\_\_ hereby acknowledge that  
\_\_\_\_\_  
(Contractor)  
has \_\_\_\_\_ this day had, and received of and from \_\_\_\_\_  
\_\_\_\_\_  
(Owner)  
the sum of One Dollar and other valuable considerations in full and complete satisfaction and  
payment of all sums of money owed, payable and belonging to  
\_\_\_\_\_  
(Contractor)  
by means whatsoever, for on account of a Contract Agreement between  
\_\_\_\_\_  
(Owner)  
and \_\_\_\_\_  
(Contractor)  
dated \_\_\_\_\_ for B44-10, Allison Street Drain Line Replacement.

NOW THEREFORE, the said \_\_\_\_\_  
(Contractor)  
(for myself, my heirs, executors and administrators)(for itself, its successors and assigns) does by  
these presents remise, release, quit-claim and forever discharge \_\_\_\_\_  
(Owner)  
\_\_\_\_\_, of and from all claims and demands, arising from on in connection  
with the said contract dated \_\_\_\_\_, and of and from all, and all manner of action  
and actions, cause and causes of action and actions, suits debts, dues, duties, sum and sums of  
money, accounts, reckonings, bonds, bills, specialties, covenants, contracts, agreements,  
promises, variances, damages, judgments, extents, executions, claims and demand, whatsoever in  
law or equity, or otherwise, against \_\_\_\_\_

(Owner)

its successors and assigns, which (I, my heirs, executors, or administrators)(it, its successors and  
assigns) ever had, now have or which (I, my heirs, executors, or administrators)(it, its successors  
and assigns) hereafter can, shall or may have, for, upon or by reason of any matter, cause or thing  
whatsoever; from the beginning of recorded time to the date of these presents.

IN WITNESS WHEREOF, \_\_\_\_\_

\_\_\_\_\_  
(Contractor)  
has caused these presents to be duly executed this \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

Signed, Sealed and Delivered in the presence of:

\_\_\_\_\_  
(seal)  
(Individual – Contractor)

\_\_\_\_\_  
(seal)  
(Partnership – Contractor)

(seal) \_\_\_\_\_ By \_\_\_\_\_  
(Partner)

Attested:

\_\_\_\_\_  
(Corporation)

\_\_\_\_\_  
(Secretary) By \_\_\_\_\_  
(President or Vice President)

(Corp. Seal)

**CERTIFICATE OF SUBSTANTIAL COMPLETION**

PROJECT: B45-10, Storm Sewer Trenchless Lining Project

DATE OF ISSUANCE: \_\_\_\_\_

CITY: City of Concord

CITY's Contract No. B45-10, Storm Sewer Trenchless Lining Project

CONTRACTOR: \_\_\_\_\_

ENGINEER: \_\_\_\_\_

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

To: \_\_\_\_\_  
City (Authorized Signature)

And To: \_\_\_\_\_  
Contractor (Authorized Signature)

The Work to which this Certificate applies has been inspected by authorized representatives of CITY, CONTRACTOR and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on:

\_\_\_\_\_  
DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of the CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within \_\_\_\_\_ days of the above Substantial Completion.



## **CHANGE ORDER INSTRUCTIONS**

### **A. GENERAL INFORMATION**

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Contract Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating change order items to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order may be used.

### **B. COMPLETING THE CHANGE ORDER FORM**

ENGINEER initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by CONTRACTOR, or requests from CITY, or both.

Once ENGINEER has completed and signed the form, all copies should be sent to CONTRACTOR for approval. After approval by CONTRACTOR, all copies should be sent to CITY for approval. ENGINEER should make distribution of executed copies after approval by CITY.

If a change only applies to Contract Price or to Contract Times, cross out the part of the tabulation that does not apply.

