CONTRACT DOCUMENTS AND SPECIFICATIONS

for

Leslie Drive Drainage Outfall Project

Bid #25-15

State of New Hampshire

John P. Bohenko, City Manager

Prepared by:

City of Portsmouth
Engineering Division
Public Works Department

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City of Portsmouth
Portsmouth, New Hampshire
Department of Public Works

Leslie Drive Drainage Outfall

INVITATION TO BID

Sealed bid proposals, plainly marked, Leslie Drive Drainage Outfall, Bid Proposal #25-15 on the outside of the mailing envelope as well as the sealed bid envelope, addressed to the Finance/Purchasing Department, City Hall, 1 Junkins Avenue, Portsmouth, New Hampshire, 03801, will be accepted until March 2, 2015 at 2:00 p.m.; at which time all bids will be publicly opened and read aloud.

This project consists of the replacement of an existing 8" VC drain line by pipe bursting method with a new 12" HDPE line. The work also includes furnishing and installing a Rip Rap outlet apron, headwall, installing a new catch basin with a connection to the existing drain main hole, pavement patching, and restoration. All work to be performed in accordance with the contract document and specifications and the plan set dated December 2, 2014.

Work may begin at any time on or after April 6, 2015. The Project must be Complete by June 5, 2015. Liquidated damages shall be assessed at $100.00 per day. Hours of work will be 7 AM to 5 PM daily.

Bidders must determine the quantities of work required and the conditions under which the work will be performed.

Specifications may be obtained at the City's website: http://www.cityofportsmouth.com/finance/purchasing.htm
Addenda to this project, if any, including written answers to questions, will not be provided directly to vendors, but will be posted by 4:00 PM, February 26, 2015 on the City of Portsmouth Website under the project heading.

Electronic copies of the plans and specifications may be obtained off of the City's webpage. Documents are not available for pickup.

The City reserves the right, after bid opening and prior to award of the contract, to modify the amount of the work in the event that bids exceed budgeted amounts. The City of Portsmouth further reserves the right to reject any or all bids, to waive technical or legal deficiencies, to re-bid, and to accept any bid that it may deem to be in the best interest of the City. Also, the City reserves the right to approve or deny subcontractors for this project.

Each Bidder shall furnish a bid security in the amount of ten percent (10%) of the bid. The Bid Security may be in the form of a certified check or a bid bond executed by a surety company authorized to do business in the State of New Hampshire, made payable to the City of Portsmouth, NH.

INSTRUCTIONS TO BIDDERS

BIDDING REQUIREMENTS AND CONDITIONS

1. Special Notice to Bidders

Appended to these instructions is a complete set of bidding and general contract forms. These forms may be detached and executed for the submittal of bids. The plans, specifications, and other documents designated in the proposal form will be considered as part of the proposal, whether attached or not.

The bidders must submit a statement of bidder's qualifications, if requested, subsequent to bid opening but prior to award.

Addenda to this bid document, if any, including written answers to questions, will be posted by February 19, 2015 on the City of Portsmouth website at http://www.cityofportsmouth.com/finance/purchasing.htm under the project heading. Addenda and updates will NOT be sent directly to firms. Contractors submitting a bid should check the web site daily for addenda and updates after the release date. Firms should print out, sign and return addenda with the proposal. Failure to do so may result in disqualification.

2. Interpretation of Quantities in Bid Schedules

The quantities appearing in the bid schedule are approximate only and are prepared for the comparison of bids. Payment to the contractor will be made only for actual work performed and accepted in accordance with the contract. Any scheduled item of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided, and no claim for loss, anticipated profits or costs incurred in anticipation of work not ultimately performed will be allowed due to such increase or decrease.

3. Examination of Plans, Specifications and Site Work

The bidder is expected to examine carefully the site of the proposed work, the plans, standard specifications, supplemental specifications, special provisions and contract forms before submitting a proposal. The submission of a bid shall be considered conclusive evidence that the bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the contract. It will be conclusive evidence that the bidder has also investigated and is satisfied with the sources of supply for all materials.

Plans, surveys, measurements, dimensions, calculations, estimates and statements as to the condition under which the work is to be performed are believed to be correct, but the contractors must examine for themselves, as no allowance will be made for any errors or inaccuracies that maybe found therein.

Familiarity with Laws

The bidder is assumed to have made himself or herself familiar with all federal and state laws and all local by-laws, ordinances and regulations which in any manner affect those engaged or employed on the work or affect the materials or equipment used in the work or affect the conduct of the work, and the bidder, if awarded the contract, shall be obligated to perform the work in conformity with said laws, by-laws, ordinances and regulations notwithstanding its ignorance thereof. If the bidder shall discover any provision in the plans or specifications which is in conflict with any such law, by-law, ordinance or regulation the bidder shall forthwith report it to the engineer in writing.

5. Preparation of Proposal

a) The bidder shall submit its proposal upon the forms furnished by the Owner. The bidder shall specify a lump sum price in figures, for each pay item for which a quantity is given and shall also show the products of the respective prices and quantities written in figures in the column provided for that purpose and the total amount of the proposal obtained by adding the amount of the several items. All words and figures shall be in ink or typed. If a unit price or a lump sum bid already entered by the bidder on the proposal form is to be altered it should be crossed out with ink, the new unit price or lump sum bid entered above or below it and initialed by the bidder, also with ink.

b) The bidder's proposal must be signed with ink by the individual, by one or more general partners of a partnership, by one or more members or officers of each firm representing a joint venture; by one or more officers of a corporation, by one or more members (if member-managed) or managers (if manager-managed) of a limited liability company, or by an agent of the contractor legally qualified and acceptable to the owner. If the proposal is made by an individual, his or her name and post office address must be shown, by a partnership the name and post office address of each general and limited partner must be shown; as a joint venture, the name and post office address of each venturer must be shown; by a corporation, the name of the corporation and its business address must be shown, together with the name of the state in which it is incorporated, and the names, titles and business addresses of the president, secretary and treasurer.

6. Nonconforming Proposals

Proposals will be considered nonconforming and may be rejected in the Owner's sole discretion for any of the following reasons:

- If the proposal is on a form other than that furnished by the Owner, or if the form is altered or any portion thereof is detached;
- If there are unauthorized additions, conditional or altered bids, or irregularities of any kind which may tend to make the proposal or any portion thereof incomplete, indefinite or ambiguous as to its meaning;
- If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award; or
- If the proposal does not contain a unit price for each pay item listed except in the case of authorized alter pay items.

7. Proposal Guaranty

No proposal will be considered unless accompanied by a bid bond, surety, or similar guaranty of the types and in an amount not less than the amount indicated in the Invitation to Bid. All sureties shall be made payable to the "City of Portsmouth". If a bid bond is used by the bidder it shall be:

- In a form satisfactory to the Owner;
- With a surety company licensed, authorized to do business in, and subject to the jurisdiction of the courts of the State of New Hampshire; and
- Conditioned upon the faithful performance by the principal of the agreements contained in the sub-bid or the general bid.

In the event any irregularities are contained in the proposal guaranty, the bidder will have four business days (not counting the day of opening) to correct any irregularities. The corrected guaranty must be received by 4:00 p.m. If irregularities are not corrected to the satisfaction of the Owner, the Owner, in its sole discretion, may rejected the bid.

8. Delivery of Proposals

When sent by mail, the sealed proposal shall be addressed to the Owner at the address and in the care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the invitation for bids. Proposals received after the time for opening of the bids will be returned to the bidder, unopened.

9. Withdrawal of Proposals

A bidder will be permitted to withdraw his or her proposal unopened after it has been submitted if the Owner receives a request for withdrawal in writing prior to the time specified for opening the proposals.

10. Public Opening of Proposals

Proposals will be opened and read publicly at the time and place indicated in the invitation for bids. Bidders, their authorized agents, and other interested parties are invited to be present.

11. Disqualification of Bidders

Any or all of the following reasons may be deemed by Owner in its sole discretion as being sufficient for the disqualification of a bidder and the rejection of his proposal:

- More than one proposal for the same work from an individual, firm, or corporation under the same or different name;
- Evidence of collusion among bidders;
- Failure to submit all required information requested in the bid specifications;
- If the Contractor is not listed with the New Hampshire Department of Transportation as a pre-qualified contractor under the classification of Road Construction;
- Lack of competency or of adequate machinery, plant or other equipment, as revealed by the statement of bidders qualification or otherwise;
- Uncompleted work which, in the judgment of the owner, might hinder or prevent the prompt completion of additional work if awarded;
- Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts;
- Default or unsatisfactory performance on previous contracts; or
- Such disqualification would be in the best interests of the Owner.

12. Material Guaranty and Samples

Before any contract is awarded, the bidder may be required to furnish a complete statement of the origin, composition and manufacture of any or all materials to be used in the construction of the work, and the Owner may, in its sole discretion, reject the bid based on the contents of the statement or as a result of the failure of the bidder to submit the statement.

AWARD AND EXECUTION OF CONTRACT

1. Consideration of Proposals

After the proposals are opened and read, they will be compared on the basis of the total price for all sections of work and any such additional considerations as may be identified in the bid documents. The results of such comparisons will be immediately available to the public. In case of a discrepancy between the prices written in words and those written figures, the prices written in words shall govern. In case of a discrepancy between the total shown in the proposal and that obtained by adding the products of the quantities of items and unit bid prices, the latter shall govern.

2. Award of Contract

Within 30 calendar days after the opening of proposals, if a contract is to be awarded, the award will be made to the lowest responsible and qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified, in writing, mailed to the address on his or her proposal, that his or her bid has been accepted and that the bidder has been awarded the contract.

3. Reservation of Rights

The Owner reserves the right to reject any or all proposals, to waive technicalities or to advertise for new proposals, if, in the sole discretion of the Owner, the best interest of the City of Portsmouth will be promoted thereby. The Owner further reserves the right to conduct such investigations of the contractor's history, financial resources, and other qualifications as it deems necessary to determine whether bidder is qualified to do the work. Bidder may be asked to execute releases. Failure to execute a release upon request may result in disqualification.

The Owner reserves the right to cancel the award of any contract at any time before the execution of such contract by all parties without any liability of the Owner.

The City reserves the right, after bid opening and prior to award of the contract, to modify the amount of the work in the event that bids exceed budgeted amounts.

4. Return of Proposal Guaranty

All proposal guaranties, except those of the three lowest bidders, will be returned upon request following the opening and checking of the proposals. The proposal guaranties of the three lowest bidders will be returned within ten days following the award of the contract if requested.

5. Contract Bonds

At the time of the execution of the contract, the successful bidder shall furnish:

- Labor and materials payment bond in the sum equal to 100 percent of the contract amount.

At the time of project completion, the Owner may, in its sole discretion, permit the Contractor to substitute a maintenance bond in lieu of holding retainage for the entire guaranty period. If a bond is furnished it shall meet the following criteria:

- The bond shall be in an amount equal to 20 percent of the contract amount. Such bond shall guarantee the repair of all damage due to faulty materials or workmanship provided or done by the contractor. The guarantee shall remain in effect for a period of one year after the date of final acceptance of the job by the Owner.

Each bond shall be: (1) in a form satisfactory to the Owner; (2) with a surety company licensed and authorized to do business and with a resident agent designated for services of process in the State of New Hampshire; and (3) conditioned upon the faithful performance by the principal of the agreements contained in the original bid. All premiums for the contract bonds are to be paid by the contractor.

6. Execution and Approval of Contract

The successful bidder is required to present all contract bonds, to provide proof of insurance, and to execute the contract within 10 days following receipt of the City's notification of acceptance of the bid. No contract shall be considered as in effect until it has been fully executed by all parties.

7. Failure to Execute Contract

Failure to execute the contract and to provide acceptable bonds and proof of insurance within 10 days after notification of acceptance of bid shall be just cause for the cancellation of the award and the forfeiture of the proposal guarantee which shall become the property of the Owner, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, or the City may exercise its reserved rights including the rejection of all bids or re-advertisement.

PROPOSAL FORM

Leslie Drive Drainage Outfall

CITY OF PORTSMOUTH, N.H.

To the City of Portsmouth, New Hampshire, herein called the Owner.

The undersigned, as Bidder, herein referred to as singular and masculine declares as follows:

1. All interested in the Bid as Principals are named herein.
2. This bid is not made jointly, or in conjunction, cooperation or collusion with any other person, firm, corporation, or other legal entity;
3. No officer, agent or employee of the Owner is directly or indirectly interested in this Bid.
4. The bidder has carefully examined the sites of the proposed work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this Bid, and the bidder has carefully read and examined the Drawings, Agreement, Specifications and other Contract Documents therein referred to and knows and understands the terms and provisions thereof;
5. The bidder understands that the quantities of work calculated in the Bid or indicated on the Drawings or in the Specifications or other Contract Documents are approximate and are subject to increase or decrease or deletion as deemed necessary by the Director of Public Works. Any such changes will not result in or be justification for any penalty or increase in contract prices; and agrees that, if the Bid is accepted the bidder will contract with the Owner, as provided in the Contract Documents, this Bid Form being part of said Contract Documents, and that the bidder will supply or perform all labor, services, plant, machinery, apparatus, appliances, tools, supplies and all other activities required by the Contract Documents in the manner and within the time therein set forth, and that the bidder will take in full payment therefore the following item prices, to wit:

ITEM NO.	ITEM DESCRIPTION AND UNIT PRICE BID WRITTEN IN WORDS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	Project Scope in its Entirety for the lump sum price of: _____ Dollars and _____ Cents	LS	1		
2	Reconnect existing presumed abandoned laterals if requested by the City	Ea	2		

To Bidder:

The City reserves the right, after bid opening and prior to award of the contract, to modify the amount of the work in the event that bids exceed budgeted amounts and/or easements and agreements from one or more impacted property owners are not received.

It is the intention of this contract that the items listed above describe completely and thoroughly the entirety of the work as shown on the plans and as described in the specifications. All other items required to accomplish the above items are considered to be subsidiary work, unless shown as a pay item.
TOTAL FOR PROJECT AND BASIS OF AWARD

In Figures $_____

In Words $_____

The undersigned agrees that for extra work, if any, performed in accordance with the terms and provisions of the Contract Documents, the bidder will accept compensation as stipulated therein.

Date: _____

_____ By: _____
Company Signature

_____ Title: _____
Business Address

_____ Telephone: _____
City, State, Zip Code

The Bidder has received and acknowledged Addenda No. through .

All Bids are to be submitted on this form and in a sealed envelope, plainly marked on the outside with the Bidder's name and address and the Project name as it appears at the top of the Proposal Form.

In order to follow the City's sustainability practices, future bid invitations/specifications may be sent electronically. Please provide an email address as to where I could email future bid invitations/specifications of this type. Thank you in advance for your cooperation.

Email Address: _____

BID SECURITY BOND

(This format provided for convenience, actual Bid Bond is acceptable in lieu of, if compatible.)

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned

_____, as Principal, and

_____, as Surety, are hereby

held and firmly bound unto _____

IN THE SUM OF _____

as liquidated damages for payment of which, well and truly to be made we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of this obligation is such that whereas the Principal has submitted to the _____
A CERTAIN Bid attached hereto and hereby made a part hereof to enter into a contract in writing, hereinafter referred to as the "AGREEMENT" and or "CONTRACT", for

_____
_____
_____

NOW THEREFORE,

(a) If said Bid shall be rejected or withdrawn as provided in the INFORMATION FOR BIDDERS attached hereto or, in the alternative,

(b) If said Bid shall be accepted and the Principal shall duly execute and deliver the form of AGREEMENT attached hereto and shall furnish the specified bonds for the faithful performance of the AGREEMENT and/or CONTRACT and for the payment for labor and materials furnished for the performance of the AGREEMENT and or CONTRACT,

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

BID SECURITY BOND (continued)

The Surety, for value received, hereby agrees that the obligation of said surety and its bond shall be in no way impaired or affected by any extensions of the time within such BID may be accepted, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the parties hereto have duly executed

this bond on the _____ day of _____, 20__.

_____L.S.
(Name of Principal)

(SEAL)

BY _____

_____
(Name of Surety)

BY _____

STATEMENT OF BIDDER'S QUALIFICATIONS

Supply with Bid

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. Add separate sheets if necessary

1. Name of Bidder
2. Permanent Main Office Address
3. Form of Entity
4. When Organized
5. Where Organized
6. How many years have you been engaged in the contracting business under your present name; also state names and dates of previous firm names, if any.
7. Contracts on hand; (schedule these, showing gross amount of each contract and the approximate anticipated dates of completion).
8. General character of work performed by your company.
9. Have you ever failed to complete any work awarded to you? _____(no)____(yes). If so, where and why?
10. Have you ever defaulted on a contract?
_____(no)_____(yes). If so, where and why?
11. Have you ever failed to complete a project in the time allotment according to the Contract Documents?
_____(no)_____(yes). If so, where and why?
12. List the most important contracts recently executed by your company, stating approximate cost for each, and the month and year completed.
13. List your major equipment available for this contract.
14. List your key personnel such as project superintendent and foremen available for this contract.
15. List subcontractors for the following categories whom you will use for the following (unless this work is to be done by your own organization, in which case please state).
    a. Pipe Bursting: _____
    b. Paving: _____
    c. Site Work: _____
    d. Other: _____

STATEMENT OF BIDDERS QUALIFICATIONS (continued)

The City reserves the right to disallow <u>any</u> subcontractor including work proposed to be completed by the General Contractor.

16. With what banks do you do business?

    a. Do you grant the Owner permission to contact this/these institutions? ____(yes) ___(no).

    b. Latest Financial Statements, certified audited if available, prepared by an independent certified public accountant, may be requested by Owner. If requested, such statements must be provided within five (5) business days or the bid proposal will be rejected. Certified Audited Statements are preferred. Internal statements may be attached only if independent statements were not prepared.

Dated at _____ this _____ day of _____, 20___.

_____
Name of Bidder

BY_____

TITLE_____

State of_____

County of_____

_____being duly sworn, deposes and

says that the bidder is _____of_____
(Name of Organization)

and answers to the foregoing questions and all statements contained therein are true and correct.

Sworn to before me this ____day of _____, 20__.

_____
Notary of Public
My Commission expires_____

CONTRACT AGREEMENT

Leslie Drive Drainage Outfall 25-15

THIS AGREEMENT made as of the ____ day of _____ in the year 2015, by and between the City of Portsmouth, New Hampshire (hereinafter call the Owner) and _____ (hereinafter called the Contractor),

WITNESSETH; that the Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE I - Work - The Contractor shall perform all work as specified or indicated in the Contract Documents for the completion of the Project. The Contractor shall provide, at his expense, all labor, materials, equipment and incidentals as may be necessary for the expeditious and proper execution of the Project.

ARTICLE II - ENGINEER - The Director of Public Works or his authorized representative will act as engineer in connection with completion of the Project in accordance with the Contract Documents.

ARTICLE III - CONTRACT TIME - The work will commence in accordance with the Notice to Proceed. **All work shall be completed no later than June 5, 2015.**

ARTICLE IV - CONTRACT PRICE - Owner shall pay Contractor for performance of the work in accordance with the Contract Documents as shown under item prices in the Bid Proposal.

ARTICLE V - PAYMENT - Partial payments will be made in accordance with the Contract Documents. Upon final acceptance of the work and settlement of all claims, Owner shall pay the Contractor the unpaid balance of the Contract Price, subject to additions and deductions provided for in the Contract Documents.

ARTICLE VI - RETAINAGE – To insure the proper performance of this Contract, the Owner shall retain **ten percent** of the Contract Price as specified in the Contract Documents.

ARTICLE VII - LIQUIDATED DAMAGES - In event the Contractor fails to successfully execute the work within the specified contract time the Owner shall assess the Contractor liquidated damages in the amount of **one hundred dollars ($100)** for each calendar day beyond the specified completion date for each section of work. Liquidated damages shall be deducted from the Contract Price prior to final payment of the Contractor.

CONTRACT AGREEMENT (continued)

ARTICLE VIII – CONTRACT DOCUMENTS – The Contract Documents which comprise the contract between Owner and Contractor are attached hereto and made a part hereof and consist of the following:

8.1 This Agreement
8.2 Contractor's Bid and Bonds
8.3 Notice of Award, Notice to Proceed
8.4 Instruction to Bidders
General Requirements, Control of Work, Temporary Facilities, Measurement and Payment, Standard Specifications
8.5 Insurance Requirements
8.6 Standard and Technical Specifications
8.7 Drawings
8.8 Special Conditions
8.9 Any modifications, including change orders, duly delivered after execution of this Agreement.

ARTICLE IX – TERMINATION FOR DEFAULT – Should contractor at any time refuse, neglect, or otherwise fail to supply a sufficient number or amount of properly skilled workers, materials, or equipment, or fail in any respect to prosecute the work with promptness and diligence, or fail to perform any of its obligations set forth in the Contract, Owner may, at its election, terminate the employment of Contractor, giving notice to Contractor in writing of such election, and enter on the premises and take possession, for the purpose of completing the work included under this Agreement, of all the materials, tools and appliances belonging to Contractor, and to employ any other persons to finish the work and to provide the materials therefore at the expense of the Contractor.

ARTICLE X – INDEMNIFICATION OF OWNER – Contractor will indemnify Owner against all suits, claims, judgments, awards, loss, cost or expense (including without limitation attorneys' fees) arising in any way out of the Contractor's negligent performance of its obligations under this Contract. Contractor will defend all such actions with counsel satisfactory to Owner at its own expense, including attorney's fees, and will satisfy any judgment rendered against Owner in such action.

ARTICLE XI – PERMITS –The Contractor will secure at its own expense, all other permits and consents required by law as necessary to perform the work and will give all notices and pay all fees and otherwise comply with all applicable City, State, and Federal laws, ordinances, rules and regulations.

ARTICLE XII – INSURANCE – The Contractor shall secure and maintain, until acceptance of the work, insurance with limits not less than those specified in the Contract.

ARTICLE XIII – MISCELLANEOUS –

Neither Owner nor Contractor shall, without the prior written consent of the other, assign, sublet or delegate, in whole or in part, any of its rights or obligations under any of the Contract Documents; and, specifically not assign any monies due, or to become due, without the prior written consent of Owner.