**WORK CHANGE DIRECTIVE**

Work Change

Directive No. \_\_\_\_\_

PROJECT: **B45-10, Storm Sewer Trenchless Lining Project**

DATE OF ISSUANCE: \_\_\_\_\_

EFFECTIVE DATE: \_\_\_\_\_

CITY: City of Concord

CITY's Contract No.: B45-10, Storm Sewer Trenchless Lining Project

CONTRACTOR: \_\_\_\_\_

ENGINEER: \_\_\_\_\_

You are directed to proceed promptly with the following change(s):

Description:

Purpose of Work Change Directive:

Attachments: (List documents supporting change)

If a claim is made that the above change(s) have affected Contract Price or Contract Times any claim for a Change Order based thereon will involve one or more of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:

Method of determining change in Contract Times:

Unit Prices

Contractor's records

Lump Sum

Engineer's records

Other \_\_\_\_\_

Other \_\_\_\_\_

Estimated increase (decrease) in Contract Price:  
\$ \_\_\_\_\_

Estimated increase (decrease) in Contract Times:  
Substantial Completion: \_\_\_\_\_ days  
Ready for final payment: \_\_\_\_\_ days.

If the change involves an increase, the estimated amount is not to be exceeded without further authorization.

If the change involves an increase, the estimated times are not to be exceeded without further authorization.

RECOMMENDED:

AUTHORIZED:

\_\_\_\_\_  
ENGINEER

\_\_\_\_\_  
CITY OF CONCORD

By: \_\_\_\_\_  
(Authorized Signature)

By: \_\_\_\_\_  
(Authorized Signature)

## WORK CHANGE DIRECTIVE INSTRUCTIONS

### A. GENERAL INFORMATION

This document was developed for use in situations involving changes in the Work which, if not processed expeditiously, might delay the Project. These changes are often initiated in the field and may affect the Contract Price or the Contract Times. This is not a Change Order, but only a directive to proceed with Work that may be included in a subsequent Change Order.

For supplemental instructions and minor changes not involving a possible change in the Contract Price or the Contract Times a Field Order may be used.

### B. COMPLETING THE WORK CHANGE DIRECTIVE FORM

ENGINEER initiates the form, including a description of the items involved and attachments.

Based in conversations between ENGINEER and CONTRACTOR, ENGINEER completes the following:

METHOD OF DETERMINING CHANGE, IF ANY, IN CONTRACT PRICE: Mark the method to be used in determining the final cost of Work involved and the estimated net effect on the Contract Price. If the change involves an increase in the Contract Price and the estimated amount is approached before the additional or changed Work is completed, another Work Change Directive must be issued to change the estimated price or Contractor may stop the changed Work when the estimated price is reached. If the Work Change Directive is not likely to change the Contract Price, the space for estimated increase (decrease) should be marked "Not Applicable".

METHOD OF DETERMINING CHANGE, IF ANY, IN CONTRACT TIMES: Mark the method to be used in determining the change in Contract Times and the estimated increase or decrease in Contract Times. If the change involves an increase in the contract Times and the estimated times are approached before the additional or changed Work is completed, another Work Change Directive must be issued to change the times or CONTRACTOR may stop the changed Work when the estimated times are reached. If the Work Change Directive is not likely to change the Contract Times, the space for estimated increase (decrease) should be marked "Not Applicable".

Once ENGINEER has completed and signed the form, all copies should be sent to the CITY for authorization because ENGINEER alone does not have authority to authorize changes in Price or Times. Once authorized by the CITY, a copy should be sent by ENGINEER to CONTRACTOR. Price and Times may only be changed by Change Order signed by the CITY and CONTRACTOR with ENGINEER's recommendation.

Once the Work covered by this directive is completed or final cost and times are determined, CONTRACTOR should submit documentation for inclusion in a Change Order.

**THIS IS A DIRECTIVE TO PROCEED WITH A CHANGE THAT MAY AFFECT THE CONTRACT PRICE OR THE CONTRACT TIMES. A CHANGE ORDER, IF ANY, SHOULD BE CONSIDERED PROMPTLY**

**CONSENT OF SURETY COMPANY  
TO FINAL PAYMENT**

OWNER'S CONTRACT NO.: B45-10 ENGINEER' PROJECT NO.: \_\_\_\_\_  
AGREEMENT DATE: \_\_\_\_\_  
BOND NUMBER: \_\_\_\_\_

CONTRACT TITLE: Storm Sewer Trenchless Lining Project

To: \_\_\_\_\_ (Owner)  
\_\_\_\_\_  
\_\_\_\_\_

From: \_\_\_\_\_ (Contractor)  
\_\_\_\_\_  
\_\_\_\_\_

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the \_\_ (Surety) on the part of the Contractor hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to the \_\_\_\_\_ (Owner) as set forth in the said Surety Company's Bond.