Owner and Contractor each binds himself, his partners, successors, assigns and legal representatives, to the other party hereto in respect to all covenants, agreements and obligations contained in the Contract Documents.

The Contract Documents constitute the entire Agreement between Owner and Contractor and may only be altered amended or repealed by a duly executed written instrument.

The laws of the State of New Hampshire shall govern this Contract without reference to the conflict of law principles thereof.

Venue for any dispute shall be the Rockingham County Superior Court unless the parties otherwise agree.

IN WITNESS WHEREOF, the parties hereunto executed this

AGREEMENT the day and year first above written.

BIDDER:

BY:_____

TITLE:_____

CITY OF PORTSMOUTH, N.H.

BY:_____
John P. Bohenko

TITLE: City Manager

NOTICE OF INTENT TO AWARD

Date:

TO:

IN AS MUCH as you were the low responsible bidder for work entitled:

Leslie Drive Drainage Outfall 25-15

You are hereby notified that the City intends to award the aforesaid project to you.

Immediately take the necessary steps to execute the Contract and to provide required bonds and proof of insurance within ten (10) calendar days from the date of this Notice.

The City reserves the right to revoke this Notice if you fail to take the necessary steps to execute this Contract.

City of Portsmouth
Portsmouth, New Hampshire

Judie Belanger,
Finance Director

NOTICE TO PROCEED

DATE:

Leslie Drive Drainage Outfall 25-15

TO:

YOU ARE HEREBY NOTIFIED TO COMMENCE WORK IN ACCORDANCE

WITH THE AGREEMENT DATED AND ALL

WORK SHALL BE COMPLETED BY **JUNE 5, 2015**.

CITY OF PORTSMOUTH, N.H.

_____

BY: Peter H. Rice, PE

TITLE: Public Works Director

ACCEPTANCE OF NOTICE

RECEIPT OF THE ABOVE NOTICE TO
PROCEED IS HEREBY ACKNOWLEDGED BY

_____

This the _____day of_____ 20__

By:_____

Title:_____

CHANGE ORDER

Change Order Number Date of Issuance

Owner: CITY OF PORTSMOUTH, N.H

Contractor:

You are directed to make the following changes in the Contract Documents:

Description:

Purpose of Change Order:

Attachments:

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIME
Original Contract Price: $	Original Completion Date: June 5, 2015
Contract Price prior to this Change Order: $	Contract date prior to this Change Order:
Net Increase or Decrease of this Change Order: $	Net Increase or Decrease of this Change Order:
Contract Price with all approved Change Orders: $	Contract Due date with all approved Change Orders:

RECOMMENDED:	APPROVED:	APPROVED:	
by_____	by_____	by_____	by_____
PW Director	City Finance	City Manager	Contractor

LABOR AND MATERIAL PAYMENT BOND

(This format provided for convenience, actual Labor and Material Bond is acceptable in lieu, if compatible)

Bond Number _____

KNOW ALL MEN BY THESE PRESENTS:

that _____

as Principal, hereinafter called Contractor, and _____ (Surety Company) a corporation organized and existing under the laws of the State of

_____ and authorized to do business in the State of New Hampshire hereinafter called Surety, are held and firmly bound unto the City of Portsmouth, N.H. Obligee, hereinafter called Owner, for the use and benefit of claimants as herein below defined, in the

amount of _____ Dollars ($_____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____ entered into a

contract with Owner for _____ in accordance with drawings and specifications prepared by the Public Works Department, 680 Peverly Hill Road, Portsmouth, N.H. 03801, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract and for the hire of all equipment, tools, and all other things contracted for or used in connection therewith, then this obligation shall be void, otherwise it shall remain in full force and effect, subject however, to the following conditions:

(1) A claimant is defined as one having a direct contract with the Principal or, with a subcontractor of the Principal for labor, material, equipment, or other things used or reasonably required for use in the performance of the Contract. "Labor and material" shall include but not be limited to that part of water, gas, power, light, heat, oil and gasoline, telephone service or rental of equipment applicable to the Contract.

(2) The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such a claimant, may sue on this bond for the use of such claimant, prosecute the suit by final judgment for such sum or sums as may be

LABOR AND MATERIAL PAYMENT BOND (continued)

justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any such suit or any costs or expenses of any such suit, and principal and surety shall jointly and severally indemnify, defend and hold the Owner harmless for any such suit, costs or expenses.

(3) No suit or action shall be commenced hereunder by any claimant:

(a) Unless Claimant, other than one having a direct contract with the Principal, shall have given notice to all the following:

The Principal, the Owner and the Surety above named, within six (6) calendar months after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner, and Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State of New Hampshire save that such service need not be made by a public officer.

(b) After the expiration of one (1) year following the date on which Principal ceased all work on said contract, it being understood , however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

(c) Other than in a State court of competent jurisdiction in and for the county or other political subdivision of the State in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere. (4) The amount of this bond may be reduced by and to the extent of any payment of payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed on record against said improvement, whether or not claim for the amount of such lien by presented under and against this bond.

Signed and sealed this _____ day of _____, 20____. In the presence of:

_____ BY: _____
(Witness) (Principal) (Seal)

_____
(Surety Company)

_____ BY: _____
(Witness) (Title) (Seal)

LABOR AND MATERIAL PAYMENT BOND (continued)

Note:
If the Principal (Contractor) is a partnership, the Bond should be signed by each of the partners.

If the Principal (Contractor) is a corporation, the Bond should be signed in its correct corporate name by its duly authorized Officer or Officers.

If this bond is signed on behalf of the Surety by an attorney-in-fact, there should be attached to it a duly certified copy of his Power of Attorney showing his authority to sign such Bonds.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Agreement.

MAINTENANCE BOND

At the Owner's election, a maintenance bond may be substituted for retainage at the completion of the project. If the Owner permits a maintenance bond, it shall be in the amount of Twenty Percent (20%) of the contract price with a corporate surety approved by the Owner. Such bond shall be provided at the time of Contract completion and shall guarantee the repair of all damage due to faulty materials or workmanship provided or done by the Contractor. This guarantee shall remain in effect for a period of one year after the date of final acceptance of the job by the Owner.

CONTRACTOR'S AFFIDAVIT

STATE OF _____:

COUNTY OF _____:

Before me, the undersigned, a _____
(Notary Public, Justice of the Peace)

in and for said County and State personally appeared, _____
(Individual, Partner, or duly authorized representative of Corporate)

who, being duly sworn, according to law deposes and says that the cost of labor, material, and equipment and outstanding claims and indebtedness of whatever nature arising out of the performance of the Contract between

CITY OF PORTSMOUTH, NEW HAMPSHIRE

and _____
(Contractor)

of _____

Dated: _____

has been paid in full for Construction of: **Leslie Drive Drainage Outfall**

_____
(Individual, Partner, or
duly authorized
representative of
Corporate Contractor)

Sworn to and subscribed
before me this _____day
of _____ 20____

_____

CONTRACTOR'S RELEASE

KNOW ALL MEN BY THESE PRESENTS that _____

(Contractor) of _____, County of _____and State of

_____ does hereby acknowledge

that_____(Contractor)

has on this day had, and received from the CITY OF PORTSMOUTH NEW HAMPSHIRE, final and completed payment for the Construction of:

Leslie Drive Drainage Outfall

NOW THEREFORE, the said _____
(Contractor)

for myself, my heirs, executors, and administrators) (for itself, its successors and assigns) do/does by these presents remise, release, quit-claim and forever discharge the City of Portsmouth, New Hampshire, its successors and assigns, of and from all claims and demands arising from or in connection with the said Contract dated _____, and of and from all, and all manners of action and actions, cause and causes of action and actions, suits, debts, dues, duties, sum and sums of money, accounts, reckonings, bonds, bills, specifications, covenants, contracts, agreements, promises, variances, damages, judgments, extents, executions, claims and demand, whatsoever in law of equity, or otherwise, against the City of Portsmouth, New Hampshire, 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 record time to the date of these presents.

IN WITNESS WHEREOF,

Contractor:

_____ By:_____

print name of witness:_____ Its Duly Authorized _____

Dated: _____

GENERAL REQUIREMENTS

SCOPE OF WORK

1. INTENT OF CONTRACT

The intent of the Contract is to provide for the construction and completion in every detail of the work described. The Contractor shall furnish all labor, materials, equipment, tools, transportation and supplies required to complete the work in accordance with the terms of the Contract. The Contractor shall be required to conform to the intent of the plans and specifications. No extra claims shall be allowed for portions of the work not specifically addressed in the plans and specifications but required to produce a whole and complete project, such work will be considered subsidiary to the bid items.

2. INCIDENTAL WORK

Incidental work items for which separate payment is not measured includes, but is not limited to, the following items:

a. Clearing, grubbing and stripping (unless otherwise paid for)
b. Clean up
c. Plugging existing sewers and manholes
d. Signs
e. Mobilization/Demobilization (unless otherwise paid for)
f. Restoration of property
g. Cooperation with other contractors, abutters and utilities.
h. Utility crossings, (unless otherwise paid for)
i. Minor items - such as replacement of fences, guardrails, rock wall, etc.
j. Steel and/or wood sheeting as required.
k. Accessories and fasteners or components required to make items paid for under unit prices or lump sum items complete and functional.

3. ALTERATION OF PLANS OR OF CHARACTER OF WORK

The Owner reserves the right, without notice to Surety, to make such alterations of the plans or of the character of the work as may be necessary or desirable to complete fully and acceptably the proposed construction; provided that such alterations do not increase or decrease the contract cost. Within these cost limits, the alterations authorized in writing by the Owner shall not impair or affect any provisions of the Contract or bond and such increases or decreases of the quantities as a result from these alterations or deletions of certain items, shall not be the basis of claim for loss or for anticipated profits by the contractor. The contractor shall perform the work as altered at the contract unit price or prices.

4. EXTRA WORK ITEMS

Extra work shall be performed by the Contractor in accordance with the specifications and as directed, and will be paid for at a price as provided in the Contract documents or if such pay items are not applicable than at a price negotiated between the contractor and the Owner or at the unit bid price. If the Owner determines that extra work is to be performed, a change order will be issued.

5. CHANGE ORDERS

The Owner reserves the right to issue a formal change order for any increase, decrease, deletion, or addition of work or any increase in contract time or price. The contractor shall be required to sign the change order and it shall be considered as part of the Contract documents.

6. FINAL CLEANING UP

Before acceptance of the work, the contractor shall remove from the site all machinery, equipment, surplus materials, rubbish, temporary buildings, barricades and signs. All parts of the work shall be left in a neat and presentable condition. On all areas used or occupied by the contractor, regardless of the contract limits, the bidder shall clean-up all sites and storage grounds.

The items prescribed herein will not be paid for separately, but shall be paid for as part of the total contract price.

7. ERRORS AND INCONSISTENCY IN CONTRACT DOCUMENTS

Any provisions in any of the Contract Documents that may be in conflict with the paragraphs in these General Requirements shall be subject to the following order of precedence for interpretation.

1. Standard Specifications for Road & Bridge Construction will govern General Requirements.

2. Technical Specifications will govern Standard Specifications.

3. Plans will govern Technical Specifications, and General Requirements.

CONTROL OF WORK

1. AUTHORITY OF ENGINEER

(a) All work shall be done under supervision of the Engineer and to his satisfaction. The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work; all questions that may arise as to the interpretation of the plans and specifications; and all questions as to the acceptable fulfillment of the Contract by the Contractor.

(b) The Engineer will have the authority to suspend the work wholly or in part for such periods as he may deem necessary due to the failure of the Contractor to correct conditions unsafe for workers or the general public; for failure to carry out provisions of the Contract; for failure to carry out orders; for conditions considered unsuitable for the prosecution of the work, including unfit weather; or for any other condition or reason deemed to be in the public interest. The Contractor shall not be entitled any additional payments arising out of any such suspensions.

(c) The Owner reserves the right to demand a certificate of compliance for a material or product used on the project. When the certificate of compliance is determined to be unacceptable to the Engineer the Contractor may be required to provide engineering and testing services to guarantee that the material or product is suitable for use in the project, at its expense (see Sample of Certificate of Compliance).

2. PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPES

(a) The Contractor shall use every precaution to prevent injury or damage to buildings, wires, poles, or other property of public utilities; trees, shrubbery, crops, and fences along and adjacent to the right-of-way, all underground structures such as pipes and conduits, within or outside of the right-of-way; and the Contractor shall protect and carefully preserve all property marks until an authorized agent has witnessed or otherwise referenced their location.

(b) The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

(c) When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or as a result of the failure to perform work by the Contractor, the Contractor shall restore, at its own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing rebuilding, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

(d) The Contractor shall paint with tree paint all scars made on fruit or ornamental trees by equipment, construction operations, or the removal of limbs larger than one inch in diameter. Damaged trees must be replaced if so determined by the City Arborist, in his or her sole discretion.

(e) If the Contractor fails to repair, rebuild or otherwise restore such property as may be deemed necessary, the Owner, after 48 hours notice, may proceed to do so, and the cost thereof may be deducted from any money due or which may become due the Contractor under the contract.

(f) It is the intent of the Parties that the Contractor preserve, to as great an extent as possible, the natural features of the site.

CONTROL OF WORK (continued)

3. MAINTENANCE DURING CONSTRUCTION

The Contractor shall maintain the work during construction and until the project is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and workers to ensure that the structure is kept in satisfactory conditions at all times.

4. SAFETY PRECAUTIONS

Upon commencement of work, the Contractor shall be responsible for initiating, maintaining and supervising all safety precautions necessary to ensure the safety of employees on the site, other persons who may be affected thereby, including the public, and other property at the site or adjacent thereto.

5. PERMITS

It will be the responsibility of the Contractor to obtain all permits required for the operation of equipment in, or on, all city streets and public ways. The contract will comply with all aspects of the environmental permits that have been secured.

6. BARRICADES, WARNING SIGNS AND TRAFFIC OFFICERS

(a) The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs and other traffic control devices, and shall take all necessary precautions for the protection of the work and safety of the public. Roadway closed to traffic shall be protected by effective barricades. Obstructions shall be illuminated during hours of darkness. Suitable warning signs shall be provided to control and direct traffic in a proper manner, as approved by the engineer.

(b) The Contractor will be held responsible for all damage to the work from traffic, pedestrians, animals or any other cause due to lack of adequate controlling devices.

(c) The Contractor shall provide such police officers or flaggers as the Engineer deems necessary for the direction and control of traffic within the site of project.

The work prescribed herein will not be paid for separately but will be paid for as part of the Contract Price unless specifically appearing as a bid item.

TEMPORARY FACILITIES

1. STORAGE FACILITIES

(a) The Contractor shall not store materials or equipment in a public right-of-way beyond the needs of one working day. Equipment and materials shall be stored in an approved location.

(b) The Contractor shall protect all stored materials from damage by weather or accident and shall insure adequate drainage at and about the storage location.

(c) Prior to final acceptance of the work all temporary storage facilities and surplus stored materials shall be removed from the site.

2. SANITARY FACILITIES

(a) The Contractor shall provide for toilet facilities for the use of the workers employed on the work.

(b) Temporary toilet facilities may be installed provided that the installation and maintenance conform with all State and local laws, codes, regulations and ordinances governing such work. They shall be properly lit and ventilated, and shall be kept clean at all times.

(c) Prior to final acceptance of the work all temporary toilet facilities shall be removed from the site.

3. TEMPORARY WATER

The Contractor shall make all arrangements with the local water department for obtaining water connections to provide the water necessary for construction operations and shall pay all costs.

4. TEMPORARY ELECTRICITY

The Contractor shall make all arrangements with the Public Service Company for obtaining electrical connections to provide the electrical power necessary for construction operations and security lighting and shall pay all electrical connection and power costs.

The Contractor shall be responsible with obtaining an electrical permit from the City Electrical Inspector.

INSURANCE REQUIREMENTS

Insurance shall be in such form as will protect the Contractor from all claims and liabilities for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this contract whether such operation by himself or by anyone directly or indirectly employed by him.

AMOUNT OF INSURANCE

A) Comprehensive General Liability:
Bodily injury or Property Damage - $2,000,000
Per occurrence and general aggregate

B) Automobile and Truck Liability:
Bodily Injury or Property Damage - $2,000,000
Per occurrence and general aggregate

Coverage amounts may be met with excess policies

Additionally, the Contractor shall purchase and maintain the following types of insurance:

A. Full Workers Comprehensive Insurance coverage for all people employed by the Contractor to perform work on this project. This insurance shall at a minimum meet the requirements of the most current laws of the State of New Hampshire.

B. Contractual Liability Insurance coverage in the amounts specified above under Comprehensive General Liability.

C. Product and Completed Operations coverage to be included in the amounts specified above under Comprehensive General Liability.

ADDITIONAL INSURED

All liability policies (including any excess policies used to meet coverage requirements) shall include the City of Portsmouth, New Hampshire and the property owner of the easement lot, as named Additional Insureds.

1. The contractor's insurance shall be primary in the event of a loss.
2. City of Portsmouth shall be listed as a Certificate Holder. The City shall be identified as follows:

City of Portsmouth
Attn: Legal Department
1 Junkins Avenue
Portsmouth, NH 03801

MEASUREMENT AND PAYMENT

1. MEASUREMENT OF QUANTITIES

(a) All work completed under the contract will be measured according to the United States standard measure.

(b) The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice. Unless otherwise stated all quantities measured for payment shall be computed or adjusted for "in place" conditions.

(c) Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the dimensions shown on the plans or ordered in writing.

(d) Structures will be measured according to lines shown on the plans or as ordered unless otherwise provided for elsewhere in the specifications.

(e) In computing volumes of excavation, embankment, and borrow, the average end area method will be used. Where it is impracticable to measure by the cross-section method, acceptable methods involving three-dimensional measurement may be used. When measurement of borrow in vehicles is permitted, the quantity will be determined as 80 percent of the loose volume.

(f) In computing volumes of concrete, stone and masonry, the prismoidal method will be used. The term "ton" will mean the short ton consisting of 2,000 pounds avoirdupois.

(g) Except as specified below, all materials that are measured or proportioned by weight shall be weighed on scales which the Contractor has had sealed by the State or by a repairman registered by the Commissioner of Agriculture. All weighing shall be performed in a manner prescribed under the Rules and Regulations of the Bureau of Weights and Measures of the New Hampshire Department of Agriculture.

(h) Weighing of materials on scales located outside New Hampshire will be permitted for materials produced or stored outside the state, when requested by the Contractor and approved. Out-of-state weighing in order to be approved, must be performed by a licensed public weigh master or a person of equal authority in the state concerned on scales accepted in the concerned state.

(i) Each truck used to haul material being paid for by weight shall bear a plainly legible identification mark, and if required, shall be weighed empty daily at such times as directed.

(j) When material is weighed, the individual weight slips, which shall be furnished by the Contractor, for trucks, trailers, or distributors, shall show the following information: the date; the project; the material or commodity; the dealer or vendor; the Contractor or Subcontractor; the location of the scales; the vehicle registration number or other approved legible identification mark; the tare and net weights, with gross weights when applicable; and the weigher's signature or his signed initials.

MEASUREMENT AND PAYMENT (continued)

(k) The right is reserved to weight any truck, trailer, or distributor, at locations designated, before and after making deliveries to the project.

(l) Bituminous materials will be measured by the gallon or ton.

(m) When material is specified to be measured by the cubic yard but measurement by weight is approved, such material may be weighed and the weight converted to cubic yards for payment purposes. Necessary conversion factors will be determined by the Owner.

(n) The term "lump sum" when used as an item of payment will mean complete payment for the work described in the item.

(o) When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories, so as to provide the item complete and functional. Except as may be otherwise provided, partial payments for lump sum items will be made approximately in proportion to the amount of the work completed on those items.

(p) Material wasted without authority will not be included in the final estimate.

2. SCOPE OF PAYMENT

(a) The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials and for performing all work under the contract in a complete and acceptable manner and for all risk, loss, damage or expense of whatever character arising out of the nature of the work or the prosecution thereof.

(b) The Contractor shall be liable to the Owner for failure to repair, correct, renew or replace, at his own expense, all damage due or attributable to defects or imperfections in the construction which defects or imperfections may be discovered before or at the time of the final inspection and acceptance of the work.

(c) No monies, payable under the contract or any part thereof, except the first estimate, shall become due or payable if the Owner so elects, until the Contractor shall satisfy the Owner that the Contractor has fully settled or paid all labor performed or furnished for all equipment hired, including trucks, for all materials used, and for fuels, lubricants, power tools, hardware and supplies purchased by the Contractor and used in carrying out said contract and for labor and parts furnished upon the order of said Contractor for the repair of equipment used in carrying out said contract; and the Owner, if he so elects, may pay any and all such bills, in whole or in part, and deduct the amount of amounts so paid from any partial or final estimate, excepting the first estimate.

MEASUREMENT AND PAYMENT (continued)

3. COMPENSATION FOR ALTERED QUANTITIES

(a) Except as provided for under the particular contract item, when the accepted quantities of work vary from the quantities in the bid schedule the Contractor shall accept as payment in full, so far as contract items are concerned, at the original contract unit prices for the accepted quantities of work done. No allowance will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense on the part of the Bidder and subsequent loss of expected reimbursements therefore or from any other cause.

(b) Extra work performed will be paid for at the contract bid prices or at the price negotiated between the Owner and the Contractor if the item was not bid upon. If no agreement can be negotiated, the Contractor will accept as payment for extra work, cost plus 15% (overhead and profit). Costs shall be substantiated by invoices and certified payroll.

4. PARTIAL PAYMENTS

Partial payments will be made on a monthly basis during the contract period. From the total amount ascertained as payable, an amount equivalent to ten percent (10 %) of the whole will be deducted and retained by the Owner until such time as the work receives final acceptance.

5. FINAL ACCEPTANCE

Upon due notice from the Contractor of presumptive completion of the entire project, the Engineer will make an inspection. If all construction provided for and contemplated by the contract is found complete to his satisfaction, this inspection shall constitute the final inspection and the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of the final inspection.

If, however, the inspection discloses any work in whole or in part, as being unsatisfactory, the Engineer will give the Contractor the necessary instructions for correction of such work and the Contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, the Engineer will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

6. ACCEPTANCE AND FINAL PAYMENT

(a) When the project has been accepted and upon submission by the Contractor of all required reports, completed forms and certifications, the Owner will review the final estimate of the quantities of the various classes of work performed. The Contractor may be required to certify that all bills for labor and material used under this contract have been paid.

(b) The Contractor shall file with the Owner any claim that the Contractor may have regarding the final estimate at the same time the Contractor submits the final estimate. Failure to do so shall be a waiver of all such claims and shall be considered as acceptance of the final estimate. From the total amount ascertained as payable, an amount equal to ten percent (10%) of the whole will be deducted and retained by the Owner for the guaranty period. This retainage may be waived, at the discretion of the City, provided the required Maintenance Bond has been posted. After approval of the final estimate by the Owner, the Contractor will be paid the entire sum found to be due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the contract.

(c) All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

7. GENERAL GUARANTY AND WARRANTY OF TITLE

(a) Neither the final certification of payment nor any provision in the contract nor partial or entire use of the improvements embraced in this Contract by the Owner or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express or implied warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within a period of twelve (12) months from the date of final acceptance of the work. The Owner will give notice of defective materials and work with reasonable promptness.

(b) No material, supplies or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale, lease purchase or other agreement by which an interest therein or in any part thereof is retained by the Seller or supplier. The Contractor shall warrant good title to all materials, supplies and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same together with all improvements and appurtenances constructed or placed thereon by him to the Owner free from any claims, liens or charges. Neither the Contractor nor any person, firm or corporation furnishing any material or labor for any work covered by this Contract shall have the right to a lien upon any improvements or appurtenances thereon.

Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this paragraph shall be inserted in all subcontractors and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

MEASUREMENT AND PAYMENT (continued)

8. NO WAIVER OF LEGAL RIGHTS

(a) Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or be stopped from recovering from the Contractor or his Surety, or both, such overpayment as it may sustain by failure on the part of the Contractor to fulfill his obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

(b) The Contractor, without prejudice to the Contract shall be liable to the terms of the Contract, shall be liable to the Owner for latent defects, fraud or such gross mistakes as may amount to fraud, and as regards the Owner's right under any warranty or guaranty.

9. TERMINATION OF CONTRACTOR'S RESPONSIBILITY

Whenever the improvement provided for by the Contract shall have been completely performed on the part of the Contractor and all parts of the work have been released from further obligations except as set forth in his bond and as provided in Section 8 above.

STANDARD SPECIFICATIONS

The Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall apply but without regard to Section 100 “General Conditions” of those Standard Specifications and without regard to any of those NHDOT provisions that allow for an adjustment for changing fuel and asphalt prices.

SPECIAL CONDITIONS

PART 1 GENERAL

1 WORKING HOURS

The CONTRACTOR shall not begin work until after 07:00 hours and no construction activities shall be allowed after 17:00 hours without prior approval of the OWNER. All cleanup and rehabilitation work shall have been completed by this hour. No work shall be allowed on weekends or holidays, as described in the General Conditions and Supplemental General Conditions.

2 CHARACTER OF THE CONTRACTOR'S SUPERINTENDENT AND WORKERS

A. The CONTRACTOR'S superintendent shall conduct himself in a professional and responsible manner. If, in the opinion of the ENGINEER, the superintendent does not conducts him/herself in a manner that is professional and courteous, the ENGINEER may recommend to the OWNER to relieve the superintendent of his/her responsibilities and have him/her removed from the project. Upon written notice from the ENGINEER, the superintendent shall immediately be relieved of his/her responsibilities and removed from the project. If a superintendent change is to be made, work shall be terminated until qualifications of a new superintendent have been submitted and approved by the OWNER and ENGINEER. The superintendent that was removed from the site shall not be allowed to work on any other portion of work in this Contract without written approval of the ENGINEER. The OWNER and ENGINEER do not take any responsibility in conduct of the superintendent or the scheduling and completion of work.

B. Any person employed by the CONTRACTOR or by any subcontractor who, in the opinion of the ENGINEER, does not conduct him/herself in a proper and professional manner or is intemperate or disorderly shall, at written request of the ENGINEER, be removed immediately by the CONTRACTOR or subcontractor employing such person, and shall not be allowed to work on any other portion of work in this Contract without written approval of the ENGINEER.

3 SEQUENCE OF CONSTRUCTION

A. A work sequence plan and detailed project schedule shall be submitted and approved by the ENGINEER and the OWNER a minimum of 14 days prior to occurrence of the work.

4 OCCUPYING PRIVATE PROPERTY

A. The CONTRACTOR shall not enter upon nor occupy with men, equipment or materials, any property outside of the public highways or easements. The CONTRACTOR shall refer to the Appendix - Easements that relate to the agreements, understandings, and conditions that shall be adhered to by the CONTRACTOR during the prosecution of the work on this project.

B. The CONTRACTOR shall be responsible to repair damage to any private property to its original condition that occurs during project work at no additional cost to the OWNER.

5 **PERMITS**

A. This project required a Shoreland Permit by Notification, State of New Hampshire Wetlands Permit and an Army Corps Permit. Permit applications and permits are included in the Appendix. The CONTRACTOR shall be aware of all requirements of the permits and shall include the costs to implement any and all requirement in his/her bid.

B. Any additional permits including but not limited to SWPPP permits and local construction permits must be obtained and all fees paid by the CONTRACTOR. Permit compliance and fees shall be considered subsidiary to the CONTRACTOR'S BID.

6. **PRECONSTRUCTION INSPECTION AND VIDEO**

A. **The CONTRACTOR shall be required to hire a competent professional to perform an inspection of all structures located within 50' of the pipe and provide a written report documenting the existing condition of the structures. In addition the Contractor must provide a video documenting the preconstruction condition of the Project area including the easement area and garage structures.** The video must be submitted to the City 14 days prior to the start on any work on site.

TECHNICAL SPECIFICATIONS

As noted above, the Standard Technical Specifications for this project are the Standard Specifications for Road and Bridge Construction of the State of New Hampshire Department of Transportation and any Addenda shall apply.

Additional Technical Specifications and Special Provisions for this project are attached.

Included Technical Specifications:

Summary of Work
Dig Safe
Subsurface Conditions
Contract Coordination
Standard and Code-Making Organizations
Preconstruction/Project Meetings
Progress Schedules
Submittal Procedures
Schedule of Values
Quality Control
Testing and Lab Services for Soil and Concrete
Temporary Facilities
Temporary Controls
Environmental Protection
Construction Cleaning
Transportation and Handling
Storage and Protection
Product Options and Substitutions
Final Cleaning
Project Record Documents
Dewatering
Excavation Support
Site Preparation
Slope Protection and Erosion Control
Storm Drains
TV Inspection
Pipe Bursting System
Miscellaneous Work and Clean Up

SUMMARY OF WORK

1.01 REQUIREMENTS INCLUDED

A. Description of Work.

B. Contract type.

C. Work sequence.

D. Use of premises.

1.02 DESCRIPTION OF WORK

A. Work of this Contract comprises general construction including, but not limited to, the replacement of an existing 8" VC drain line by pipe bursting method with a new 12" HDPE line, the work also includes furnishing and installing a Rip Rap outlet apron, flared end section, connection to the existing drain main line, installation of a new catch basin, pavement patching, and restoration of all disturbed areas. **All of the work required for this project will be conducted under the conditions and stipulations listed on the different permits that were secured for this project.** All three permit approvals can be found in the appendix to this contract. All work must be constructed using the 'Suggested Construction Sequence' as listed in the appendix under the Shoreland Permit. If the Contractor is unable to do the work as described in the permits, it will be the Contractor's responsibility to secure modified approvals from the different agencies.

1.03 CONTRACT TYPE

A. Construct the Work under a lump sum contract.

1.04 WORK SEQUENCE

A. Protect existing conditions in conformance with all sections this contract, the project plans and any and all State and Federal Permits.

B. Construct Work to accommodate all storm water flow during construction. Coordinate Progress Schedule and performance with OWNER during construction.

C. Do not close off usage of or access to existing roadway during construction. Construction signs and traffic protection will be provided by the Contractor in compliance to the required City Flagging Permit. Provide access to the property owner to the degree possible.

D. The CONTRACTOR is responsible for coordination of all proposed improvements to complete the project within the required contract time.

1.05 USE OF PREMISES

A. CONTRACTOR shall limit use of private property for work and access to allow:

1. OWNER occupancy on OWNER'S property.

2. Normal public use of public property, rights-of-way, etc.

3. Access to private property.

B. Coordinate use of premises under direction of ENGINEER and OWNER.

C. Assume full responsibility for protection and safekeeping of products under this Contract.

D. Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

END OF SECTION

DIG SAFE

PART 1 GENERAL

1.01 DESCRIPTION

A. Comply with all regulations and laws concerning excavation, demolition or explosive work and be advised of "Dig Safe" requirements and the requirements of New Hampshire RSA 374:55.

1.02 DIG SAFE

A. Within the State, "Dig-Safe" is the name of the Utility Underground Plant Damage Prevention Authority. They are located at 331 Montvale Ave., Woburn, MA 01801. Their phone number is 1-888-344-7233.

B. The CONTRACTOR must notify "Dig-Safe" of contemplated excavation, demolition, or explosive work in public or private ways, and in any Utility Company Right of Way or Easement.

C. This notification must be made at least seventy-two (72) hours prior to the work, but not more than thirty (30) days before the contemplated work. Such notice shall set forth the name of the street or the route number of said way and an accurate description of the location and nature of the proposed work.

D. "Dig-Safe" is required to respond to the notice within seventy-two (72) hours from the time said notice is received, by designating at the locus the location of pipes, mains, wires or conduits.

E. The CONTRACTOR shall not commence work until "Dig-Safe" has responded as noted above. The work shall then be performed in such a manner, and with reasonable precautions taken to avoid damage to utilities under the surface in said areas of work.

1.03 OTHER REQUIREMENTS

A. The CONTRACTOR shall also be required to contact the local water and sewer authorities to have those utilities marked out.

B. This notification must be made at least seventy-two (72) hours prior to the work, but not more than thirty (30) days before the contemplated work. Such notice shall set forth the name of the street or the route number of said way and an accurate description of the location and nature of the proposed work.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SUBSURFACE CONDITIONS

PART 1 GENERAL

1.01 DESCRIPTION

A. Borings have been not done for this project.

1.02 ADDITIONAL INFORMATION

A. The CONTRACTOR must visit the site and acquaint himself with all existing conditions. Prior to bidding, bidders may make their own subsurface investigations to satisfy themselves as to site subsurface conditions.

1.03 QUALITY ASSURANCE

A. The ENGINEER shall observe the performance of the work in connection with excavating, filling and grading and shall confer with the CONTRACTOR'S representative as to the nature of the subsurface conditions as they are revealed. However, no deviations from the Contract Documents or foundation technical design requirements shall be made without specific and written directives or change orders being initiated by the ENGINEER.

PART 2 PRODUCTS

None this Section.

PART 3 EXECUTION

None this Section.

END OF SECTION

PRECONSTRUCTION MEETING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. CONTRACTOR participation in preconstruction conferences.

B. CONTRACTOR participation in progress meetings.

1.02 PRECONSTRUCTION CONFERENCE

A. ENGINEER will schedule preconstruction conference after Notice of Award.

B. Attendance: ENGINEER, PROPERTY OWNERS, CONTRACTOR.

C. Agenda:

1. Scheduling and critical work sequencing.
2. Coordination with other contracts and/or work.
3. Use of premises by OWNER and CONTRACTOR.
4. Preconstruction Survey.
5. Project inspection.
6. Project Safety

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittal procedures.

B. Shop drawings.

C. Samples.

1.02 SUBMITTAL PROCEDURES

A. Transmit each submittal with Owner's Representative accepted form if any.

B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.

C. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.

E. Schedule submittals to expedite Project, and deliver to Owner's Representative at business address. Coordinate submission of related items.

F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.

G. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.

H. Allow space on submittals for Contractor and Owner's Representative review stamps.

I. When revised for resubmission, identify changes made since previous submission.

J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

K. Submittals not requested will not be recognized or processed.

1.03 OWNER'S REPRESENTATIVE'S ACTION

A. The Owner's representative will review the Contractor's submittals and return them with one of the following actions recorded thereon by appropriate markings:

1. Final Unrestricted Release: Where marked "Reviewed," the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.

2. Final-But-Restricted Release: When marked "Reviewed as Modified" the Work may proceed provided it complies with the Owner's Representative's notations or corrections on the submittal and complies with the requirements of the Contract Documents. Acceptance of the Work will depend upon these compliances.

3. Returned for Resubmittal: When marked "Revise & Re-Submit" or "Not Reviewed", the Work covered by the submittal (purchasing, fabrication, delivery, or other activity) should not proceed. The submittal should be revised or a new submittal resubmitted without delay, in accordance with the Owner's Representative's notations stating the reasons for returning the submittal.

1.04 SHOP DRAWINGS

A. Shop Drawings: Submit to Owner's Representative for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. When required by individual specification sections, provide shop drawings signed and sealed by professional Owner's Representative responsible for designing components shown on shop drawings.

1. Include signed and sealed calculations to support design.
2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
3. Make revisions and provide additional information when required by authorities having jurisdiction.

D. Submit number of opaque reproductions Contractor requires, plus two (2) copies Owner's Representative will retain.

E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in the Specification.

1.05 SAMPLES

A. Samples: Submit to Owner's Representative for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Samples shall be of adequate size to permit proper evaluation of materials. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of approved samples will not be approved on the Work

C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

D. Samples which can be conveniently mailed shall be sent directly to the Owner's representative, accompanied by a transmittal notice. All transmittals shall be stamped with the Contractor's approval stamp of the material submitted

E. All other samples shall be delivered at the field office of the Project Representative with sample identification tag attached and properly filled in. Transmittal notice of samples so delivered with the Contractor's stamp of approval shall be mailed to the Owner's representative.

F. If a sample is rejected by the Owner's representative, a new sample shall be resubmitted in a manner specified herein above. This procedure shall be repeated until the sample is approved by the Owner's representative.

G. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether or not particular mention is made in the specifications.

H. Submit number of samples specified in individual specification sections; Owner's Representative will retain one sample.

I. Samples will not be used for testing purposes unless specifically stated in specification section.

J. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Project Record Documents.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SCHEDULE OF VALUES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Procedures for preparation and submittal of schedule of values.

1.02 FORMAT

A. Type schedule on AIA Document G703 or alternate form approved by ENGINEER.

B. Follow table of contents of Contract Documents for listing component parts. Identify each line item by number and title of major specification section.

C. If Project is bid as unit price, follow bid item schedule for listing component parts.

1.03 CONTENT

A. List estimated installed value of each major item of Work and each subcontracted item of Work as a separate line item to serve as a basis for computing values for Progress Payments. Round off values to nearest dollar.

B. For each major subcontract, list products and operations of that subcontract as separate line items.

C. Coordinate listed items with Progress Schedule.

D. For lump sum contracts, component listing shall each include a directly proportional amount of CONTRACTOR'S overhead, profit and bonds and insurance costs. Mobilization costs shall also be distributed in amounts directly proportional to each listing value.

E. For items on which payments will be requested for stored products, list sub-values for cost of stored products.

F. The sum of values listed shall equal total Contract Price.

G. If Project is bid as unit price contract, follow bid item schedule for listing completed work of component parts.

H. Unbalanced schedule of values will not be acceptable and, when discovered, will be returned for adjustment to reflect actual costs.

1.04 SUBMITTAL

A. Submit six (6) copies of schedule ten (10) days prior to first Application for Payment.

1.05 SUBSTANTIATING DATA

A. When ENGINEER requires substantiating information, submit data justifying line item amounts in question. Only those line item amounts which the CONTRACTOR can justify to the ENGINEER'S satisfaction will be acceptable.

B. Provide six (6) copies of data with cover letter.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

QUALITY CONTROL

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. General quality control.

B. Manufacturers' field services.

1.02 QUALITY CONTROL, GENERAL

A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

1.03 WORKMANSHIP

A. Comply with industry standards except when more restrictive tolerances, more rigid standards, or more precise workmanship are specified.

B. Perform work using persons qualified to produce workmanship of specified quality.

C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.04 MANUFACTURERS' INSTRUCTIONS

A. When required by individual specification section, Product Data, and Samples, submit manufacturer's printed instructions, in the quantity required for product data, for delivery, storage, assembly, installation, startup, adjusting, and finishing, as appropriate.

B. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from ENGINEER before proceeding.

1.05 MANUFACTURERS' CERTIFICATES

A. As required by individual specification sections, submit manufacturer's certificate, in duplicate, that products meet or exceed specified requirements.

1.06 MOCKUPS

A. When required by individual specifications section, erect complete, full-scale mockup of assembly at Project site. Remove mockup at completion, when approved by the ENGINEER.

1.07 MANUFACTURERS' FIELD SERVICES

A. Manufacturers' representative shall submit written report to ENGINEER listing observations, tests and corrective measures.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

TESTING LABORATORY SERVICES FOR SOILS AND CONCRETE

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Cooperate with testing laboratory consultant in obtaining samples and performing testing.

B. Pay soils testing laboratory consultant for all costs incidental to and for testing and retesting.

C. Pay for all concrete and soil testing and retesting required on this project.

1.02 DESCRIPTION

A. The Contractor will obtain and the ENGINEER must approve an independent concrete and soils testing laboratory consultant as proposed by the CONTRACTOR to perform concrete and soils sampling and testing.

B. The CONTRACTOR shall pay for all services performed by the independent testing laboratory consultant for the following:

1. All soil testing and retesting on this project.

2. All concrete testing and retesting on this project.

C. The CONTRACTOR shall pay for all services performed under paragraph 1.02 B within thirty (30) days of receipt of invoice for additional services from the independent testing laboratory consultant.

1.03 ADDITIONAL RESPONSIBILITIES

A. Provide access to all work for testing purposes.

B. Cooperate with ENGINEER in obtaining concrete cylinders for testing by laboratory personnel.

C. Cooperate with laboratory personnel performing ACI field testing of concrete and other testing as required by the ENGINEER.

D. Provide labor and facilities to allow access to work to be tested, to obtain and handle samples at the site or at the source of products to be tested, to facilitate tests and inspections and for storage of test samples.

E. The following concrete test equipment shall be furnished by the CONTRACTOR:

1. Concrete curing box.

a. The concrete curing box shall be of standard commercial quality. One (1) or more boxes shall be supplied to meet the specimen requirements of the project.

b. The curing box shall maintain an internal water temperature of seventy degrees Fahrenheit (70^{o} F) $\pm$ ten degrees Fahrenheit (10^{o} F) and one hundred percent (100%) humidity.

2. Steel "contractor's" wheelbarrow.

3. Square point hand shovel with "D" handle.

F. SCHEDULE OF INSPECTIONS AND TESTS

1. Discuss schedule at the preconstruction conference.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

TEMPORARY CONTROLS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Providing and maintaining methods, equipment, and temporary construction, as necessary to provide controls over environmental conditions at the construction site and related areas under CONTRACTOR'S control. Removal of physical evidence of temporary facilities at completion of the Work.

1.02 ASBESTOS CONTROL

A. The CONTRACTOR shall manage asbestos containing material in a manner consistent with all Local, State and Federal regulations and provide temporary controls to protect worker safety on site, and prevent asbestos containing material and dust from migrating into public and private property.

1.03 DUST CONTROL

A. Provide positive methods and apply dust control materials such as calcium chloride or water to minimize raising dust from construction operations, and provide positive means to prevent dust from dispersing into the atmosphere.

B. The CONTRACTOR shall sweep the road as directed by the ENGINEER before any calcium chloride is applied. The CONTRACTOR shall have calcium chloride on site at all times.

1.04 WATER CONTROL

A. Provide methods to control surface water to prevent damage to the Project, the site, or adjoining properties. Control fill, grading and ditching to direct surface drainage away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper disposal.

B. Provide, operate and maintain pumps and equipment of adequate capacity to control surface and water.

C. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas in accordance with local, state and federal regulations.

1.05 RODENT CONTROL

A. Provide rodent control as necessary to prevent infestation of construction or storage area. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

B. Use rodenticide in full accordance with the manufacturer's printed instructions and recommendations, and local, state and federal regulations.

1.06 DEBRIS CONTROL

A. Maintain all areas under CONTRACTOR'S control free of debris.

B. Initiate and maintain a specific program to prevent accumulation of debris at construction site, storage and parking areas, or along access roads and haul routes.

1. Provide containers for deposit of debris.

2. Prohibit overloading of trucks to prevent spillages on access and haul routes. Provide periodic inspection of traffic areas and enforce requirements.

3. Schedule weekly collection and disposal of debris to prevent accumulation.

C. Schedule periodic collection and disposal of debris. Provide additional collections and disposals of debris whenever the periodic schedule is inadequate to prevent accumulation. Debris and stockpiled material shall be removed from the work area by the end of each day.

D. If the ENGINEER determines that the site is not adequately free of extraneous debris, the ENGINEER may order the CONTRACTOR to clean the site or have the site cleaned by others, the cost of which shall be borne by the CONTRACTOR.

1.07 POLLUTION CONTROL

A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.

B. Provide equipment and personnel to perform emergency measures required to contain any spillages, and to remove contaminated soils or liquids. Excavate and dispose of any contaminated earth in accordance with local, state and federal regulations, and replace with suitable compacted fill and topsoil.

C. Take all appropriate measures to prevent harmful substances from entering surface waters and groundwater. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.

D. Provide systems for control of atmospheric pollutants.

1. Prevent toxic concentrations of chemicals.

2. Prevent harmful dispersal of pollutants into the atmosphere.

1.08 EROSION CONTROL

A. Plan and execute construction work by methods to control surface drainage to prevent erosion and sedimentation.

1. Minimize areas of exposed bare soil.

2. Provide temporary control measures such as berms, dikes and drains.

B. Periodically inspect earthwork to detect any evidence of the start of erosion. Apply corrective measures as required to control erosion.