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

\_\_\_\_\_  
Surety Company

\_\_\_\_\_  
Signature of Authorized Representative

Attest: (Seal)                  Name & Title

Note: Power of Attorney should be attached in instances where same applies.

**CONTRACTOR'S FINAL LIEN WAIVER**

(Page 1 of 2)

OWNER'S CONTRACT NO.: B45-10 ENGINEER' PROJECT NO.: \_\_\_\_\_  
AGREEMENT DATE: \_\_\_\_\_

CONTRACT TITLE: Storm Sewer Trenchless Lining Project

To: \_\_\_\_\_ (Owner)  
\_\_\_\_\_  
\_\_\_\_\_

APPLICATION FOR FINAL PAYMENT:

The undersigned hereby certifies that the amount owed set forth below constitutes the entire value of all work performed and services rendered by, through or under the undersigned with respect to the project not heretofore paid for up to and including the period covered by the above Application for Final Payment; that all work covered by such Application has been incorporated into the project and title thereto has passed to the Owner free and clear of all liens, claims, security, interests or encumbrances; and that no work covered by such Application has been acquired subject to an agreement under which any interest therein or an encumbrance thereon is retained by the seller or any other person. In consideration of payment of the requisition, the undersigned hereby releases the Owner from all claims of lien which the undersigned has regarding the Project.

The undersigned, in order to induce the Owner to pay the requisition, hereby represents that it has paid or will pay from the proceeds of the requisition all sums due to those parties who have performed work or provided materials to the undersigned in connection with the Project, and that it will on request of the Owner provide written evidence of the discharge by the undersigned of its obligations to such parties.

Executed under seal as of this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

Amount Owed to Contractor by Owner as Final Payment:

\$ \_\_\_\_\_ (total value of project including change orders)

Amount Unpaid From Previous Application for Payment:

\$ \_\_\_\_\_

**CONTRACTOR'S FINAL LIEN WAIVER**

(Page 2 of 2)

From: \_\_\_\_\_ (Contractor)

\_\_\_\_\_

\_\_\_\_\_  
Authorized Representative Signature

\_\_\_\_\_  
Name and Title (printed)

NOTARY:

Then personally appeared the above named \_\_\_\_\_ and acknowledged the foregoing to be the free act and deed of the above-named Contractor, before me.

Subscribed and sworn to on the \_\_\_\_\_ day of \_\_\_\_\_, 2010.

Notary Public: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

**CERTIFICATE OF FINAL COMPLETION OF WORK**

(Page 1 of 2)

OWNER'S CONTRACT NO.: B45-10 ENGINEER' PROJECT NO.: \_\_\_\_\_  
AGREEMENT DATE: \_\_\_\_\_

CONTRACT TITLE: Storm Sewer Trenchless Lining Project

FINAL COMPLETION DATE PER AGREEMENT AND CHANGE ORDERS: \_\_\_\_\_  
ACTUAL DATE OF FINAL COMPLETION: \_\_\_\_\_

**FINAL CERTIFICATION OF CONTRACTOR**

I hereby certify that the Work as identified in the Final Payment Request dated \_\_\_\_\_ for the above-noted construction Contract represents full compensation for the actual value of work completed. Additionally, all work completed conforms to the terms of the Agreement and authorized changes.

\_\_\_\_\_  
CONTRACTOR Date

\_\_\_\_\_  
Authorized Representative's Signature

\_\_\_\_\_  
Name & Title

**FINAL CERTIFICATION OF ENGINEER**

I have reviewed the Contractor's Final Payment Request dated \_\_\_\_\_ and hereby certify that to the best of my knowledge, the cost of the work identified on the Final Payment Request represents full compensation for the actual value of work completed and that the work has been completed in accordance with the terms of the Agreement and authorized changes.

\_\_\_\_\_  
ENGINEER Date

\_\_\_\_\_  
Authorized Representative's Signature

\_\_\_\_\_  
Name & Title

**CERTIFICATE OF FINAL COMPLETION OF WORK**

(Page 2 of 2)

FINAL ACCEPTANCE OF OWNER

I, as representative of the Owner, accept the above Final Certifications and authorize Final Payment in the amount of \$ \_\_\_\_\_ and direct the Contractor's attention to the General Conditions. The guaranty for all Work completed subsequent to the date of Substantial Completion, expires \_\_\_\_\_ year from the date of this Final Acceptance.