C. Construct sediment basins, diversion ditches, hay bale dikes or such other erosion control devices to control runoff from any area subject to erosion during construction. All such precautionary measures including, but not limited to, construction of sediment basins, diversion ditches, benches, berms or hay bale dikes or laying fiber matting on slopes until vegetation is established, shall be at no extra cost to the OWNER.

D. Comply with all local, state and federal permits and requirements.

E. Provide Hay Bales around all catch basins and culverts in or downhill of the construction area. Hay bales and cost of cleaning catch basins and culverts shall be paid for by the CONTRACTOR.

F. The CONTRACTOR shall keep all trenches stabilized during non-working hours. The CONTRACTOR shall place approved crushed gravel in the trench every night. The CONTRACTOR shall furnish and install crushed stone or other approved material in the trench to stabilize it as directed by the ENGINEER.

1.09 TRAFFIC SAFETY

A. Schedule construction and place excavated material so that vehicular and pedestrian traffic may be maintained at all times. The CONTRACTOR shall be responsible for obtaining required state and local highway opening/curb cut permits prior to commencing construction of work in a highway.

B. Traffic shall be protected by barricades, warning and advance warning signs. The placement and materials shall be in general compliance with the U.S. Department of Transportation's Manual on Uniform Traffic Control Devices, latest edition, and be subject to the approval of the OWNER and ENGINEER. If the CONTRACTOR'S operations cause traffic hazards, he shall repair the road surface, provide temporary ways, erect barricades or fences and/or take other safety measures in accordance with local, state and federal regulations.

C. The CONTRACTOR shall provide experienced uniformed traffic officers as directed by the ENGINEER.

D. The trenches and manholes shall be backfilled with approved material every night, as directed by the ENGINEER. The CONTRACTOR is responsible for furnishing and installing material necessary for stabilizing the roadway at the end of each day as approved by the ENGINEER.

1.10 STORAGE AND PROTECTION

A. Material

1. All loose granular material, pipes and other commonly used material shall be stored off the roadway but within the Right-Of-Way of the roadway. Lighted barriers shall be placed around the said material to make them visible to vehicular traffic.

B. Equipment

1. All equipment shall be stored off the roadway but within the Right-Of-Way of the roadway. Lighted barriers shall be placed around the vehicles to make them visible to vehicular traffic.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.01 DESCRIPTION

A. The work covered by this section of the specifications consists of furnishing all labor, materials, tools and equipment and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract.

B. The requirements set forth in this section of the specifications apply to cross country areas, river crossings and areas adjacent to wetlands, unless otherwise specifically stated.

C. The project area is an environmentally sensitive area. Shoreland Permit, Wetlands Permit and Army Corp. Permits have been obtained and a copy of each permit is included as an Appendix item within this document. The CONTRACTOR must be fully aware of the requirements of each permit and must fully comply with all permit conditions.

1.02 NOTIFICATION

A. The ENGINEER will notify the CONTRACTOR in writing of any non-compliance with the foregoing provisions. The CONTRACTOR shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the CONTRACTOR or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the CONTRACTOR fails to act promptly, the ENGINEER may order stoppage of all or part of the work until satisfactorily corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the CONTRACTOR as a result of time lost due to any stop orders shall be made unless it was later determined that the CONTRACTOR was in compliance.

1.03 IMPLEMENTATION

A. Prior to commencement of work, the CONTRACTOR shall meet with representatives of the ENGINEER to develop mutual understandings relative to compliance of the environmental protection program.

PART 2 PRODUCTS

None Used

PART 3 EXECUTION

3.01 AREAS OF CONSTRUCTION ACTIVITY

A. Insofar as possible, the CONTRACTOR shall confine his construction activities to those areas defined by the plans and specifications. All land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that, which existed prior to work under this contract.

3.02 PROTECTION OF WATER RESOURCES

A. The CONTRACTOR shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acids or harmful materials. It is the CONTRACTOR'S responsibility to comply with all applicable Federal, State, County and Municipal laws regarding pollution of rivers and streams.

B. Special measures should be taken to insure against spillage of any pollutants into public waters.

3.03 PROTECTING AND MINIMIZING EXPOSED AREAS

A. The CONTRACTOR shall limit the area of land that is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2) months, temporary vegetation, mulching or other protective measures should be provided as specified.

B. The CONTRACTOR shall take account of the conditions of the soil where temporary cover crop will be used to insure that materials used for temporary vegetation are adaptive to the sediment control. Materials to be used for temporary vegetation shall be approved by the ENGINEER.

3.04 LOCATION OF STORAGE MATERIAL

A. The location of the CONTRACTOR'S storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared, and shall require written approval of the ENGINEER. Plans showing storage facilities for equipment and materials shall be submitted for approval of the ENGINEER.

B. No excavated materials or materials used in backfill operations shall be deposited within a minimum distance of twenty-five (25) feet of any watercourse or any drainage facility. Adequate measures for erosion and sediment control such as the placement of baled hay or straw around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.

C. The ENGINEER may designate a particular area or areas where the CONTRACTOR may store materials used in his operations.

3.05 PROTECTION OF LANDSCAPE

A. Except in areas marked on the plans to be cleared, the CONTRACTOR shall not deface, injure, or destroy trees or shrubs nor remove or cut them without special authority. No ropes, cables or guys shall be fastened to or attached to any existing nearby trees for anchorages unless specifically authorized by the ENGINEER. The CONTRACTOR shall in any event be responsible for any damage resulting from such use.

B. Where, in the opinion of the ENGINEER, trees may possibly be defaced, bruised, injured, or otherwise damaged by the CONTRACTOR's equipment or by his blasting or other operations, the ENGINEER may direct the CONTRACTOR to adequately protect such trees by placing boards, planks, poles or fencing around them. Any trees or landscape feature scarred or damaged by the CONTRACTOR'S equipment or operations shall be restored as nearly as possible to its original condition at the expense of the CONTRACTOR. The ENGINEER will decide what method of restoration shall be used, and whether damaged trees shall be treated and healed or removed and disposed of.

3.06 DISCHARGE OF DEWATERING OPERATIONS

A. Any water that is pumped and discharged from the trench and/or excavation as part of the CONTRACTOR'S water handling shall be filtered by an approved method prior to its discharge into a receiving water or drainage system in accordance with the permits.

B. The pumped water shall be filtered through baled hay, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such that the discharge flow rate shall not exceed a velocity of more than 1 foot per second. The sediment shall be cleared from the channel periodically.

3.07 DUST CONTROL

A. During the progress of the work, the CONTRACTOR shall conduct his operations and maintain the area of his activities including sweeping and sprinkling of streets as necessary, so as to minimize the creation and dispersion of dust. If the ENGINEER decides that it is necessary to use calcium chloride for more effective dust control, the CONTRACTOR shall furnish and spread the material, as directed.

3.08 SEPARATION OF TOPSOIL

A. From areas within which excavations are to be made, loam and topsoil shall be carefully removed and separately stored to be used again as directed. The topsoil shall be stored in an area acceptable to the ENGINEER and adequate measures shall be employed to prevent erosion of said material.

3.09 REPLACEMENT OF TOPSOIL IN CROSS COUNTRY ROUTES

A. The CONTRACTOR shall replace, back to its original locations and depths, that topsoil, which has been separated according to the provisions described above.

3.10 BALED HAY OR STRAW

A. To trap sediment and to prevent sediment from clogging drainage systems, baled hay or straw shall be used where directed by the ENGINEER. Care shall be taken to keep them from breaking apart. The bales should be staked to prevent overturning, flotation, or displacement. All deposited sediment shall be removed periodically.

3.11 SILT FENCE

A. Where indicated on the drawings or where directed by the ENGINEER, the CONTRACTOR shall erect and maintain a temporary silt fence. The silt fence shall be used specifically to contain sediment from runoff water and to minimize environmental damage caused by construction.

B. The silt fence shall be wire-bound wood-roll fence securely erected within the work area limits as shown on the plans. The fence shall be 4 feet high and the unpainted picket of 3/8-inch by 1-1/2-inch wide dimensions shall be bound together an approximate distance of 2-inches apart by at least 13-gauge galvanized steel wire. The CONTRACTOR shall place bales of hay or straw alongside the fence and secure them in place. The trapped sediment shall be periodically removed.

C. If in the opinion of the ENGINEER the silt fence is not providing adequate sediment control, the ENGINEER shall direct the CONTRACTOR to provide additional measures such as covering the fence with either burlap or a plastic filter fabric or other methods to adequately control erosion.

END OF SECTION

CONSTRUCTION CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Cleaning and disposal of waste materials, debris, and rubbish during construction.

1.02 DESCRIPTION

A. Maintain areas under CONTRACTOR'S control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Provide covered containers for deposit of debris and rubbish. Regularly dispose of accumulations of materials on a weekly basis.

C. Regularly clean interior areas to provide suitable conditions for finish work.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 CLEANING

A. Remove debris and rubbish from pipe, manholes, wet wells, and other closed or remote spaces, prior to closing the space.

B. Completely clean all interior and exterior areas prior to start of surface finishing, and continue cleaning on an as-needed basis.

C. Control cleaning operations so that dust and other particulates will not adhere to wet or newly-coated surfaces.

3.02 DISPOSAL

A. Remove waste materials, debris, and rubbish from site periodically and dispose of off-site in accordance with applicable local, state and federal regulations.

B. Maintain disposal area in an orderly manner; prevent runoff into waterways or onto adjacent properties.

END OF SECTION

TRANSPORTATION AND HANDLING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Providing expeditious transportation and delivery of undamaged products to project site, and on a schedule to avoid delay of the Work or work of other contractors.

B. Providing equipment and personnel at the site to unload and handle products in a manner to avoid damage to products.

1.02 DELIVERY

A. Arrange deliveries of products in accordance with construction schedules and in ample time to facilitate inspection prior to installation.

B. Coordinate deliveries to avoid conflict with work, OWNER'S use of premises and conditions at site.

C. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.

D. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 PRODUCT HANDLING

A. Immediately upon delivery, inspect shipment to assure:

1. Product complies with requirements of Contract Documents and reviewed submittals.
2. Quantities are correct.
3. Containers and packages are intact, labels are legible.
4. Products are properly protected and undamaged.

B. Expedite replacement of damaged products.

C. Provide equipment and personnel necessary to handle products, including those provided by OWNER, by methods to prevent soiling or damage to products or packaging.

D. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.

E. Handle products by methods to prevent bending or overstressing.

F. Lift heavy components only at designated lifting points.

END OF SECTION

STORAGE AND PROTECTION

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Providing secure storage and protection for products to be incorporated into the Work, and maintaining and protecting products after installation and until completion of the Work.

1.02 STORAGE

A. Store and protect products immediately on delivery. Store in accordance with manufacturer's instructions, with seals and labels intact and legible.

B. Materials shall only be stored at and around the wastewater treatment facility as approved by the ENGINEER and OWNER. Under no circumstances is the CONTRACTOR to store materials on private property or within the public right-of-way unless approved by the OWNER and ENGINEER.

C. Store products subject to damage by elements in substantial weather tight enclosures.

1. Maintain temperatures within ranges required by manufacturer's instructions.
2. Provide humidity control for sensitive products, as required by manufacturer's instructions.
3. Store unpacked products on shelves, in bins or in neat piles, accessible for inspection.

D. Exterior Storage:

1. Provide substantial platforms, blocking or skids to support fabricated products above ground and to prevent soiling or staining. Cover products subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
2. Store loose granular materials on solid surfaces such as paved areas, or provide plywood or sheet materials to prevent mixing with foreign matter.
3. Provide surface drainage to prevent flow or ponding of rainwater.
4. Prevent mixing of refuse or chemically injurious materials or liquids.

E. Arrange storage in manner to provide easy access for inspection.

1.03 MAINTENANCE OF STORAGE

A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:

1. State of storage facilities is adequate to provide required conditions.
2. Required environmental conditions are maintained on continuing basis.
3. Surfaces of products exposed to elements are not adversely affected. Any weathering of products, coatings and finishes is unacceptable under requirements of Contract Documents.

B. Mechanical and electrical equipment which requires servicing during long term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package. Comply with manufacturer's instructions on scheduled basis.

C. Any product damaged because of improper storage or protection shall be unacceptable for installation and shall be removed from the site.

1.04 PROTECTION AFTER INSTALLATION

A. Provide protection of installed products to prevent damage from subsequent operations. Remove protection when no longer needed, prior to completion of Work.

B. Control traffic to prevent damage to equipment and surfaces.

C. Provide coverings to protect finished surfaces from damage.

1. Cover projections, wall corners, and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent work.

2. Protect finished floors and stairs from dirt and damage:

a. In areas subject to foot traffic, secure heavy paper, sheet goods, or other materials in place.

b. Lay planking or similar materials in place to support movement of heavy products.

c. Store products on wood sheathing.

D. Waterproofed surfaces and roofs.

1. Prohibit use of surfaces for traffic of any kind, and for storage of any products.

2. When some activity must take place in order to carry out the Contract, obtain recommendations of installer for protection of surface.

a. Install recommended protection, remove on completion of that activity.

b. Restrict use of adjacent unprotected areas.

E. Lawns and Landscaping: Prohibit traffic of any kind across planted lawn and landscaped areas unless such traffic is approved by the ENGINEER. Damaged lawns and landscaped areas shall be restored to their original condition by the CONTRACTOR at no expense to the OWNER.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. CONTRACTOR'S options in selection of products.

B. Products list.

C. Requests for substitution of products.

1.02 CONTRACTOR OPTIONS

A. Products Specified by Reference Standards or by Description Only: Submit data substantiating that product meets those standards.

B. Products Specified by Naming One or More Manufacturers with a Substitution Paragraph: Submit a request for substitution for products of any manufacturer not specifically named.

1.03 PRODUCTS LIST

A. At preconstruction conference submit three (3) copies of a list of major products which are proposed for installation, including name of manufacturer. The CONTRACTOR will not be allowed a substitution for products not identified on this list.

B. Tabulate products by specification section number, title, and paragraph number.

C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

D. ENGINEER will not reply to this list of major products. All acceptance or rejection and comments by the ENGINEER will be reserved until submittal of product data for conforming products or products proposed for substitution.

1.04 LIMITATIONS ON SUBSTITUTIONS

A. Many sections of these specifications are based on specific manufacturer recommendations. Use of these recommendations does not and is not intended to exclude equal equipment of other manufacturers. The specifications serve only as a guide to minimum quality and performance.

1.05 REQUESTS FOR SUBSTITUTIONS

A. Requests for substitutions not made in strict conformance with this paragraph will be unacceptable and will be rejected by the ENGINEER without review.

B. Submit separate request for each substitution using the form included at the end of this Section. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.

C. Identify product by specification sections and paragraph numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.

D. Attach product data.

E. List similar projects using product, dates of installation, and names of ENGINEER and OWNER.

F. Give itemized comparison of proposed substitution with specified product, listing variations, and reference to Specification section and paragraph numbers.

G. Give quality and performance comparison between proposed substitution and the specified product.

H. Give cost data comparing proposed substitution with specified product, and amount of net change to Contract Price.

I. List availability of maintenance services and replacement materials.

J. State effect of substitution on construction schedule, and changes required in other work or products.

K. A substitute product may be considered equal to the product identified in the Specifications if (1) it is at least equal in quality, durability, appearance, strength and design; (2) it will perform at least equally the function imposed by the general design for the work being contracted for or the material being purchased; and (3) it conforms substantially, even with deviations, to the detailed requirements for the product in said Specifications.

1.06 REDESIGN

A. Redesign of any portion of the work affected by the substitution and coordination of installation of the substitution shall be the responsibility of the CONTRACTOR. There shall be no increase in Contract Price for redesign due to substitution of products.

1.07 CONTRACTOR REPRESENTATION

A. Submission of a request for substitution constitutes a representation that CONTRACTOR has investigated proposed product and has determined that it is equal to or superior in all respects to specified product. The ENGINEER, however, will make such determination based on the CONTRACTOR'S request under paragraph 1.05.

B. CONTRACTOR shall provide as a minimum, the same warranty for substitution products as for specified product.

C. CONTRACTOR shall coordinate installation of accepted substitute, making such changes as may be required for Work to be complete in all respects.

D. CONTRACTOR waives claims for additional costs related to substitution which may later become apparent.

1.08 SUBMITTAL PROCEDURES

A. After preconstruction conference, submit six (6) copies of request for substitution.

B. ENGINEER will respond to CONTRACTOR'S requests for substitutions with reasonable promptness.

C. ENGINEER will notify CONTRACTOR, in writing, of decision to accept or reject requested substitution.

D. For accepted products, submit shop drawings, product data, and samples.

E. Submit with request such drawings as are necessary to define the redesign necessary to accommodate product substitution. Drawings shall be stamped by a professional engineer registered in the State where the work under this Contract is located, and for the engineering disciplines affected by the substitution.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 INSTALLATION

A. Installation of substitutions shall not be done unless written acceptance of ENGINEER has been given.

SUBSTITUTION REQUEST FORM

Date:_____

1. Name of product to be substituted:_____
2. Name of product requested as substitute:_____
3. Specification Section Reference _____

   Drawing Number Reference:_____

4. Attach Product Data to this form.
5. List similar projects using this product:

	Project	Date of Installation	ENGINEER	Owner
i.	_____	_____	_____	_____
ii.	_____	_____	_____	_____
iii.	_____	_____	_____	_____

6. Attach itemized comparison by Specification Paragraph.
7. State effect of substitution on:
   i. Construction Schedule:_____
   ii. Project Cost:_____
   iii. Changes Required in Other Work: _____

   _____
8. Contractor Representations:
   i. CONTRACTOR has complied with the Product Options and Substitutions section in its entirety.

ii. CONTRACTOR has investigated proposed substitution and has determined that it is equal or superior to the product specified.

iii. CONTRACTOR will provide same warranty as required for the specified product, as a minimum.

iv. CONTRACTOR will coordinate installation of substitution through completion.

v. CONTRACTOR waives all claims for additional costs related to substitution which may later become apparent.

vi. CONTRACTOR agrees to pay all reasonable fees of the ENGINEER and other consultants in making an evaluation of this substitution request whether such request is ultimately accepted or not.

9. Certification:

Signed _____

Title _____

Company _____
(Contractor)

END OF SECTION

FINAL CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Final cleaning of project.

B. Executing final cleaning prior to inspection for Substantial Completion of the Work.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS

A. Use materials which will not create hazards to health or property, and which will not damage surfaces.

B. Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3 EXECUTION

3.01 CLEANING

A. In addition to removal of debris and cleaning specified in other sections, clean interior and exterior exposed-to-view surfaces.

B. Remove temporary protection and labels not required to remain.

C. Clean plumbing fixtures to a sanitary condition.

D. Remove waste, foreign matter, and debris from roofs, gutters, area ways, and drainage systems.

E. Remove waste, debris, and surplus materials from site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.

END OF SECTION

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Maintaining and submitting record documents and samples.

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Maintain at the site for OWNER one record copy of:

1. Contract Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Accepted shop drawings, product data, and samples.
6. Field test records.
7. Inspection certificates.
8. Manufacturer's certificates.
9. Inspection videos and photographs

B. Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage for record documents and samples.

C. Label and file record documents and samples in accordance with section number listings in Table of Contents of this Specification. Label each document "PROJECT RECORD" in neat, large, printed letters.

D. Maintain record documents in a clean, dry and legible condition. Do not use record documents for construction purposes.

E. Keep record documents and samples available for inspection by ENGINEER.

1.03 RECORDING

A. Record information on a set of blue line drawings.

B. Record information on videotape with copies provided to the OWNER.

C. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction, including:

1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction.
3. Field changes of dimensions and details.

4. Changes made by modifications.

5. Details not on original Contract Drawings.

6. References to related shop drawings and modifications.

D. Specifications: Legibly mark each item to record actual construction, including:

1. Manufacturer, trade name and catalog number of each product actually installed, particularly optional items and substitute items.

2. Changes made by addenda or modifications.

E. Other Documents: Maintain manufacturer's certifications, inspection certifications, and field test records, required by individual Specification sections.

1.04 SUBMITTALS

A. At Contract closeout, deliver record documents and samples as specified in Section 01701, to ENGINEER for use in the preparation of Project Record Drawings.

B. Transmit with cover letter in duplicate, listing:

1. Date.

2. Project title and number.

3. CONTRACTOR'S name, address, and telephone number.

4. Number and title of each Record Document.

5. Signature of CONTRACTOR or authorized representative.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

DEWATERING

PART 1 GENERAL

1.01 SYSTEM PERFORMANCE REQUIREMENTS

A. Dewatering shall include all necessary control and disposal of groundwater on a continual basis during construction.

B. Dewatering shall include the lowering of the groundwater table to relieve any hydrostatic head that could cause a decrease in the stability of the excavated subgrade. It shall also include the intercepting of seepage which could otherwise emerge from the slope or sides of excavations which could cause a decrease in the stability of the excavated subgrade or the slopes or sides of the excavations.

C. Dewatering shall be performed during construction to temporarily protect against the following:

1. The loss of any material beneath the excavated subgrade or from the slopes or sides of the excavations or the movement of any fine particle materials from the soil.
2. Any increased vertical or lateral loads on the excavation support systems.
3. Any disturbance, rupture, instability, boiling or heaving of the bottom of excavated subgrade during:
    a. Excavation.
    b. Placement of foundation or bedding materials.
    c. Construction of slabs, footings, pipes, conduits, under-drains and any other structures.
    d. Backfilling operations.

1.02 ADDITIONAL PROVISIONS

A. Provide, operate and maintain any dewatering system required to lower and control groundwater levels and groundwater hydrostatic pressure during the construction of the Work as required by this Section and the Contract Documents. The CONTRACTOR shall assume full responsibility and expense for the adequacy of the dewatering system with no additional time for performance.

B. Remove and dispose of water resulting from activities described in paragraph 1.02 A. Provide siltation settling basins for all discharges from dewatering systems. Submit plan of settling basins and discharge facilities for review by ENGINEER prior to dewatering system installation.

C. Remove dewatering systems and equipment when no longer required.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.01 EXECUTION

A. The dewatering system shall be capable of developing an excavated subgrade relieved of any hydrostatic pressure that could cause a decrease in the stability of the excavated subgrade and which will provide the

necessary groundwater control for the proper performance required for completion of the Work.