At a meeting of the \_\_\_\_\_ (Town Council/Selectmen/Alderman), the Owner, \_\_\_\_\_ (Name of the community) has accepted the constructed project.

\_\_\_\_\_  
OWNER

\_\_\_\_\_  
Date

\_\_\_\_\_  
Authorized Representative's Signature

\_\_\_\_\_  
Name & Title

END OF SECTION

City of Concord, New Hampshire



Reference B45-10

If you choose not to bid, please complete the questionnaire below and return it with your response by the bid opening date. Your assistance in helping us to analyze no bid rationale is very much appreciated. Thank you.

\* \* \* \* No Bid Questionnaire \* \* \* \*

A no bid is submitted in reply to the City of Concord Invitation for Bids (B45-10) for the following reasons:

- \_\_\_\_\_ Item/Service not supplied by our company.
- \_\_\_\_\_ Bid specification (give reason(s), e.g., too restricted, not clear, etc.):  
\_\_\_\_\_
- \_\_\_\_\_ Profit margin on municipal bids too low.
- \_\_\_\_\_ Past experience with City of Concord (give specifics, e.g., payment delay, bid process, administrative problems, etc) \_\_\_\_\_
- \_\_\_\_\_ Insufficient time allowed to prepare and respond to bid request.
- \_\_\_\_\_ Bid requirement too large \_\_\_\_\_ or too small \_\_\_\_\_ for our company.
- \_\_\_\_\_ Priority of other business opportunities limit time/other resources available to deliver or perform according to bid specifications.
- \_\_\_\_\_ Other reason(s), please specify: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

.....

Company Name and Address: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Phone: ( ) \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Typed/Printed Name & Title)

**TECHNICAL SPECIFICATIONS FOR:  
CITY OF CONCORD, NEW HAMPSHIRE  
“B45-10, Storm Sewer Trench Less Lining Project”**

**SECTIONS INCLUDED:**

<u>SECTION – TITLE</u>	<u>PAGE</u>
<u>01013 – MISCELLANEOUS WORK AND CLEANUP</u>	<u>59</u>
<u>02705 –STORM SEWER TRENCHLESS LINING</u>	<u>61</u>
<u>02755 – STORM SEWER MANHOLE REHABILITATION</u>	<u>70</u>

SECTION 01013  
MISCELLANEOUS WORK AND CLEANUP

PART 1.00 GENERAL

1.01 DESCRIPTION OF WORK:

- A. Provide all materials, labor, equipment and incidentals necessary to complete miscellaneous items and cleanup not specified elsewhere. This section includes the following:
1. Exploratory excavation, as required, to locate existing utilities.
  2. Erosion control as required throughout the project.
  3. Provide safe access through the construction site. This may be accomplished through the use of orange construction fence to delineate a path around the perimeter of construction. This path shall be inspected periodically to ensure the safety of people using it.
  4. Coordinate and schedule all inspections as may be required by the NHDES and the City of Concord.
  5. Temporary facilities and control as may be necessary.
  6. Project cleanup.
  7. Any other work as may be required to satisfactorily complete the project.

PART 2.00 EXECUTION

2.01 COOPERATION WITH OTHERS

- A. Delays in the Work caused by the actions of others shall be expedited as promptly as possible by the Owner(s). The Contractor shall notify the Engineer of any delays caused by circumstances beyond his control.

END OF SECTION

**STORM SEWER TRENCHLESS LINING:**

PART 1.00 - GENERAL

1.01 DESCRIPTION OF WORK:

The work of this section includes all labor, materials, equipment and services required to complete the installation of all Sanitary Sewer Trenchless Lining as called for in this specification, or as otherwise shown on the Drawings. It is the intent of this specification to provide for the reconstruction of existing sanitary sewers by the installation of a continuously extruded jointless and seamless pipe liner

1.03 RELATED WORK SPECIFIED IN OTHER SECTIONS:

- A. Excavation, Backfill and Compaction: Section 02220
- A. Sanitary Sewer: Section 02700
- B. Sanitary Sewer Manholes: Section 02750

1.04 SPECIAL REQUIREMENTS:

Prior to commencing any construction operations the Contractor should check existing grades, layout and utilities in the field and report any discrepancies that effect the work of this contract to the Owner. No adjustments will be made for discrepancies discovered after work has commenced.