B. The dewatering system shall not cause damage to newly constructed or existing properties, buildings, utilities and other work due to the loss of support from incompletely drained soils or from removal of soil particles resulting from the dewatering system operation.

C. Dewatering facilities shall be located where they will not cause interference with work performed by others.

D. If the dewatering system utilized by the CONTRACTOR causes or threatens to cause damage to new or existing facilities, the dewatering system shall be modified at no additional cost to the OWNER. The CONTRACTOR shall be responsible for, and shall repair all damage caused by the dewatering system operation at no additional cost to the OWNER and at no additional time for performance.

E. Dispose of subsurface water collected in a manner which conforms to all applicable local and state ordinances, statutes and laws.

F. Maintain continual and complete effectiveness of the dewatering system operation to provide a firm, stable, excavated subgrade at all times as required for proper performance of the Work.

G. Provide dewatering necessary to maintain the groundwater table at a minimum of two (2) feet below the bottom elevation of trench bedding during placement and compaction of trench backfill.

3.02 JOB CONDITIONS

A. Erosion Control: Provide adequate protection from erosion from any of the dewatering operations utilized during the course of the construction. Any damage, disruption or interference to newly constructed work or existing properties, buildings, structures, utilities and/or other work resulting directly or indirectly from dewatering operations conducted under this Contract shall be remedied by the CONTRACTOR, at no cost to the OWNER.

B. Treatment of Dewatering Operations Discharges: Provide such additional treatment devices as may be required to meet the provisions of the Contract. This may include the construction of sumps and/or settling basins, stone rip-rap, silt fences or other requirements. The treatment devices shall be later removed and/or filled in with acceptable backfill material, and restored to original conditions once they are no longer needed, at no additional cost to the OWNER.

END OF SECTION

EXCAVATION SUPPORT

PART 1 GENERAL

1.01 WORK INCLUDED

A. Designing, furnishing, installing, maintaining and removing excavation support systems for the following:

1. Submittal of an Engineered Shoring Plan for the (2) Drilling and Receiving Pits and interconnection excavations. The plan shall be stamped by a Licensed NH Structural Professional Engineer.
2. Excavation.
3. Trench excavation.

1.02 REFERENCE STANDARDS

A. ASTM A328 - Steel Sheet Piling.

B. NFPA - National Forest Products Association.

1.03 SYSTEM DESCRIPTION

A. The construction of the excavation support systems shall include soldier piles, lagging, trench boxes, wood sheeting and steel sheeting, including bracing members such as walers, struts, shores and tieback anchors and all other system members.

PART 2 PRODUCTS

2.01 MATERIALS

A. Wood: Tongue and groove; #3 common Douglas Fir or Hemlock; or Utility Grade Southern Pine; NFPA grading.

B. Steel: ASTM A328.

C. Trench Boxes: Fabricated steel.

PART 3 EXECUTION

3.01 EXECUTION

A. The CONTRACTOR shall be totally responsible for the means and methods of excavation and for the design and construction of the excavation support systems.

B. The support system shall be designed to support the maximum loads that will occur during construction.

C. Excavation support systems shall be constructed so as to be able to support all vertical and lateral loads and other surcharge loads imposed on the system during construction including earth pressures, utility loads and other surcharges and construction loads in order to provide safe construction of the permanent structures and prevent movement and/or damage to adjacent soil, buildings, structures and utilities.

D. Do not brace to concrete unless authorized by the ENGINEER, and then only if concrete has reached its design strength as determined by compressive test of representative concrete cylinders which have been cured on site for a period of at least 14 days.

E. Do not embed any part or portion of excavation support system in the Work. Do not construct sleeves or openings in the structures to permit bracing through the structures unless authorized by the ENGINEER.

F. The CONTRACTOR shall not perform excavations in unstable earth. Stabilize all earth materials behind support walls before excavation is allowed to proceed.

G. The CONTRACTOR shall monitor all excavations and provide a means of determining movement of adjacent soil, buildings, structures and utilities.

H. Where movement or damage is observed, the CONTRACTOR shall immediately cease excavation operations and correct such deficiency in the excavation support system that allowed for movement or damage and repair all damage at no additional cost to the OWNER and at no additional time for performance.

I. The CONTRACTOR shall be responsible for, and shall repair all damage resulting from his excavations and at no additional cost to the OWNER and at no additional time for performance.

J. During construction, the CONTRACTOR shall be responsible for meeting all requirements and standards of OSHA (Occupational Safety and Health Administration).

3.02 SHEETING LEFT-IN-PLACE

A. Cut off all sheeting left-in-place at least three feet below the ground surface, whether such sheeting is ordered left in place by the ENGINEER or is left in place for the convenience of the CONTRACTOR.

END OF SECTION

SITE PREPARATION

PART 1 GENERAL

1.01 WORK INCLUDED

A. Review and implement all environmental permit requirements.

B. Remove topsoil and stockpile suitable material for later reuse. Remove excess or unsuitable topsoil from site.

C. Excavate subsoil and stockpile suitable material for later reuse. Remove excess or unsuitable topsoil from site.

D. Grade and rough contour site.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 PREPARATION

A. Identify required lines, levels, contours, and datum.

B. Identify known below grade utilities. Stake and flag locations.

C. Identify and flag above grade utilities.

D. Request as-built information from ENGINEER. Review and locate existing utilities. Maintain and protect existing utilities to remain which pass through work area.

E. Upon discovery of utility or concealed conditions which affect the conduct of the work of this section, notify ENGINEER.

F. Protect trees, shrubs, lawns, and other features remaining as portion of final landscaping.

G. Protect bench marks, existing structures, fences, roads, sidewalks and paving and curbs.

H. Protect above or below grade utilities which are to remain.

I. Repair damage to the above at no additional cost to the OWNER.

3.02 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded and stockpile on site. Remove excess topsoil not being reused from site.

B. Stockpile topsoil to depth not exceeding eight (8) feet. Cover to protect from erosion.

C. Topsoil suitable for reuse shall be in conformance with the Specifications.

3.03 SUBSOIL EXCAVATION

A. Excavate subsoil from areas to be re-landscaped or re-graded and stockpile on site and remove excess subsoil not being reused from site.

B. Stockpile subsoil to depth not exceeding eight (8) feet.

C. When excavation through roots is necessary, perform work by hand and cut roots with a sharp axe.

D. Subsoil suitable for reuse shall be in conformance with the Specifications.

3.04 TOLERANCES

A. Top Surface of Subgrade: Plus or minus one (1) inch.

3.05 MEASUREMENT AND PAYMENT

A. Subsidiary of all bid items.

END OF SECTION

SLOPE PROTECTION AND EROSION CONTROL

PART 1 GENERAL

1.01 WORK INCLUDED

A. Planning and executing measures to prevent and control soil erosion.

B. Furnishing, installing and maintaining erosion control materials.

1.02 SUBMITTALS

A. Submit plans and details showing specific slope protection and erosion control measures to be taken for each phase of the construction. Plans and details shall conform to the applicable SMTC of manuals and requirements for soil erosion and sediment control on construction sites.

1.03 PROJECT CONDITIONS

A. Schedule temporary seeding, mulching and other erosion control measures to take place as soon as possible.

B. When temporary seeding cannot be accomplished to have established or visible growth by October 15, the disturbed areas shall be covered with 6 inches of mulch for the winter.

PART 2 PRODUCTS

2.01 MATERIALS

A. Hay Bales: Securely tied baled hay at least 14 inches by 18 inches by 30 inches long.

B. Mulch Material: Select mulch material for erosion control that will best meet the site conditions from the following:

1. Hay or Straw - Shall be dry, free of mold and weed seeds.

2. Wood Chips - Shall be dry, free of soil and other foreign material.

C. Mulch Anchoring: When mulch must be held in place, one of the following mulch anchoring materials shall be used:

1. Asphalt Emulsion – Types RS-1, RS-2, MS-2 or SS-1 in compliance with ASTM D977.

2. Mulch Netting (paper, twine, plastic, or plastic and wood fiber).

D. Fertilizer: Complete fertilizer 10-20-20 (standard product) Class A

10-20-20 (standard product) Class B.

E. Lime: Ground limestone containing not less than 95% total carbonates (calcium or magnesium).

F. Temporary Seed Mixture: When it is impractical to establish permanent protective vegetation on disturbed earth by October 15, use "Conservation Mix" or the following seed mixture for areas outside of Construction Traffic:

Kind of Seed	Lbs per Acre
Switchgrass (Blackwell or Shelter)	4.0

Big bluestem (Niagara or Kaw)	4.0
Little bluestem (Camper or Blaze)	2.0
Sand lovegrass (NE-27 or Blaze)	1.5
Birdsfoot trefoil (Viking)	2.0

G. Inoculum specific to Birdsfoot trefoil must be used with this mixture. If seeding by hand, a sticking agent such as milk or cola shall be used to stick inoculum to the seed. If seeding with hydroseeder, use four (4) times the recommended amount of inoculum.

H. Permanent Seed Mixture: See NHDOT Standard Specifications.

PART 3 EXECUTION

3.01 GENERAL CONSTRUCTION SEQUENCE TO MINIMIZE EROSION

A. Erect hay bale dikes and/or silt fences as shown on Drawings and as may be required in the field to protect property, waterways, wells and springs.

B. Commence excavation. Stockpile soil so that erosion is minimized. Extra precautions shall be taken when soil is saturated.

C. Control surface water and erosion in accordance with the Temporary Controls section.

D. Dewater trench in accordance with the Dewatering section. Filter discharge using hay bales, silt fence, settling basin or natural vegetated buffer as site conditions require and as approved by the ENGINEER.

E. Backfill excavation to grade. Grade site so that soil erosion caused by runoff will be minimized.

F. Seed and mulch exposed ground.

3.02 SEEDING AND MULCHING

A. All areas which will remain open shall be seeded and mulched within five (5) days of being stripped or backfilled and graded.

B. Soil samples may be sent to the County Extension Service for analysis to determine the proper seed mixture and fertilizer requirements.

C. The following procedures shall be followed for temporary seeding:

1. Apply lime at a rate of 75 to 100 pounds per 1000 square feet. Incorporate into top two inches of soil.

2. Apply fertilizer at a rate of 30 pounds per 1000 square feet. Mix thoroughly into the top two inches of soil.

3. Apply seed mixture at a rate of two pounds per 1000 square feet evenly in two intersecting directions. Rake lightly.

4. Apply mulch material within 24 hours after seeding in accordance with the following:

   a. Hay or Straw: Application rate - 75 to 100 pounds per 1000 square feet. Spread by hand or with machine. Anchor on slopes and where subject to blowing or slipping.

   b. Wood Chips: Application rate - two to six inches deep. Use for tree and shrub planting.

5. Anchor mulch on all slopes exceeding 5% and other areas as required using one of the following methods:

   a. Mulch Netting: Spread over loose mulch and pin to the soil in accordance with the manufacturer's instructions.

HAY BALE DIKES

D. Embed hay bales into soil and anchor in place with stakes as shown on the Drawings. Butt hay bales together tightly.

E. Hay bales shall be replaced when they become clogged with soil particles or as directed by the ENGINEER.

3.03 DAMAGE AND REPAIR

A. Repair all damages caused by soil erosion or construction equipment at or before the end of each working day.

END OF SECTION

STORM DRAINS

PART 1 GENERAL

1.01 WORK INCLUDED

A. Furnishing pipe for storm drains.

B. Installing and/or removing and replacing storm drains as shown on the drawings.

1.02 REFERENCE STANDARDS

A. ASTM D3034 - Type PSM Poly(Vinyl Chloride)(PVC) Sewer Pipe and Fittings.

B. ASTM D3212 - Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.

C. AASHTO M252, ASSHTO M294-97 - High-density polyethylene pipe and fitting gaskets shall be made of polyisoprene meeting ASTM F477.

D. ASTM D3350 minimum cell classification 335420C- High-density polyethylene pipe and fittings.

1.03 SUBMITTALS

A. Submit manufacturer's certifications, shop drawings and product data.

PART 2 PRODUCTS

2.01 GENERAL

A. All products included in this section shall conform to the requirements of the standard specifications referenced herein.

B. Pipe size and material shall be as shown on the Drawings.

2.02 MATERIALS

A. Polyvinyl Chloride Pipe (PVC): Pipe and fittings shall be SDR 35, conforming to ASTM D3034. Joints shall be push on joints complying with ASTM D3212.

B. ASTM D3350 – High Density Polyethylene Pipe and Fittings.

C. AWWA C906 – Polyethylene (PE) Pressure Pipe and Fittings, 4" (100mm) through 63" (1,575mm) for Water Distribution and Transmission.

D. Backfill material shall be as specified in NHDOT Standard Specifications.

PART 3 EXECUTION

3.01 HANDLING PIPE

A. Exercise care in moving pipe to its final position. Use slings, straps and/or other devices to support pipe when it is lifted. Transporting pipe from storage areas shall be restricted to operations which will not cause damage to the pipe. Pipe shall not be dropped into the trench.

B. All pipe shall be examined before installation and no pipe shall be installed which is found to be defective. Defective pipe which cannot be repaired to the satisfaction of the ENGINEER shall be promptly removed from the project and replaced with new pipe.

3.02 CONTROL OF ALIGNMENT AND GRADE

A. Easement and property and other control lines necessary for locating the Work as well as elevations and bench marks used in the design of the Work are shown on the Drawings. The CONTRACTOR shall use this information to set line and use a laser, level, or transit to set grade.

B. The CONTRACTOR may use laser equipment to assist in setting the pipe provided he can demonstrate satisfactory skill in its use.

C. The use of string levels, hand levels, carpenter's levels or other similar devices for transferring grade or setting pipe will not be permitted.

D. During construction provide the ENGINEER, at his request, all reasonable and necessary materials, opportunities, and assistance for setting stakes and making measurements, including the furnishing of one or two rodmen as needed at intermittent times.

E. CONTRACTOR shall not proceed until he has made timely request of the ENGINEER for, and has received from him, such controls and instructions as may be necessary as Work progresses. The Work shall be done in strict conformity with such controls and instructions.

F. The CONTRACTOR shall carefully preserve bench marks, reference points and stakes, and in case of willful, careless, or accidental destruction by his own men, he will be responsible for the resulting cost to re-establish such destroyed control data and shall be responsible for any mistakes or delay that may be caused by the loss or disturbance of such control data.

G. Maintain the proper alignment in laying pipe.

3.03 EXCAVATING TRENCH AND INSTALLING PIPE

A. Pipe shall be laid in dry trench conditions. Provide for temporary diversion of water.

B. Excavate a trench to required depth sufficiently wide to allow for jointing of the pipe and compaction of the material under and around the pipe. Excavation shall conform the specifications. If ledge rock, rocky soil, hard pan or other unyielding foundation material is encountered at the normal grade of the pipe bed, excavate to 6 inches below invert grade and one foot on each side of the interior face of the pipe wall and refill with compacted crushed gravel. Blocking is not permitted.

C. Compact disturbed trench bottom and shape to fit pipe for a depth of not less than 10 percent of the total diameter of the pipe. The pipe shall rest firmly on the shaped bottom for the entire length of pipe barrels. Excavate troughs to accommodate bells or couplings to provide ample space for jointing pipe.

D. Begin laying pipe at outlet and make sure that the lower segment of the pipe is in contact with the shaped trench bottom throughout its full length. Each pipe section shall be placed into position on the pipe bed in such a manner and by such means required to avoid injury to persons, any property or the pipe.

E. Fill handling hole in concrete pipes with a precast plug, seal and cover with mastic or mortar.

F. Allow time for inspection and approval before any backfill is placed. Relay any pipe out of alignment and remove any damaged pipe.

G. After placing pipe on shaped trench bottom, backfill material shall be placed and compacted to the spring line (horizontal center line) of the pipe in continuous layers not exceeding 6 inches loose depth. Additional backfill material shall then be placed from the spring line to 12 inches above the crown of the pipe. This material shall be placed and compacted in continuous layers not exceeding 6 inches loose depth.

H. After placement of the material around and over the pipe, alignment and grade of the pipe shall be checked. If the pipe has been properly installed, the CONTRACTOR may refill or backfill the remainder of the trench in conformance with NHDOT Standard Specifications and details shown on the Drawings.

I. At the end of each day's work or at other intervals, the ENGINEER, with the CONTRACTOR, may inspect the pipe installation. Unsatisfactory work shall be dug up and reinstalled to meet the requirements of the Contract Documents with no additional time for completion of the Work and at no additional cost to the OWNER.

3.04 JOINTING PIPE

A. HDPE Pipe

1. Pipes shall be joined to one another, to the polyethylene fittings, and to the flange connections by means of thermal butt-fusion. Polyethylene pipe lengths, fittings, and flanged connections to be joined by thermal butt-fusion shall be of the same type, grade, and class of polyethylene compound and supplied from the same raw material supplier.

2. Butt Fusion Joining:

a. The polyethylene pipe shall be joined by the method of thermal butt fusion, as outlined in ASTM D2657, Heat Joining Polyolefin Pipe and Fittings. Butt fusion joining of pipe and fittings shall be performed in accordance with the procedures recommended by the manufacturer. The temperature of the heater plate should not exceed 425°F ±25°F. The joining interfacial pressure should not exceed 25 pounds per square inch of projected end area for European design fusion machines or 75 pounds per square inch of projected end area for American design fusion machines.

b. Butt fusion equipment used in the joining procedures shall be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements, alignment, and fusion pressures. The Contractor shall utilize a qualified distributor to provide training to personnel who will be performing butt fusion jointing prior to assembling pipe.

c. The pipe supplier shall be consulted to obtain machinery and expertise for the joining by butt fusion of polyethylene pipe and fittings. No pipe or fittings shall be joined by fusion by any contractor unless he is adequately trained and qualified in the techniques involved.

d. Fusion Quality. The Contractor shall ensure the field set-up and operation of the fusion equipment, and the fusion procedure used by the Contractor’s fusion operator while on site. Upon request by the Owner or Engineer, the Contractor shall verify field fusion quality by making and testing a trial fusion. The trial fusion shall be allowed to cool completely; then test straps shall be cut out and bent strap tested in accordance with ASTM D2657. If the bent strap test of the trial fusion fails at the joint, the field fusion represented by the trial fusion shall be rejected. The Contractor at his expense shall make all necessary corrections to equipment, set-up, operation and fusion procedure, and shall re-make the rejected fusions.

B. Polyvinyl Chloride pipe (PVC): Joints shall be made according to the manufacturer's recommendations. The bell end shall be protected from damage. The physical and chemical properties of pipe couplings shall be equal to that of the pipe.

C. Connections to Dissimilar Pipes: Connections to pipes of differing diameters and materials shall be accomplished through the use of a factory-made, flexible transition coupling.

END OF SECTION

TV INSPECTION

PART 1 GENERAL

1.01 WORK INCLUDED

A. Furnishing materials, equipment and miscellaneous appurtenances.

B. Inspecting sewer pipe by means of closed circuit color television.

C. Providing videotape recordings, photographs and printed logs of the inspections to the OWNER.

D. Controlling sewage flow.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.01 TELEVISION INSPECTION

A. The sewer lines shall be inspected by means of closed-circuit color television.

B. Equipment shall be capable of inspecting pipelines, from one access point, 300 feet in both upstream and downstream directions.

C. Employ bypass pumping of sewage flows during TV inspections.

D. The camera shall be moved through the line in either direction at a moderate rate, stopping when necessary to permit proper documentation of the sewer's condition. In no case shall the television camera be pulled at a speed greater than 30 feet per minute.

E. Manual winches, power winches, TV cable and powered rewinds or other devices shall be used to move the camera through the sewer line. These devices shall not obstruct the camera view or interfere with proper documentation of the sewer conditions.

F. If, during the inspection operation, the television camera will not pass through the entire pipe section between manholes, the CONTRACTOR shall set up his equipment so that the inspection can be performed from the opposite manhole. If, again, the camera fails to pass through the entire pipe section, the CONTRACTOR shall notify the ENGINEER immediately.

G. Two-way radio or other suitable means of communication shall be set up between the two manholes of the pipe section being inspected to insure good communications between members of the crew.

H. Accurate distance measurements shall be made. Measurement for location of defects shall be aboveground by means of a meter device. Marking of the cable or similar measuring procedures, which would require interpolation for depth of manhole, will not be allowed. Accuracy of the footage meter on equipment shall be checked by use of a walking meter, roll-a-tape, or other suitable device, and the accuracy shall be satisfactory to the ENGINEER.

3.02 TELEVISION CAMERA

A. Camera:

1. The color television camera used for the inspection shall be specifically designed and constructed for such inspection.

2. Lighting for the camera shall be suitable to allow a clear picture for the entire periphery of the pipe.

3. The camera shall be operative in 100% humidity conditions.

4. The camera shall have a minimum of 500 line resolution.

5. The camera shall be capable of clearly viewing above water line area of any pipe flowing one-third (1/3) diameter full or less.

6. Picture quality and definition shall be to the complete satisfaction of the ENGINEER and, if unsatisfactory, equipment shall be removed and no payment made for unsatisfactory inspection. (Irrespective of compliance with 3.02 A., 1-5.)

3.03 DOCUMENTATION

A. Television Inspection Logs:

1. A written log of each run shall be furnished indicating as a minimum:

a. Description of area being inspected (street name, trunk line name, etc.)

b. Identifying number of access point.

c. Identifying number of destination point.

d. Date.

e. Size and material of pipe.

f. Direction of camera travel.

g. Direction of flow.

h. Location by footage reference of service tie-ins, broken pipe, infiltration, bends, tees, wyes, etc.

2. Printed location records shall be kept by the CONTRACTOR. Records shall clearly show the location, in relation to an adjacent manhole, of each infiltration point observed during inspection. In addition, other points of significance such as locations of building sewers, unusual conditions, roots, storm sewer connections, broken pipe, presence of scale and corrosion, and other discernible features shall be recorded and a copy of such records shall be supplied to the OWNER.