1.05 PRODUCT, MANUFACTURER/INSTALLER QUALIFICATION REQUIREMENTS

Since sewer products are intended to have a 50 year design life, and in order to minimize the Owner's risk, only proven products with substantial successful long term track records will be approved. The bidder proposing the trenchless rehabilitation products must complete the Bidders Qualifications Statement as part of the bid. The bidder shall demonstrate that they have completed a minimum of five similar projects in the last three years.

- A. The Contractor shall obtain all necessary permits from, and coordinate all the work of this section with the local and/or State authorities. All inspection and coordination shall be included in the base bid.
- B. Coordinate the work of this section with interior sewer service piping systems and all other site work. The Contractor shall coordinate with the utility companies involved to determine the exact location of sewers and services to prevent/coordinate loss of service during construction.
- C. The Contractor shall notify "DIG SAFE" and procure a DIG SAFE number prior to disturbing the existing ground in any way. Call 1 (888) 344-7233 to obtain additional data concerning the locations of existing utilities and to obtain a permit. Call a minimum of forty-eight (48) hours in advance of commencing excavation work.

- D. The Contractor shall perform the operations of this section in conformance with all applicable Federal, State and Local codes and regulations.
- E. Materials that are not approved as determined by the Engineer shall be immediately removed from the site at the Contractor's expense.

1.05 SITE CONDITIONS:

- A. Do not interrupt existing utility services without prior coordination with Owner, Tenants and utility owner. Contractor shall provide temporary utility services as required to preserve the operations of occupied facilities on or off site.
- B. The Contractor shall be aware that no warranties are implied concerning the accuracy of subsurface conditions indicated by soils testing and borings. The Contractor is responsible for all conclusions or assumptions made from this data. The Contractor may request additional subsurface testing, at the Contractor's expense, subject to the written approval of the Engineer.

1.06 SUBMITTALS:

- A. Submit certification that the materials of this section meet the requirements of this specification
- B. Contractor is to provide the Engineer with copies of all manufacturer's product data, operations and maintenance instructions for all products.
- C. Submit copies of all inspection reports as stated elsewhere in these specifications.
- D. The Contractor shall, at the completion of the work of this section, submit "As-Built" drawings of the completed work to the Engineer. The Contractor shall record all deviations from the contract drawings during construction which shall be reflected on the "As Built" drawings.

1.07 DELIVERY, STORAGE, AND HANDLING:

Store materials off the ground in enclosures or under protective covers. Damaged or unapproved materials will be removed from the site.

1.08 REFERENCES:

Design and installation practices shall conform to:

- a) ASTM F-1216
  - Standard practice for rehabilitation of existing pipelines and conduits by inversion and curing of a resin-impregnated tube.
- b) ASTM F 1871
  - Standard Specification for a Fold and Form PVC Alloy pipeliner
- c) ASTM D-5813
  - Standard specification for cured-in place thermosetting resin sewer pipe.
- d) ASTM F-1504

- Standard specification for folded poly (vinyl chloride) (PVC) pipe for existing sewer and conduit rehabilitation.
  - e) ASTM D-1784
- Standard specification for rigid poly (vinyl chloride) (PVC) compounds and chlorinated poly (vinyl chloride) (CPVC) compounds
  - f) ASTM F-1533-97
- Standard specifications for deformed polyethylene (PE) liner.
  - g) ASTM F-1606-95
- Standard practice for rehabilitation of existing sewers and conduits with deformed polyethylene (PE) liner.