B. Video Recordings:

1. A DVD or flash drive shall be provided of the inspections. Either shall be provided with the video recording in a format that can be played on any standard computer or DVD player. For the first 30 seconds of each run, the date, identifying number of the starting access point, identifying number of the destination point, size of pipe and distance meter reading 0 feet shall be displayed before moving the camera forward.

2. Throughout the inspection a distance meter shall be displayed constantly indicating, in feet, the distance from the starting access point. A verbal narrative shall be recorded on the tape noting wyes, tees, bends, breaks, etc.

3. The purpose of video recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. The CONTRACTOR shall supply a copy of the video to the OWNER.

3.04 FLOW CONTROL

A. Pumping and Bypassing: The CONTRACTOR shall supply the pumps, conduits, and other equipment to divert the flow of sewage around the section in which Work is to be performed. The bypass system shall

be of sufficient capacity to handle existing flow plus additional flow that may occur during rainfall. Sewer surcharging will not be allowed. If pumping is required, the engines shall be equipped in a manner to keep noise to a minimum.

B. Flow Control Precautions: When flow in a sewer line is plugged, blocked, or bypassed, sufficient precautions must be taken to protect the sewer lines from damage that might result from sewer surcharging. Further, precautions must be taken to insure that sewer flow control operations do not cause flooding or damage to public or private property being served by the sewers involved.

END OF SECTION

PIPE BURSTING SYSTEM

PART 1 GENERAL

1.01 DESCRIPTION

A. Section includes requirements to replace an existing storm sewer using a pipe bursting system. This includes removal and replacement of 2 foundation drain service lateral connections if requested, connections to the catch basin, furnishing and installing the rip-rap apron and headwall and placing replacement pipelines into service.

1.02 DEFINITIONS

A. Pipe Bursting: Process of splitting or fracturing the host drain line and forcing the fragments into the surrounding soil, for the purpose of inserting a new pipe of larger diameter.

1. Accomplished by use of pneumatic, static or hydraulic bursting head, with pipe splitters as cutting wheels as needed.

2. Mole or bursting head is directionally guided by host drain line and towed under tension by winch, chain or rod assembly.

3. New pipe towed or jacked in immediately behind mole or bursting head.

B. Host Drain line: Existing pipeline subject to pipe bursting system, made of vitrified clay, asbestos cement, polyvinyl chloride (PVC), cast iron, concrete, steel or lined pipe.

C. Replacement Pipe: Pipe inserted into host drain line by pipe bursting system.

D. Continuous Pipe: Pipe, such as High Density Polyethylene (HDPE) pipe, with welded joints, assembled and inserted to form continuous section between access pits.

E. Renew Laterals: Replace service lateral in public space or easement by excavation and replacement as shown on the plans if requested by the City. The current assumption at the time of the bid based on past TV work of the line is that the two laterals are abandoned and will not need to be reconnected.

1.03 QUALITY ASSURANCE

A. Follow ASTM standards.

B. Pipe Bursting System commercially proven: Minimum of 500,000 linear feet drain line and 3,500 linear feet of sewer service laterals.

C. Personnel performing pipe bursting:

1. Certified by manufacturer of pipe bursting system having successfully completed training in:

a. Operating bursting head.

b. Installing proposed replacement pipe.

c. Operation and maintenance of all equipment to be used.

D. Personnel performing fusing of HDPE pipe and fittings:

1. Certified by manufacturer of fusing equipment having successfully completed training in:

a. Handling replacement pipe materials.

b. Butt fusion of pipe joints, saddle fusion of fittings for service laterals.

c. Operation and maintenance of all equipment to be used.

E. Provide information regarding production, delivery, handling, and storage aspects of replacement pipe.

F. Contractor: Internally inspect pre-bursting and post-bursting work.

1.04 SUBMITTALS

A. Submit following information:

1. Pipe bursting plan including at minimum:

a. Description of process to be used.

b. Replacement pipe and fitting selection and composition.

c. Recommended manufacturer's installation procedures.

d. ASTM references.

e. Layout, storage and pipe handling area requirements for maintenance of pedestrian and vehicle traffic for each project site.

2. Plan for locating, exposing and re-connecting service laterals and restoring manhole connections.

a. Manhole connection to include waterstop / pipe restraint.

3. Proposed point repair method to remove sags, offset joints and constrictions or obstructions prior to bursting.

4. Provide a bypass pumping plan for approval 2 weeks prior to the start of work.

5. Certification backup equipment is available and can be delivered to project sites within 24 hours.

6. Certificates of Compliance for raw materials, pipe, joints, fittings, and service connections.

7. Certificates of Training for processes to be used, including joint fusion, if applicable.

a. Include installer's name, date of issuance and process for which certified.

8. Design calculations resulting in wall thickness for appropriate sized SDR for each trenchless technology installation.

a. Use soil depth at deepest manhole in installation.

b. Assume ground water table height of four feet below grade unless ground water monitoring

data indicates different height.

c. List values of key parameters used in calculations, including but not limited to; density of soil, depth of burial, live loads, safety factors, pipe modulus of elasticity, soil modulus and total calculated pressure on the pipe.

d. Documentation of source of equations and methodologies used in calculations.

e. Allowable tensile stress during pulling of pipe.

f. Calculated pipe deflection versus allowable pipe deflection for selected pipe.

g. Critical buckling pressure.

h. Slip trench or entry pit dimensions for pipe insertion (as applicable).

9. Submit Pre-bursting and post-bursting television inspection reports following Section 02956. Complete post-bursting inspection after bursting process, reconnection of laterals and renewals are completed.

10. Weiring Logs: pre- and post-bursting weir readings.

a. Mark submittals with host drain line's drain line Identification Number, Work Order number, contract number, beginning date, times, and readings, and final date, times, and readings.

11. Pulling log to include Allowable Tensile Load (ATL) and duration of pull of the replacement pipe.

12. Field testing results.

B. Packing list, invoice, or delivery ticket with every shipment, to contain Contract number, type and class of pipe, length, and other pertinent information.

1.05 DELIVERY AND STORAGE

A. Transport, handle, and store pipes and fittings as recommended by manufacturer.

B. Replace pipe or fittings damaged before or during installation at no additional cost to the Owner.

PART 2 PRODUCTS

2.01 PIPE BURSTING SYSTEMS

A. Pipe Insertion Method (PIM).

B. TT Technology method.

C. Tenbusch method.

D. TRS System method.

E. TTS300 methods.

F. XPANDIT method.

G. Vermeer Hammerhead mole method.

H. Nowak Pipe Reaming InneReam method.

I. Or Equal.

2.02 MATERIALS

A. General.

1. Minimum life span: 50 years.

2. Chemically resistant to internal exposure to storm sewer containing small quantities of hydrogen sulfide, carbon dioxide, methane, mercaptans, kerosene, moisture, and diluted sulfuric acid.

3. Chemically and physically resistant to external exposure of soil, bacteria, moisture, roots, and chemical attack due to material in surrounding ground.

4. Metal in saddles, clamps and appurtenances: 300 or 304 stainless steel following ASTM A240.

5. Elastomeric materials, gaskets, clamps, connectors: Oil resistant and manufactured following ASTM F477.

6. Select appropriate type pipe to maintain nominal inside diameter specified for each pipe segment.

7. Pipe and joints specifically designed for selected pipe bursting application.

    a. Threaded or solvent-cement joints and connections: Not permitted.

    b. Sectional pipe: Joint following manufacturer's recommendations and approved submittals for leak-proof stab joint method, using EPDM O-ring synthetic elastomeric gaskets.

8. Fittings.

    a. Pressure rated and classified same as adjoining pipe.

    b. Inside diameter to match inside diameter of adjoining pipe.

    c. Designed for pipe bursting or pipe jacking applications.

B. HDPE pipe, joints, and fittings:

1. Polyethylene: Minimum cell classification of PE 345464C for black and PE 345464E for colors following ASTM D3350.

2. Material designation: PE 3408 following ASTM F412.

3. Hydrostatic Design Basis at 73.4 degrees F: 1,600 psi following ASTM D2837

4. Pipe.

    a. Manufactured, sized and marked following ASTM F714.

    b. Minimum wall thickness: SDR 17.

    c. Measure length to provide continuous, homogeneous pipe from manhole to manhole with enough extra length to allow relaxing and finishing off at manholes.

    d. Interior Pipe color:

1) Use fully bonded light-colored interior liner meeting specifications above.

e. Pipe Markings:

1) Mark following ASTM F714.

2) Legibly marked in green to identify as drain line.

f. Approved Pipe Manufacturers.

1) Performance Pipe, Division of Chevron Phillips Chemical Company, LP.

2) Poly Pipe.

3) Or Equal.

5. Molded fittings.

a. Manufactured, sized and marked following ASTM D3261.

6. Field fabricated fittings.

a. Stock manufactured, sized and marked following ASTM F714.

7. Joint connection minimum requirements:

a. Continuous pipe.

1) Assemble pipe lengths in field with butt-fused joints following ASTM D2657 and approved submittals or with electrofused joints following approved submittals.

a) In case of conflicts between ASTM D2657 and approved submittals or if the ASTM reference is nonspecific, follow approved submittals.

2) Joint strength: Equal to or greater than pipe strength.

b. Excavations for pipe bursting insertion or depression removal made between manholes.

1) Joint pipe ends using butt-fused joints or electrofusion coupling.

2) With Engineer's approval, use full circle seal clamps specified herein or seal and restraint type mechanical couplings manufactured by:

a) Dresser Piping Specialties, Universal Style 90 for HDPE by HDPE, 2-inches and smaller, and Style 711 for HDPE by HDPE, 12-inches and smaller diameter pipes.

b) Smith-Blair, Inc., Maxi-Grip EZ for HDPE by HDPE 12-inches and smaller diameter pipes.

c) Or equal.

C. Manhole Connection Materials.

1. Concrete:

a. High strength, non-shrink, chemical resistant.

b. Cures in presence of water.

2. Approved Manufacturers of Flexible Gasket Connector.

a. A-Lok.

b. Kor-N-Seal.

c. Fernco.

d. Or Equal.

3. Approved Manufacturers of Fused-on Waterstop.

a. ISCO Industries Wall Anchor.

b. Central Plastics Electrofusion Flex Restraint.

c. Or Equal.

4. Approved Manufacturers of Hydrophobic Grout for Oakum Collar.

a. Avanti AV 202.

b. DeNeef Hydro Active Sealfoam.

c. Or Equal.

D. Lateral Reconnections: As noted on the Contract Drawings.

E. Connection Appurtenances.

1. Use Full Circle Elastomeric Seal Clamps for joining plain ends of pipe.

a. Rubber sleeve coupling with stainless steel shear ring.

b. Follow ASTM C1173.

c. Approved manufacturers:

1) Fernco.

2) Mission Rubber Company Flex-Seal.

3) DFW by NDS.

4) Or Equal.

2. Joint lubricants.

a. Follow manufacturer recommendations.

b. Approved methods of application.

1) By brush.

2) By hand.

2.03 SOURCE QUALITY CONTROL

A. Follow referenced ASTMs.

PART 3 EXECUTION

3.01 MAINLINE PREPARATION

A. Respond to project site within 2 hours of Engineer's notification of problem on site.

1. Cost incurred by the Owner due to failure to respond within time frame specified may be deducted from monies owed Contractor.

B. Bypass pumping.

1. As required.

C. Pre-bursting inspections.

1. Perform internal inspections.

2. Confirm, locate, and identify by building address, existing lateral connections and services attached to host drain line. Furnish log to Engineer.

3. Confirm host pipe is ready for bursting.

a. Demonstrate on CCTV recording:

1) Realigned major sags.

2) Removed obstructions, offset joints, missing or collapsed pipe that could interfere with bursting process.

4. Notify Engineer if bursting is not viable with pre-inspection CCTV recording to support assertion.

D. Locate and protect existing utilities.

E. External point repairs prior to bursting.

1. Before bursting, perform external point repair to remove sags, offset joints and bursting constrictions or obstructions that cannot be removed internally, and may impede process or prevent successful completion.

F. Maintaining invert and slope.

1. Ascertain elevations of upstream and downstream manhole invert of host drain line to be burst as well as intermediate point on mainline for verification that line and grade is maintained.

G. Vibration monitoring equipment: Placed where necessary when directed by Engineer.

3.02 MANHOLE PREPARATION

A. Enlarge manhole pipe openings to size sufficient to allow bursting head to pass without damaging manhole.

B. Remove manhole drop connections that interfere with bursting process.

3.03 BURSTING AND PIPE INSTALLATION

A. Disconnect laterals from host drain line following approved submittals.

B. Provide access pits as required to facilitate pipe bursting insertion process.

1. Locate pits where interference to vehicular traffic and inconvenience to public is minimized.

2. Use lateral connection locations, changes in drain line and grade, and sags as access pit locations, and provide access to drain line from both directions.

3. Prevent damage to adjacent areas during bursting process.

C. Do not exceed approved submittal insertion rate or force at any time. Maintain logs verifying rate and force did not exceed submitted calculations.

D. Use approved lubricant to ease installation friction. Match lubricants to soil and insertion conditions.

E. Remove irregular internal bead projections that are not uniform and rolled-back from butt-fused joints.

F. Extend DIP joints to remove slack in locking restrained joints.

G. Remove and replace improperly burst drain line at no additional cost to the Owner.

H. Contractor is responsible for all costs related to inaccurately located or misidentified live/active sewer lateral connections.

1. Re-connect missed or active taps and abandon erroneously opened connections at no additional cost to the Owner.

3.04 RELAX PERIOD

A. Allow inserted HDPE pipes to rest for a period of 4 hours before cutting and trimming replacement pipe or making any manhole connections.

B. If replacement pipe exhibits retraction, at end of relax period and after flexible manhole connectors' grout has set, anchor HDPE pipe at manholes following approved submittals.

C. After relax period, cut and trim replacement pipe 3 inches inside upstream and downstream manholes.

3.05 MANHOLE RECONNECTION

A. Replace exterior drops with inside drops, following Standard Details.

B. Reconnect to manhole following approved submittals.

1. Restrain and seal pipe at manhole wall.

2. Use flexible gasket connector, fuse-on water stop or hydrophobic grout-soaked oakum collar embedded in concrete poured or parged across manhole wall opening.

C. Flexible gasket connector.

1. Preferred restraint and seal for precast manholes.

2. Embed flexible connector in place in manhole wall, filling all voids, front and back, for full thickness of manhole wall following Standard Details.

3. If flexible connector is not water tight, perform pipe seal with chemical grout.

3.06 RECONNECT LATERALS

A. Provide elevations and logs showing confirmation of lateral grade.

1. Position tap location to achieve required lateral grade without going beyond downstream property limits and without going below the four o'clock or eight o'clock positions respectively, within drain line.

2. Keep tap location in line with original lateral.

3. When grade cannot be obtained within this criteria: Refer to Engineer for resolution.

B. Perform post-CTTV inspection of renewed lateral and mainline connection within 7 days.

END OF SECTION

MISCELLANEOUS WORK AND CLEANING UP

PART 1 GENERAL

1.01 WORK INCLUDED

A. Furnishing all labor, materials, equipment and incidentals required to do all miscellaneous work and cleaning up not otherwise specified including, but not limited to, the following:

1. Cleaning up the construction site.
2. Disposing of material and debris.
3. The extra work of crossing existing sewers, drains, electrical and telephone conduits and water mains.
4. Miscellaneous work associated with connecting to existing utilities.
5. Disconnecting, plugging and abandoning the existing piping including all excavation, backfill, concrete plugs and surface restoration items.
6. Furnishing, installing and removing project signs.
7. Coordination with the City of Portsmouth
8. All other work incidental to completing the project.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.01 CLEANUP

A. Remove all construction material, excess excavation, equipment or other debris remaining on the construction site as a result of construction operations and shall render the site of the work in a neat and orderly condition at least equal to that which existed prior to the start of construction.

B. Dispose of all materials and debris off-site in accordance with local, state and federal regulations.

3.02 INCIDENTAL WORK

A. Do all incidental work not otherwise specified but obviously necessary to the proper completion of the Contract as specified and as shown on the Drawings.

B. The CONTRACTOR shall be required to hire a competent professional to perform an inspection. The property and structures within the easement on private property and provide a written report. In addition the Contractor must provide a video documenting the preconstruction condition of the Project area including the easement area and structures. The video must be submitted to the City 14 days prior to the start on any work on the site.

END OF SECTION

APPENDIX

Shoreland Permit by Notification and Application

One Stop Data and Information

Wetland And Shoreland Permits Query Results

Column Definitions

Wetlands Contact: (603) 271-2147

Shoreland Contact: shoreland@des.nh.gov (603) 271-2147

This website was last updated on: 12/02/2014 09:12

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Wetlands Permits

File Number: 2014-02408

Application Type: SHORELAND PBN

Owner:
CARLTON MCNEIL
CITY OF PORTSMOUTH DPW
Location:
296 LESLIE DRIVE
PORTSMOUTH, NH
Water Body: NORTH MILL POND
Date Received: 08/27/2014
Proposed Project: Impact 500 sq. ft. to replace stormwater drainpipes.

Status: SHORELAND PBN ACCEPT
Tax Map: R-9
Lot Number: 48
Reviewer: DCF
Preliminary Category: SHORELAND PBN
Final Category: SHORELAND PBN
Agent:

1

Prev | Next

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Return to Query

New Hampshire Department of Environmental Services | PO Box 95 | 29 Hazen Drive | Concord, NH 03302-0095
603.271.3503 | TDD Access: Relay NH 1.800.735.2964 |
Hours: M-F, 8am-4pm

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
LAND RESOURCES MANAGEMENT
WETLANDS BUREAU
29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
Phone: (603) 271-2147 Fax: (603) 271-6588
Website: http://des.nh.gov/organization/divisions/water/wetlands/cspa/index.htm
Permit Application Status: http://www2.des.state.nh.us/OneStop/Wetland_Permits_Query.aspx

SHORELAND PERMIT BY NOTIFICATION (PBN) [1]

Office use only: Accepted ☐ Expires: ___/___/____ Rejected ☐
Check Amount $_____ Check No. _____ Initials: _____ Date: ___/___/___

Shoreland File Number 2014-_____ Reviewed Date: _____ Initials: ___

A. PROJECT AND OWNER INFORMATION

1. Project Property Address	Town/City		State	Zip code
296 Leslie Drive	Portsmouth		NH	03801
2. Waterbody Name	**Tax Map**	**Lot**	**Block**	**Unit**
North Mill Pond	209	48		

3. Property Owner Name (last, MI)	Phone No.	Fax No.	An email address authorizes electronic communication
City of Portsmouth - DPW	427-1530	427-1539	djdesfosses@pw.cityofportsmouth.com

Mailing address :	City:	State:	Zip code:
680 Peverly Hill Road	Portsmouth	NH	03801-5356

B. PROPOSED PROJECT DETAILS: (NOTE: This process cannot be used: a) for impacts to areas under the jurisdiction of RSA 482-A including surface waters and their banks, wetlands, tidal areas including the 100 ft tidal buffer zone, sand dunes and beaches , and; b) to expand the footprint of nonconforming primary structures within the waterfront buffer.)

TOTAL PROPOSED IMPACT AREA:	NEW IMPERVIOUS AREA PROPOSED:
500 square feet	square feet

DESCRIPTION: Conduct pipe bursting to replace existing 8" clay pipe with 12" HDPE stormwater drain pipes from Leslie Drive to Cutts Cove on North Mill Pond that will outlet into Cutts Cove that will be placed within easements obtained by the City of Portsmouth. A separate wetland permit has been submitted for the work in the Cutts Cove/ North Mill Pond wetland and 100 ft. upland tidal buffer area. The replacement ed drainage system will include a new headwall and erosion stone apron as shown on the attached plan. The work area is located within and beyond the shoreland area of North Mill Pond. A copy of the easements are included with this application.

C. CONDITIONS: Agree to the following Permit by Notification conditions by initialing each one:

PHR Env-Wq 1406.17(a)	Erosion and siltation control measures shall (1) Be installed prior to the start of work; (2) Be maintained throughout the project; and (3) Remain in place until all disturbed surfaces are stabilized.
PHR Env-Wq 1406.17(b)	Erosion and siltation controls shall be appropriate to the size and nature of the project and to the physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to wetlands or surface waters.
PHR Env-Wq 1406.17(c)	No person undertaking any activity in the protected Shoreland shall cause or contribute to, or allow the activity to cause or contribute to, any violations of the surface water quality standards established in Env-Ws 1700 or successor rules in Env-Wq 1700.
PHR Env-Wq 1406.17(d)	Any fill used shall be clean sand, gravel, rock, or other suitable material.
PHR Env-Wq 1406.05	Upon receiving acceptance of this Permit by Notification, a copy of page one of this form shall be posted on site prior to the start of work.

[1] Form is not valid unless a shoreland file number is assigned and the notification is accepted, dated and initialed by DES.