## PART 2.00 - PRODUCTS:

### **Acceptable Materials:**

Acceptable materials for the lining of pipes will be:

- a) Poly Vinyl Chloride, as used for folded and formed methods. The PVC Alloy pipeliner will be manufactured from PVC Alloy compound, containing no fillers, and meet or exceed the following installation performance requirements: The pipeliner shall be capable of expanding a full pipe size larger than the nominal diameter without splitting, or rupturing; After being expanded by "Blow-molding", the installed pipeliner will match the configuration of the host pipe, with a concave dimple typically appearing at each service connection.
- b) Cured In Place Pipe (CIPP) Resin impregnated felt, as used for cured in place methods. Tube Method – The sewn tube shall consist of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216. The tube shall be constructed to withstand inversion pressures, have sufficient strength to bridge missing pipe, stretch to fit irregular pipe sections, and shall invert smoothly around bends. The resin shall be a corrosion resistant polyester, vinyl ester, or epoxy and catalyst that when properly cured within the tube composite meets the requirements of ASTM F1216, the physical properties herein, and those which are to be utilized for this project.
- c) Polyethylene as used for deformed/reformed methods

NOTE: The bid may be submitted using any combination of the acceptable materials.

### **Physical Characteristics:**

- The formed liner shall conform to the minimum structural standards as listed below:

<u>Physical Characteristics</u>	<u>Test Procedure</u>	<u>Minimum Value</u>
Tensile Strength	ASTMD-638	3,600psi
Tensile Modulus	ASTMD-638	155,000psi
Flexural Strength	ASTMD-790	4,100psi
Flexural Modulus	ASTMD-790	145,000psi

PART 3.00 - EXECUTION:

3.01 GENERAL:

3.02 TRAFFIC CONTROL:

- A. The Contractor shall furnish all equipment and materials required for maintaining an orderly and safe flow of traffic on Town and State roads. Contractor shall provide uniformed police officers and/or flagmen, as are necessary, for the direction and control of traffic within and adjacent to the construction site at such locations and for such periods as ordered or directed by the Town's representative or State regulations.

3.03 TESTING REQUIREMENTS

- A. Chemical Resistance - The pipe lining 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. The bidder shall demonstrate that the proposed material meets similar resistance criteria if an alternative product is proposed.
- B. Hydraulic Capacity - Overall, the hydraulic profile shall be maintained as large as possible. The sewer lined pipe 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.
- C. Sewer Liner Field Samples - When requested by the Owner, the Contractor shall submit test results from field installations in the USA of the same resin system and tube materials or other material as proposed for the actual installation. These test results must verify that the sewer liner physical properties specified in Section 2 have been achieved in previous field applications.

3.04 INSTALLATION RESPONSIBILITIES FOR INCIDENTAL ITEMS

- A. It shall be the responsibility of the Owner to locate and designate all manhole access points open and accessible for the work, and provide rights of access to these points. If a street must be closed to traffic because of the orientation of the sewer, the Owner shall

institute the actions necessary to do this for the mutually agreed time period. The owner shall also provide free access to water hydrants for cleaning, inversion and other work items requiring water.

- B. Cleaning of Sewer Lines - The Contractor, when required, shall remove all internal debris out of the sewer line that will interfere with the installation of the liner. The Owner shall also provide a dump site for all debris removed from the sewers during the cleaning operation. Unless stated otherwise, it is assumed this site will be at or near the sewage treatment facility to which the debris would have arrived in absence of the cleaning operation. Any hazardous waste material encountered during this project will be considered as a changed condition.
- C. Bypassing Sewage - The Contractor, when required, shall provide for the flow of sewage around the section or sections of pipe designated for repair. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the flow. The Owner may require a detail of the bypass plan to be submitted.
- D. Inspection of Pipelines - Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by close circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the liner into the pipelines, and it shall be noted so that these conditions can be corrected. A video tape and suitable log shall be kept for later reference by the Owner.
- E. 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 the liner. If pre-installation inspection reveals an obstruction such as a protruding service connection, dropped joint, or a collapse that will prevent the inversion 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 Owner's representative prior to the commencement of the work and shall be considered as a separate pay item.
- F. Public Notification - The Contractor shall make every effort to maintain service usage throughout the duration of the project. In the event that a service will be out of service, the maximum amount of time of no service shall be 8 hours for any property served by the sewer. A public notification program shall be implemented, and shall as a minimum, require the Contractor to be responsible for contacting each home or business connected to the sanitary sewer and informing them of the work to be conducted,

and when the sewer will be off-line. The Contractor shall also provide the following:

1. Written notice to be delivered to each home or business the day prior to the beginning of work being conducted on the section, and a local telephone number of the Contractor they can call to discuss the project or any problems which could arise.
2. Personal contact with any home or business, which cannot be reconnected within the time stated in the written notice.

G. The Contractor shall be responsible for confirming the locations of all branch service connections prior to installing and curing the sewer liner.

### 3.05 INSTALLATION

The sewer liner installation shall be in accordance with the ASTM Specifications as referenced in Section 1.08.

### 3.06 REINSTATEMENT OF BRANCH CONNECTIONS

It is the intent of these specifications that branch connections to buildings be reopened without excavation, utilizing a remote controlled cutting device, monitored by a video TV camera. The Contractor shall certify he has a minimum of 2 complete working cutters plus spare key components on the site before each inversion. Unless otherwise directed by the owner or his authorized representative, 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.

### 3.07 INSPECTION

The sewer liner samples shall be prepared and physical properties tested in accordance with ASTM Specifications as referenced in Section 1.08.

### 3.08 CLEAN-UP

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.

## **PART 4 - METHOD OF MEASUREMENT**

4.01 PIPE. The quantity of lined sewer pipe to be paid for shall be the number of linear feet of lined sewer pipe completed and approved by the City of Concord to be

measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable.

**PART 5 - BASIS OF PAYMENT**

5.01 BASIS OF PAYMENT. Payment shall be made at the contract unit price per linear foot of lined sewer pipe measured as specified above, for each linear foot of each size and type of lined sewer pipe furnished, installed and accepted, which prices and payment thereof shall constitute full compensation for all labor, materials, equipment, incidentals and expenses necessary to the satisfactory completion of the installations.

Payment will be made under:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
6,7,	Line 15, 30"Dia Sewer	Linear Foot
8,9	Line 24"x36" and 28"x30" Brick pipe	Linear Foot

**CIPP WALL THICKNESS  
PARTIALLY DETERIORATED DESIGN ( PD )**

		Required DR ( D / t )			
		Ei = 250,000 psi		Ei = 400,000 psi	
		Ground Water Depth			
Ovality	Range of Depth to invert (feet)	50% Depth	Full Depth	50% Depth	Full Depth
2 % *	4 - 8	78	62	92	73
	8 - 12	69	55	80	64
	12 - 16	62	50	73	58
	16 - 20	58	46	68	54
	20 - 24	55	44	64	51
5 %	4 - 8	72	57	84	67
	8 - 12	63	50	73	58
	12 - 16	57	46	67	53
	16 - 20	53	42	62	49
	20 - 24	50	40	58	47
8 %	4 - 8	66	52	77	61
	8 - 12	58	46	67	54
	12 - 16	52	42	61	49
	16 - 20	49	39	57	45
	20 - 24	46	37	54	43

PD wall thickness varies with the height of the groundwater above the invert of the host pipe. The table assumes the height of the groundwater equal to half or full depth to the pipe invert. The table represents CIPP pipe wall thickness for a host pipe range of 8 to 48 inches. This is a guideline only. Specific calculations should refer to ASTM F-1216, Appendix X.1.

Design Parameters:

Poisson's Ratio = 0.3 Factor of Safety = 2.0 Enhancement Factor = 7 DR =

Dimension Ratio = Diameter / thickness  $\Rightarrow t = D / DR$

Effective reduction of Ei modulus to approximate effects of creep = 50 %

Ovality % = 100 x ( Mean Dia. - Minimum Dia. ) / Mean Dia.

\* 2% ovality is typically assumed when the host pipe measurements have not been field verified.

**END OF SECTION**

SECTION 02755  
**STORM SEWER MANHOLE INTERIOR REHABILITATION**

PART 1.00 GENERAL

1.01 DESCRIPTION OF WORK

A. This specification shall govern all labor, materials, equipment and appliances necessary for the sanitary sewer manhole interior rehabilitation for the purpose of eliminating infiltration and inflow, provide corrosion protection, repair of cracks and voids and restoration of the structural integrity of the manhole by the application of a monolithic fiber-reinforced structural/structurally enhanced material, cementitious liner to the wall, ceiling and bench surfaces of concrete, brick or any other masonry construction material.

1.02 SUBMITTALS

A. Submit manufacturer's material data and application and installation instructions for all products used.

B. Provide documentation that the proposed manhole rehabilitation process has a minimum 5 year history for reconstruction of sanitary sewer manholes on projects of similar size and scope.