D. PBN CRITERIA: In addition to meeting all requirements of RSA 483-B and Rule Chapter Env-Ws1400 the project must meet one of the following. Please check the appropriate qualifying criteria per RSA 483-B:5-b:	
☒	1. This project will result in less than 1,500 sq ft of total impact area, of which no more than 900 square feet will be added impervious area (*excluding public infrastructure projects*); or
☒	2. This is a public infrastructure maintenance or repair project (public utilities, public roadways and access facilities); or
☒	3. This project is directly related to stormwater management improvements, erosion control projects or environmental restoration or enhancement; or
☐	4. This project is an activity defined as qualified for a permit by notification under Env-Wq 1406.05. Identify the specific paragraph under Env-Wq 1406.05 qualifying this project: ☐ Env-Wq 1406.05(a) relative to geotechnical borings ☐ Env-Wq 1406.05(b) relative to monitoring wells ☐ Env-Wq 1406.05(c) relative to drinking water wells ☐ Env-Wq 1406.05(d) relative to remediation activities

E. IMPACT AREA AND APPLICATION FEE: Indicate the project type, impact area and fee by checking the appropriate box below.		
☐	1. The proposed project will temporarily impact square feet and permanently impact square feet for a total of square feet of impact within 250 feet of the reference line. Total Impact area x $0.10 per square foot + $100 = **This is the project filing fee. If the result is more the $250 you cannot use this form.**	(Max $250) $
☒	2. The proposed project is a public infrastructure maintenance or repair project.	Fee Exempt
☐	3. The proposed project meets the criteria of Section D.3. above.	$100.00

F. REQUIRED CERTIFICATIONS: Read and, by hand, initial each of the blank spaces below. By initialing each box and signing below, you are *certifying* that you understand and agree to comply with each statement.	
DLG	1. I understand that any impacts completed under a Permit by Notification filed and accepted based on false, incomplete, or misleading information on the application, plans or attachments shall be subject to enforcement action.
DLG	2. I am aware that an accepted Shoreland Permit by Notification will not exempt the work I am proposing from other state, local or federal approvals.
DLG	3. I am aware of the requirements regarding impervious area thresholds and have provided all necessary materials necessary to clearly demonstrate this project meets at least the minimum standards of RSA 483:B:9, V(g) 1,2 and 3.
DLG	4. I understand that project proposals that do not meet the minimum standards of RSA 483-B and Administrative Rules Chapter Env-Wq 1400 shall be rejected.
DLG	5. I understand that failure to conduct the work in accordance with the plans and materials submitted with this Notification shall be considered work without a permit and subject to enforcement action. I agree to conduct all work under this Permit by Notification in accordance with the conditions specified in Section C, above.
DLG	6. I understand that incomplete notifications will be rejected and the notification fee will be forfeited.

G. REQUIRED SIGNATURE	
Signature of Owner: *(agent may not sign on owner's behalf)*	**Date:** 8/25/14

H. AGENT INFORMATION: If this form has been completed by an agent or any person acting on behalf of the owner, said person shall provide the following information: (*Signature of owner must be present on in Section G*)			
1. Agent Name(last, first, MI)	Phone No.	Fax No.	An email address authorizes electronic communication
Stantec Consulting Services, Inc. C/o Michael Leach	669-8672	669-7636	michael.leach@stantec.com
Mailing address	Town/City	State	Zip code
5 Dartmouth Drive – Suite 101	Auburn	NH	03032

SHORELAND PERMIT BY NOTIFICATION (PBN)

Shoreland File Number 2014 - _____ Reviewed Date: _____ Initials: ___

Office use only: Accepted ☐ Rejected ☐ Date notified: _____

If rejected, reason: _____

_____

Please Note: If the notification is rejected, a complete new notification, including the fee, will be required.

Property Owner	Project Address	Town/City	State	Zip code
City of Portsmouth	Brewster Street	Portsmouth	NH	03801

I. INFORMATION REQUIRED FOR NOTIFICATION ACCEPTANCE:

Your notification package will be rejected if: **a) It does not include the following required information.** (Initial in the left column if item is included or initial and check N/A if item is not applicable. Do not leave items blank.); **b) It does not qualify for a Shoreland PBN under Section "D" of this Notification.**		**DES USE ONLY**
RSA 483-B:5-b, I (a)	A **fully completed** Notification Form signed by the owner of property	**Y N**
RSA 483-B:5-b, I (a), 483-B:9, Env-Wq 1406.09 and Wq 1406.10	Plans showing the subject property line that clearly and accurately depict the work to be completed relative to the reference line of the jurisdictional waterbody, including the following: ▪ The scale used on the plan; ▪ A north-pointing arrow, indicating orientation; ▪ A legend that clearly indicates all symbols, line types and shadings; ▪ The property lines, reference line, the primary structure setback line, the natural woodland buffer and the protected shoreland zone; ▪ The dimensions and locations of all existing and proposed impervious areas. If there are no additional impervious areas, do not show existing impervious areas; ▪ The dimensions, locations, and descriptions of all proposed temporary impacts associated with completion of the project.	**Y N**
Env-Wq 1406.10(e)	Plans depicting a cross-section of any pervious surface technologies. Check N/A if no pervious surface technologies are associated with this project ☒ N/A	**Y N**
RSA 483-B:9, V(g)(2) and Env-Wq 1500	If post-construction impervious area will be greater than 20%, plans for a stormwater management system that will infiltrate increased stormwater from development. Check N/A if proposed project has a post-construction impervious area of 20 % or less ☒ N/A	**Y N**
RSA 483-B:9, V(g)(1) &(3) and Env-Wq 1500	If post-construction impervious area is greater than 30%, plans which demonstrate that: ▪ Each grid segment of the waterfront buffer meets the minimum required tree, sapling, shrub and ground cover score; **and** ▪ A stormwater management system that will not concentrate stormwater runoff or contribute to erosion has been designed and certified by a professional engineer. Check N/A if proposed project has a post-construction impervious area of 30 % or less ☒ N/A	**Y N**
Env-Wq 1406.10(f)	If proposed project includes work within the waterfront buffer, plans which delineate: ▪ Each grid segment of the waterfront buffer that will be impacted by the project; **and** ▪ The location and diameter of all trees and saplings and the location of all shrubs and groundcover within each segment to be impacted; **and** ▪ A designation of the trees, saplings and shrubs, over 3 feet in height and groundcover to be cut during the project. Check N/A if proposed project has no work planned within the waterfront buffer. ☐ N/A	**Y N**
RSA 483-B:5-b, I (a)	Dated photographs, clearly showing the area to be impacted.	**Y N**
RSA 483-B:5-b, I(b)(1)	Fee, as indicated in Section E. Check or Money Order made out to **"Treasurer-State of NH"**	**Y N**

KNOW ALL MEN BY THESE PRESENTS:

That the Margo Construction Co., Inc., a corporation duly established under the laws of the State of New Hampshire, and having a place of business at Portsmouth, County of Rockingham and State of New Hampshire for and in consideration of One ($1.00) Dollar and other valuable considerations paid, grant to Carlton J. McNeil and Phyllis E. McNeil, both of Portsmouth, in the County of Rockingham and State of New Hampshire, as joint tenants and not as tenants in common, to them the survivor of them, his or her heirs forever,

A certain lot or parcel of land with the buildings thereon situate in Portsmouth, County of Rockingham and State of New Hampshire on the Easterly side of Cutts Street, the same being lot #27 as shown on a plan of Bersum Gardens for Margo Construction Co., Inc., dated October, 1955, John W. Durgin, C. E. and recorded in the Rockingham County Registry of Deeds, Plat 67, Page 14, and more particularly described as follows:

Beginning at the Southwesterly corner of said lot #27 at an iron stake at Leslie Drive, a public way as shown on said plan at the Southeasterly corner of lot #26, thence running North 6° 43' West by said lot #26, 190 feet more or less to a creek as shown on said plan, thence running Southeasterly by said creek a distance of 170 feet more or less to the Northwesterly corner of lot #28, thence turning and running South 26° 28' West by said lot #28, 143 feet more or less to an iron stake at said Leslie Drive, thence turning and running North 63°32' West by said Leslie Drive, 26.57 feet, and thence continuing on a curve to the left of said Leslie Drive, said curve having a radius of 75 feet, a distance of 43.43 feet to the point of beginning.

Reserving to the Grantor, its successors and assigns, the right to maintain a sewer line across the Westerly bound of said lot, and the right to go upon said lot for the purpose of maintaining, repairing or replacing any sewer line contained therein.

Subject to the protective covenants recorded by said corporation on July 7, 1955 and recorded in Rockingham Registry of Deeds in Book 1360, Page 298.

Being part of the premises conveyed by Herry Winebaum to Margo Construction Co., Inc. by deed dated November 28, 1955 and recorded in Rockingham County Registry of Deeds, Book 1378, Page 82.

IN WITNESS WHEREOF, the said Margo Construction Co., Inc. has set its hand and affixed its corporate seal by Leo B. Margolian, its Treasurer duly authorized, this 3rd day of January, 1957.

Witness:

MARGO CONSTRUCTION CO., INC.

By Leo B. Margolian
Treasurer

STATE OF NEW HAMPSHIRE

County of Rockingham

On this the 3rd day of January, 1957, before me, Samuel Levy, the undersigned officer, personally appeared Leo B.

Wetland Permit Application for Parcel 48 on Map 209
Leslie Drive Drainage Improvements - Portsmouth NH
Applicant: City of Portsmouth – DPW

WRITTEN NOTIFICATION LIST FOR

WETLANDS & SHORELAND PERMIT

Map 209 Lot 47
Kyle Crossen Langelier
304 Leslie Drive
Portsmouth, NH 03801

Map 209 Lot 48
William Capp Pierce.
53 Rodgers Road
Kittery, ME 03904

Map 209 Lot 49
Robert P. Sullivan
208 Leslie Drive
Portsmouth, NH 03801

Map 209 Lot 50
Laurie Bowditch Rosa
264 Leslie Drive
Portsmouth, NH 03801

Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 101, Auburn NH 03032

WRITTEN NOTIFICATION FOR WETLAND AND SHORELAND PERMIT APPLICATION

August 21, 2014

City of Portsmouth
P.O. Box 628
Portsmouth, NH 03802

Re: Proposed Drainage Improvements
Leslie Drive to Cutts Cove- Portsmouth, NH and
Tax Map 209 – Lot 48
Applicant: City of Portsmouth, NH

Dear Abutter:

This letter is to inform you that the City of Portsmouth, Owner of the above referenced project, will be applying to the New Hampshire Wetlands Bureau for a Wetlands Permit for temporary and permanent impacts to the tidal wetland and 100 foot upland tidal buffer area of the Cutts Cove portion of North Mill Pond and for a Shoreland Permit for temporary impacts within 250 feet Shoreland Area of the Cutts Cove portion of North Mill Pond. The project proposed to pipe burst the existing 8" clay pipe and replace the pipe with a 12" HDPE pipe with a headwall and erosion stone apron at the outlet location within Cutts Cove, a tidal wetland. The project proposed to impact a total of ***3,200*** square feet (SF) of wetlands and 100 foot upland tidal buffer area with ***3,100 SF*** being temporary impacts for construction and also proposes ***600 SF*** of temporary impact to the 250 foot Shoreland Area beyond the 100 foot upland tidal buffer area associated with the construction. The proposed temporary impacts are located within the City's easement upon the above noted parcel. The project will impact a total of approximately ***3,800 SF*** of Wetlands, 100 foot upland tidal buffer area and Shoreland area associated with Cutts Cove and North Mill Pond with most of the impact temporary for construction of this necessary improvement. Under state law RSA 482-A:3 I (d)(1), it is required that you are notified about the application, which proposes work near your property.

Once the applications have been submitted, copies of the applications and plans will be available at the New Hampshire Wetlands Bureau in Concord, New Hampshire and at the City of Portsmouth Planning Department during normal business hours. Please call ahead to ensure the application is available for your review.

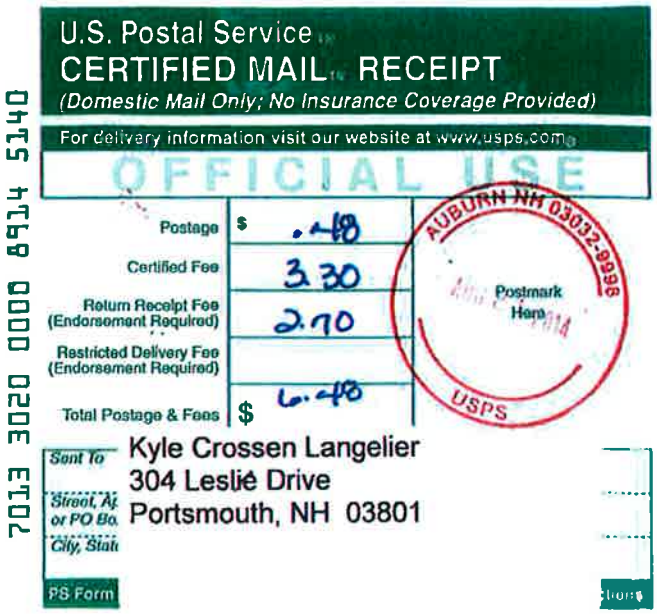
If you have any questions, you may contact at 206-7538.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Michael Leach, CWS
Associate
Tel: (603) 206-7538
Fax: (603) 669-7636
michael.leach@stantec.com


7013 3020 0000 8914 5133
U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
OFFICIAL USE
Postage $ .48
Certified Fee 3.30
Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Sent To
William Capp Pierce.
53 Rodgers Road
Kittery, ME 03904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(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
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Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Sent To
Kyle Crossen Langelier
304 Leslie Drive
Portsmouth, NH 03801


7013 3020 0000 8914 5126
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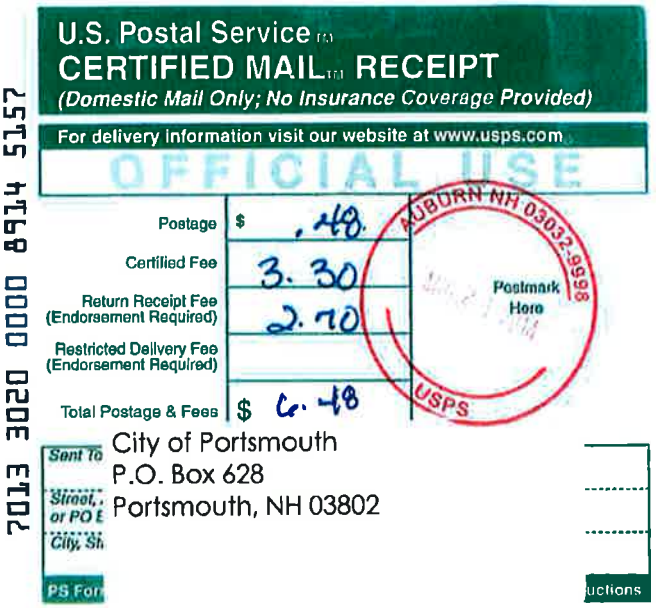
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
OFFICIAL USE
Postage $ .48
Certified Fee 3.30
Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Sent To
Robert P. Sullivan
208 Leslie Drive
Portsmouth, NH 03801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Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Sent To
City of Portsmouth
P.O. Box 628
Portsmouth, NH 03802


7013 3020 0000 8914 5119
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(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
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Certified Fee 3.30
Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Laurie Bowditch Rosa
264 Leslie Drive
Portsmouth, NH 03801

Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

Suggested Construction Sequence:

1. Using men and equipment, the Contractor shall excavate a pit for bursting equipment in Leslie Drive at existing drain manhole and thread a cable in existing 8" pipe to the outlet location.

2. Using men and equipment, the Contractor shall clear a path for equipment to access outlet location. Using low impact equipment and appropriate erosion control measures to minimize impacts in the wetland area, the Contractor places temporary diversion sandbag dam around outside limits of outlet apron area to receive cable and conduct pipe burst operation. The work area should be dewatered using appropriate measures with the dewater treatment measures located a minimum 30 feet from the wetlands.

3. The Contractor shall monitor and adjust sandbags as necessary to maintain appropriate conditions to conduct construction and dewater. Sandbag dam should prevent tidal flows into new pipe and unstablized areas.

4. The Contractor assembles 12" HDPE pipe and shall float the pipe in water to outlet location. The Contractor sets up bursting head at outlet location, attaches cable and new HDPE and pulls pipe bursting head and HDPE pipe from outlet location toward drain manhole in Leslie Drive.

5. The Contractor shall monitor and stabilize temporary access area in wetlands with appropriate erosion measures.

6. Upon completion of pipe bursting and HDPE pipe installation to Leslie Drive location, the Contractor shall install a headwall at end of HDPE pipe and install an erosion stone apron. Next, the Contractor shall remove the temporary division sandbags at the downstream end upon completion of the headwall and erosion stone apron installation and at appropriate tide conditions.

7. The Contractor shall remove the pipe bursting equipment from pit in Leslie Drive and connect pipe to existing drain manhole in Leslie Drive. The Contractor shall connect the two (2) footing drains from the existing buildings to new HDPE pipe in driveway area.

8. The Contractor shall backfill, compact and pave Leslie Drive and existing driveway locations.

9. The Contractor shall stabilize and restore impacted wetlands and 100- foot buffer zone area along temporary access.

10. The Contractor shall complete restoration and stabilize of all disturbed areas. Monitor, repair and restore all disturbed areas.

BMP #5

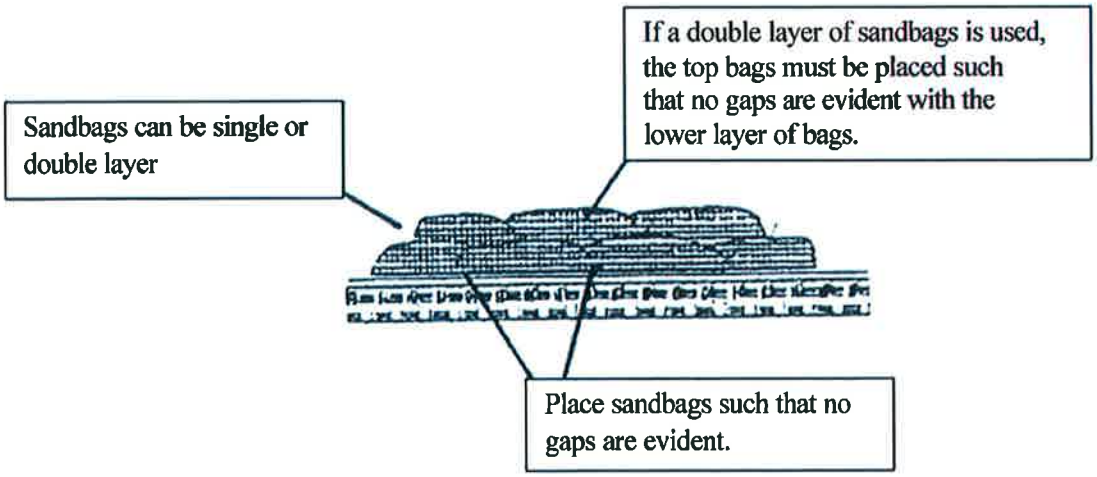
Sandbags

Sandbags work well as diversion structures, temporary cofferdams, sediment control devices and temporary flow dissipaters during any number of routine roadway maintenance activities.

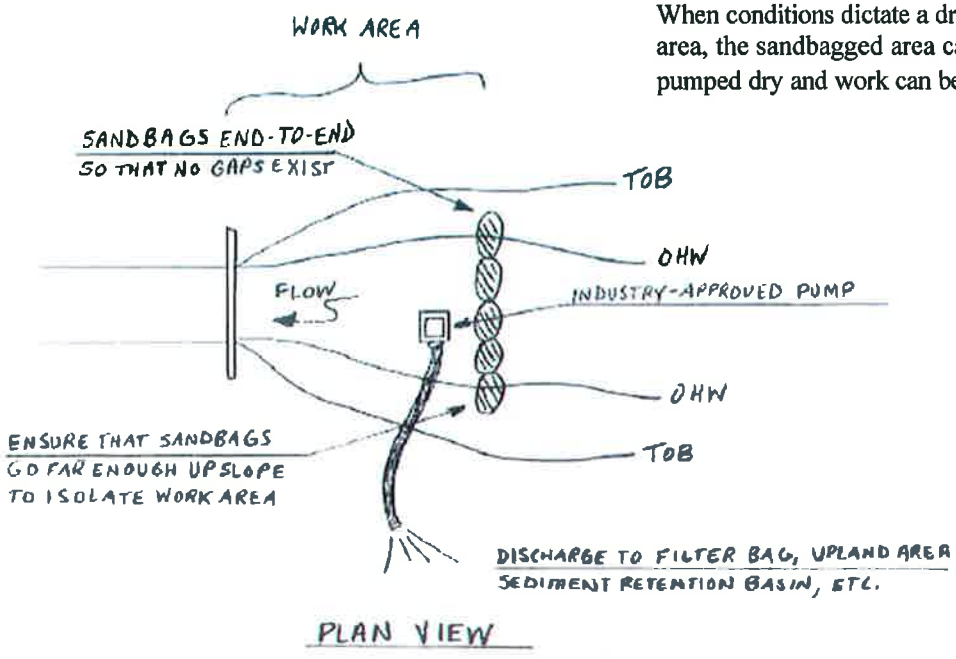
When appropriately designed and used as a cofferdam, these sandbags are stable enough for water to pond behind them. The ponded water behind the dam structure can then be pumped to a sediment retention basin or filter bag to allow work to be performed in-the-dry.

When used in conjunction with other BMPs, sandbags can be useful at:

- ensuring that sediment does not enter surface waters or wetlands while stabilizing exposed soil surfaces;
- helping to retain sediment in a sediment retention basin; and
- diverting and/or dissipating runoff water during roadside ditch maintenance.



Sandbags used as a cofferdam below:



When conditions dictate a dry work area, the sandbagged area can be pumped dry and work can begin.