1.03 QUALITY ASSURANCE

A. Use, mix apply and cure all products in accordance with the manufacturer's recommendations and instructions.

B. Provide recommended daily or lot test specimens for compressive strength and other testing per applicable ASTM standards.

PART 2.00 PRODUCTS

MATERIALS

A. Patching Mix:

1. A quick-setting, fiber-reinforced cementitious material for patching and filling voids and cracks.

2. Material shall have the following minimum requirements:

Compressive Strength	ASTM C-109	6hr 1,400 psi
Shrinkage	ASTM C-596	0% at 90%

R.H.

psi resistant	Bond Cement Density, when applied	ASTM C-321	28 day 150 Sulfate 105 +/- pcf
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B. Infiltration Control Mix:

1. A rapid setting cementitious product specifically formulated for infiltration control.
2. Material shall have the following minimum requirements:

Compressive Strength	ASTM C-109 24 hr 1000 psi
Bond	ASTM C-321 24 hr 80 psi

C. Grouting Mix:

- |          |   |
|----------|---|
| stopping | 1. A rapid-setting cementitious grout specifically formulated for very active infiltration and filling voids. |
| stopping | 2. A rapid-setting chemical grout specifically formulated for the very active infiltration.                   |

D. Liner Mix:

- |  |  |
|--|--|
| and low<br>structural/structurally enhanced<br>covering all interior manhole surfaces. | 1. A fiber-reinforced cementitious liner material shall be wet mixed pressure spray applied to form the monolithic liner |
|  | 2. Material shall be pre-mixed and specially formulated to withstand abrasion in sewer networks.                         |
|  | 3. Material shall have the following minimum requirements:   |
|  | Compressive Strength      ASTM C-109 28 day > 8,000 psi  |
|  | Flexural Strength          ASTM C-78 28 day > 1400 psi   |
|  | Shrinkage                    ASTM-596 0% at 90% R.H.   |

E. Bonding Compound:

Material shall be a modified cementitious bonding compound that protects exposed reinforcement steel and enhances bond of overlay to substrate.

F. Water:

Water shall be clean and potable

PART 3.00 EXECUTION

3.01 Storm sewer manhole interior rehabilitation shall eliminate infiltration and inflow, and provide corrosion protection, repair of cracks and voids and restoration of the structural integrity of the manhole by the application of a monolithic fiber-reinforced structural/structurally enhanced material. cementitious liner to the wall, ceiling and bench surfaces of concrete, brick or any other masonry construction material.

PART 4 - METHOD OF MEASUREMENT

4.01 BRICK MANHOLES. The quantity of rehabilitated manhole to be paid for shall be the number of vertical feet of manhole completed and approved by the City of Concord to be measured from the top of the invert shelf to the bottom of the cast iron frame.

PART 5 - BASIS OF PAYMENT

5.01 BASIS OF PAYMENT. Payment shall be made at the contract unit price per vertical foot of manhole measured as specified above, for each vertical foot of manhole rehabilitate as furnished, installed and accepted, which prices and payment thereof shall constitute full compensation for all labor, materials, equipment, incidentals and expenses necessary to the satisfactory completion of the installations.

Payment will be made under:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
11	Rehab Brick Manholes	Vertical Foot

END OF SECTION

## **TECHNICAL REFERENCES**

All work performed in the City of Concord, New Hampshire shall conform to the requirements of the latest edition of the of the following standards:

- A. City of Concord, Construction Standards.
- B. Standard specifications and drawings for Road and Bridge Construction of the New Hampshire Department of Transportation;
- C. Construction standards for Sanitary Sewer and Water Supply Systems of the New Hampshire Department of Environmental Services, Water Supply and Pollution Control Division;
- D. Manual on Uniform Traffic Control Devices for streets and highways, published by the United States Department of Transportation, Federal Highway Administration;
- E. Requirements of the GENERAL SERVICES DEPARTMENT, HIGHWAY AND UTILITIES DIVISION's - Street Excavation Permit;
- F. Subdivision and Site Plan Regulations, and Municipal Code of Ordinances of the City of Concord, New Hampshire;
- G. Building Officials and Code Administrators (B.O.C.A.) National Plumbing Code.

**SHOULD CONFLICTING REQUIREMENTS BE FOUND AMONG THESE STANDARDS, THE MORE STRINGENT SHALL GOVERN.**