New Hampshire Natural Heritage Bureau

To: Michael Leach
5 Dartmouth Drive - Suite 101
Auburn, NH 03032

Date: 4/1/2014

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 4/1/2014

NHB File ID: NHB14-1141 **Applicant:** Michael Leach

Location: Tax Map(s)/Lot(s):
Portsmouth

Project Description: Upgrade and Replacement of existing drainage pipe

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

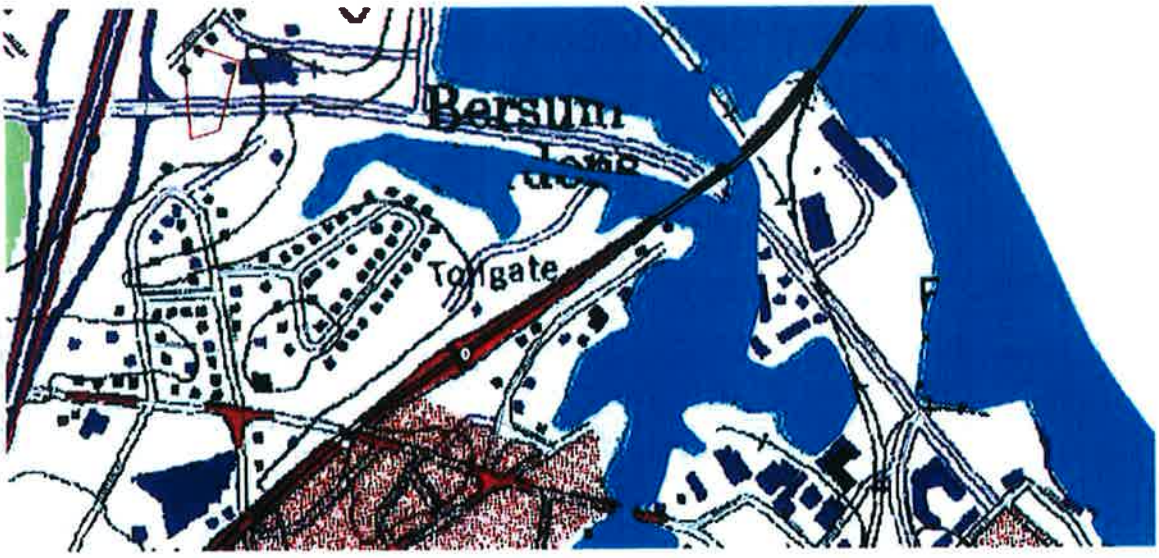
A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 3/31/2015.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

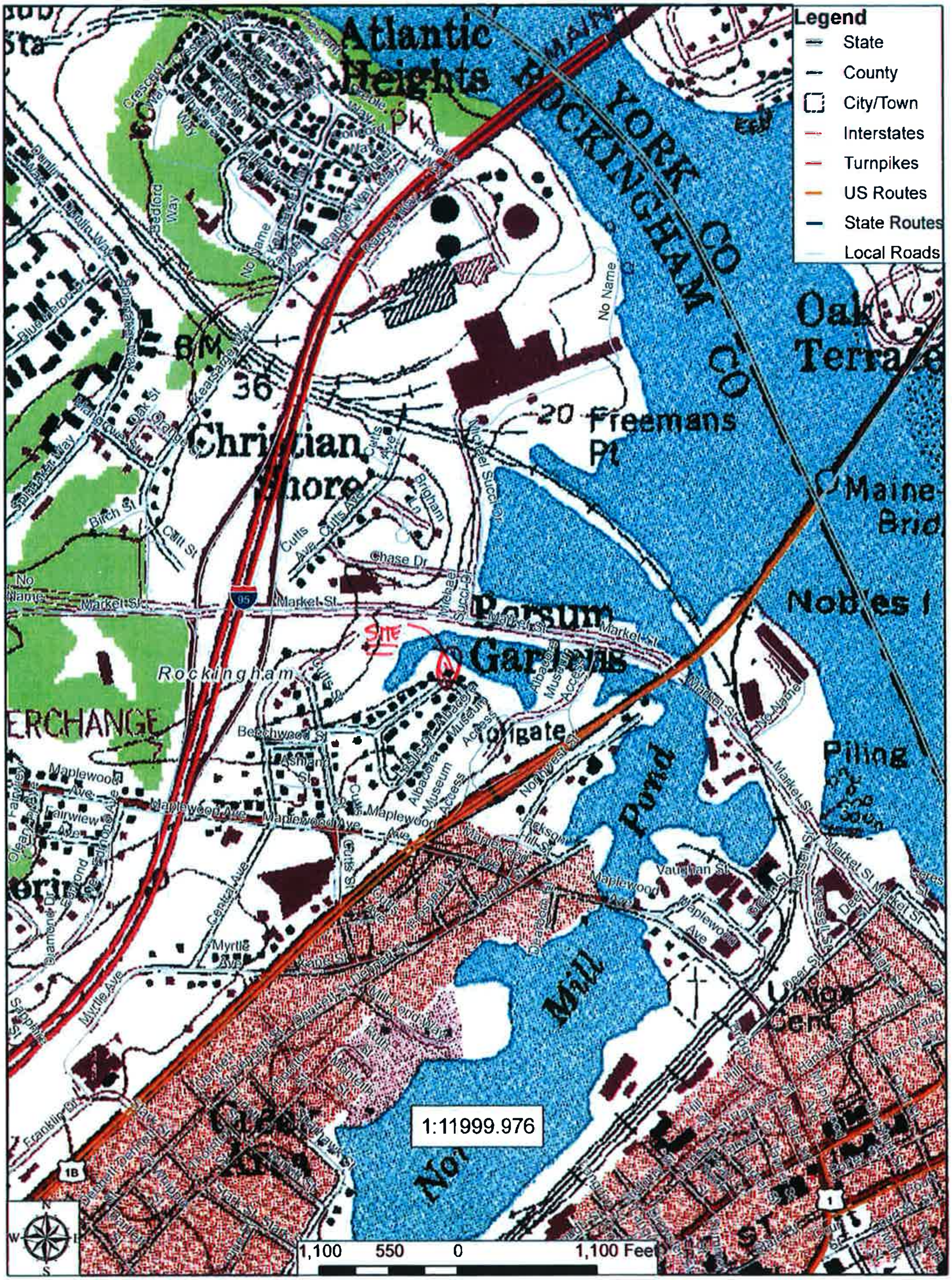
DRED/NHB
PO Box 1856
Concord NH 03302-1856

MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB14-1141



Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856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County
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Interstates
Turnpikes
US Routes
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Local Roads
Atlantic Heights
YORK CO
ROCKINGHAM CO
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Christian Shore
Freemans Pt
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Market St
Rockingham
SITE
Tollgate
Pond
Mill
Piling
Maplewood Ave
1:11999.976
1,100
550
0
1,100 Feet


View
Map Layers
Tools
Help
Visit the GRANIT website at www.granit.unh.edu/
SITE
Rockingham
Current Scale = 1:2,257

Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

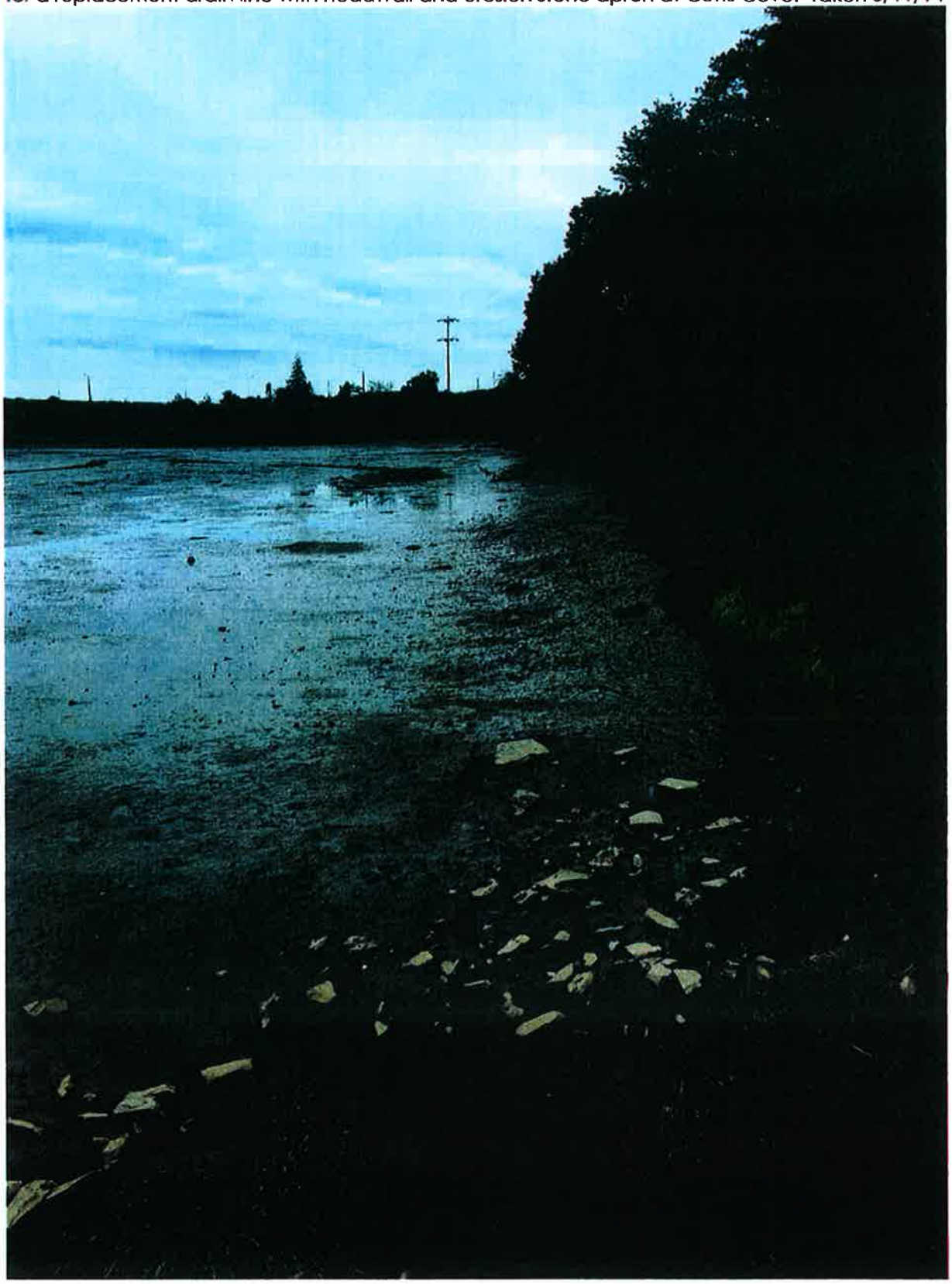
#1 Standing south of the existing pipe outlet location within the tidal wetlands looking northerly toward the outlet area and erosion area and proposed area of work for a replacement drain line outlet with headwall and erosion stone apron at Cutts Cove. Taken 6/11/14

Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#2 Standing north of the existing pipe outlet location within the tidal creek area of Cutts Cove looking southerly toward the outlet area and erosion area and proposed area of work for a replacement drain line outlet with headwall and erosion stone apron at Cutts Cove. Taken 6/11/14

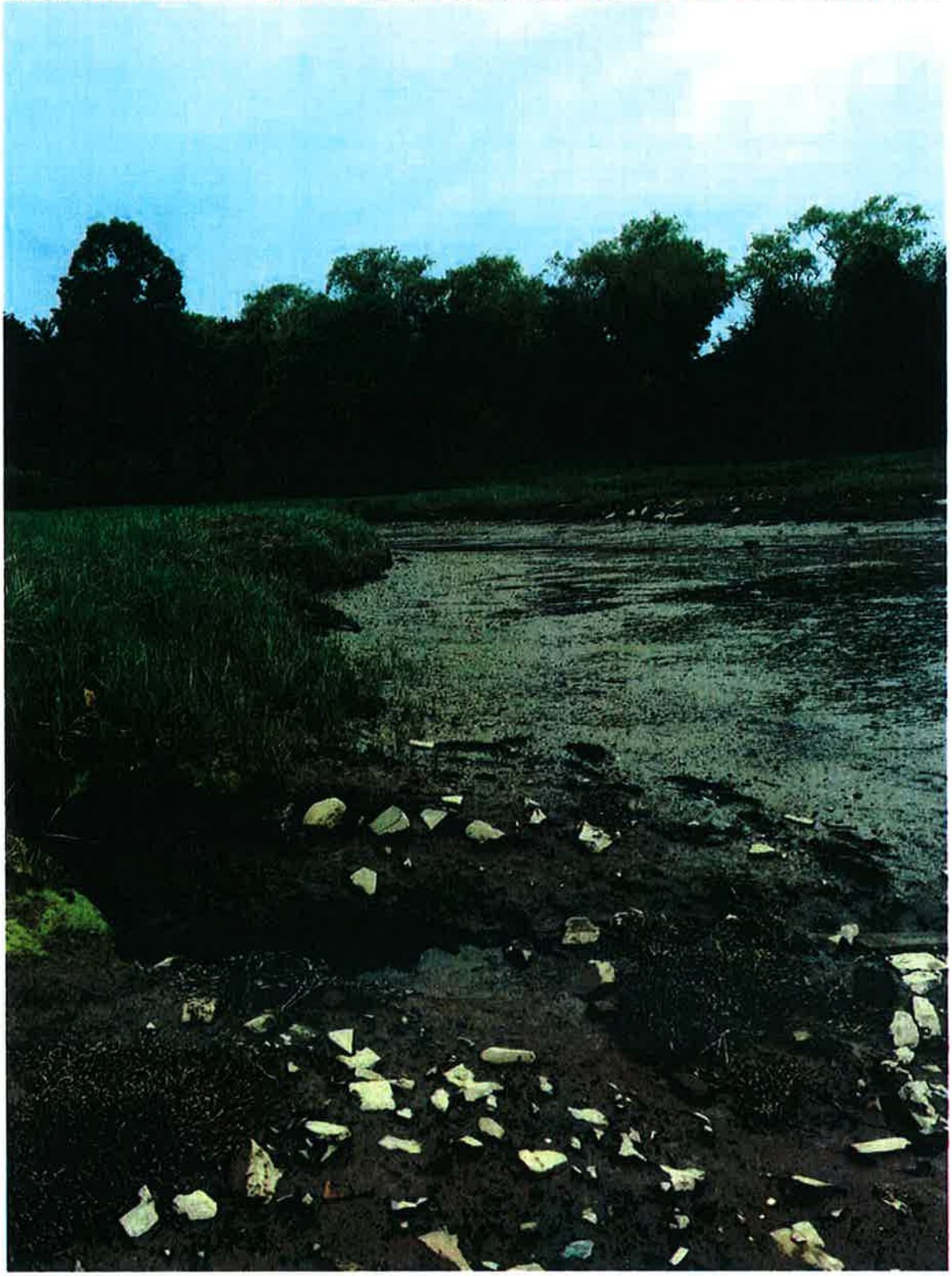
Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#3 Standing west of the existing pipe outlet location within the tidal wetlands looking easterly and downstream along the creek toward the outlet area and erosion area and proposed area of work for a replacement drain line with headwall and erosion stone apron at Cutts Cove. Taken 6/11/14



Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#4 Standing east of the existing pipe outlet location within the tidal wetlands looking westerly and upstream along the creek toward the outlet area and erosion area and proposed area of work for a replacement drain line with headwall and erosion stone apron at Cutts Cove. Taken 6/11/14

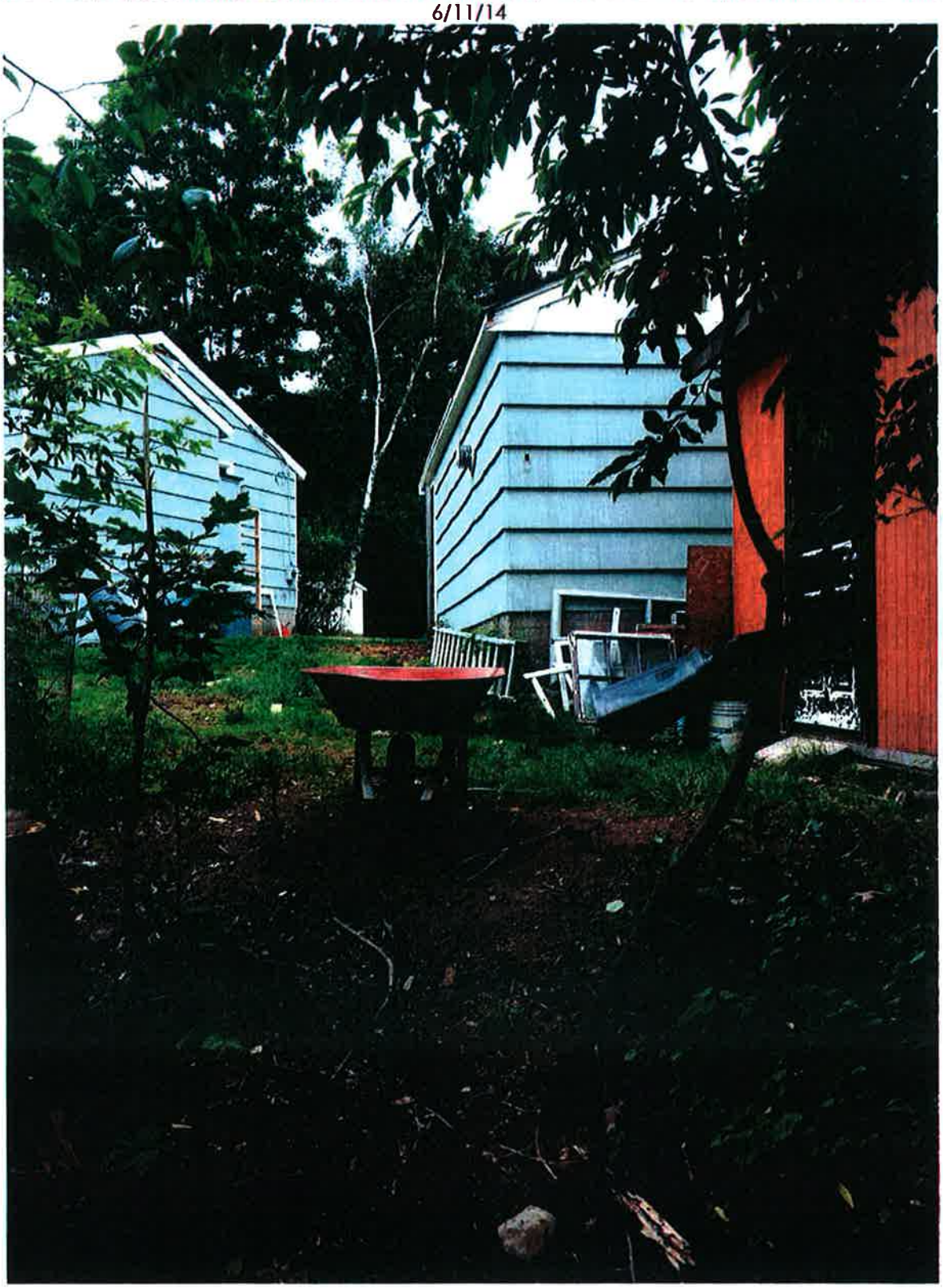


Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#5 Standing near the toe of bank of Cutts Cove near the proposed access route to the pipe outlet location and looking southerly along the existing embankment area toward Leslie Drive proposed temporary impact area for the proposed drain line replacement work. Taken 6/11/14

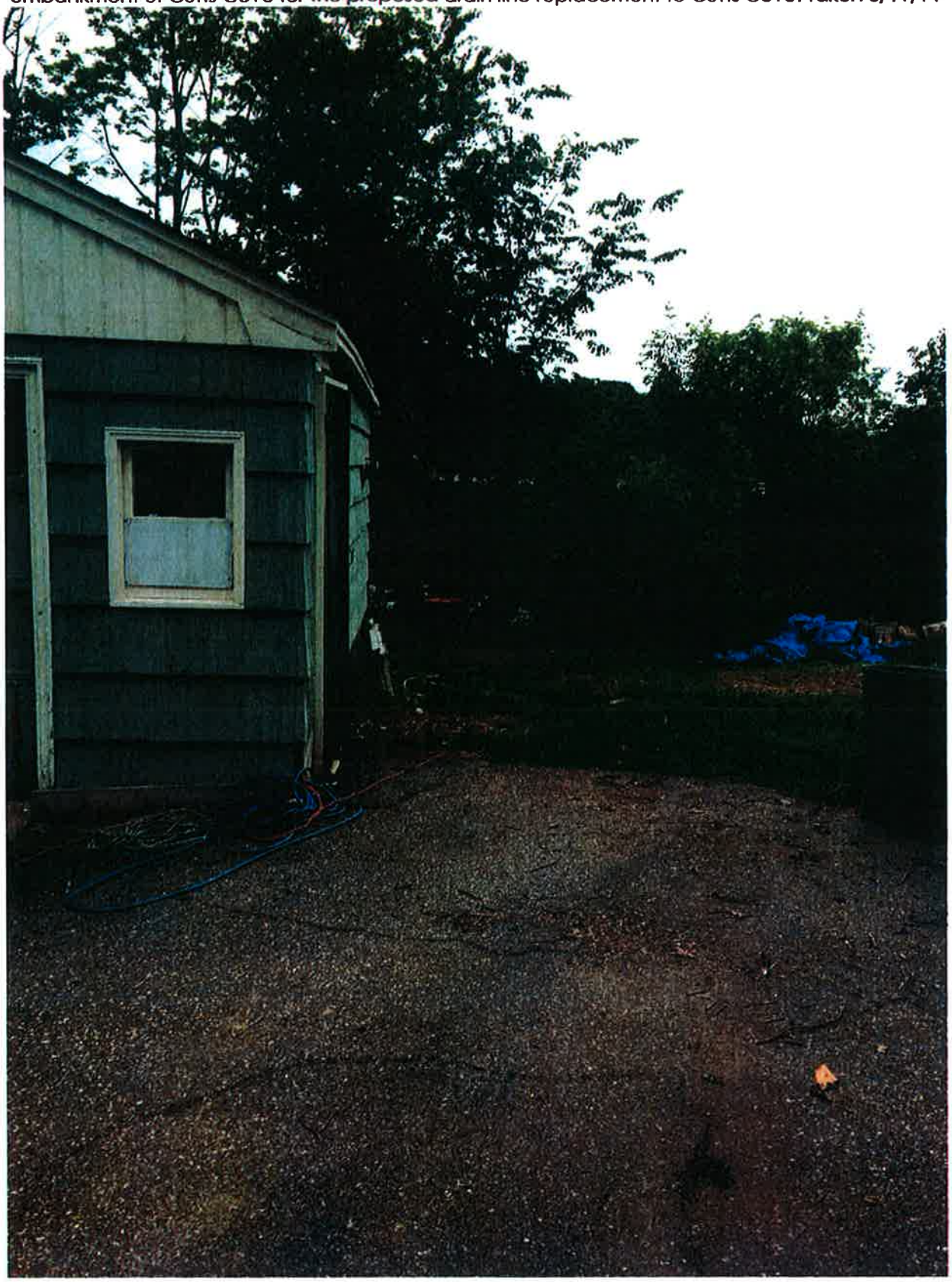
Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#6 Standing near the top of bank of Cutts Cove near the proposed access route to the pipe outlet location and looking southerly along the existing developed 100 Ft tidal buffer zone toward Leslie Drive and proposed temporary impact area for the proposed drain line replacement work. Taken 6/11/14



Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

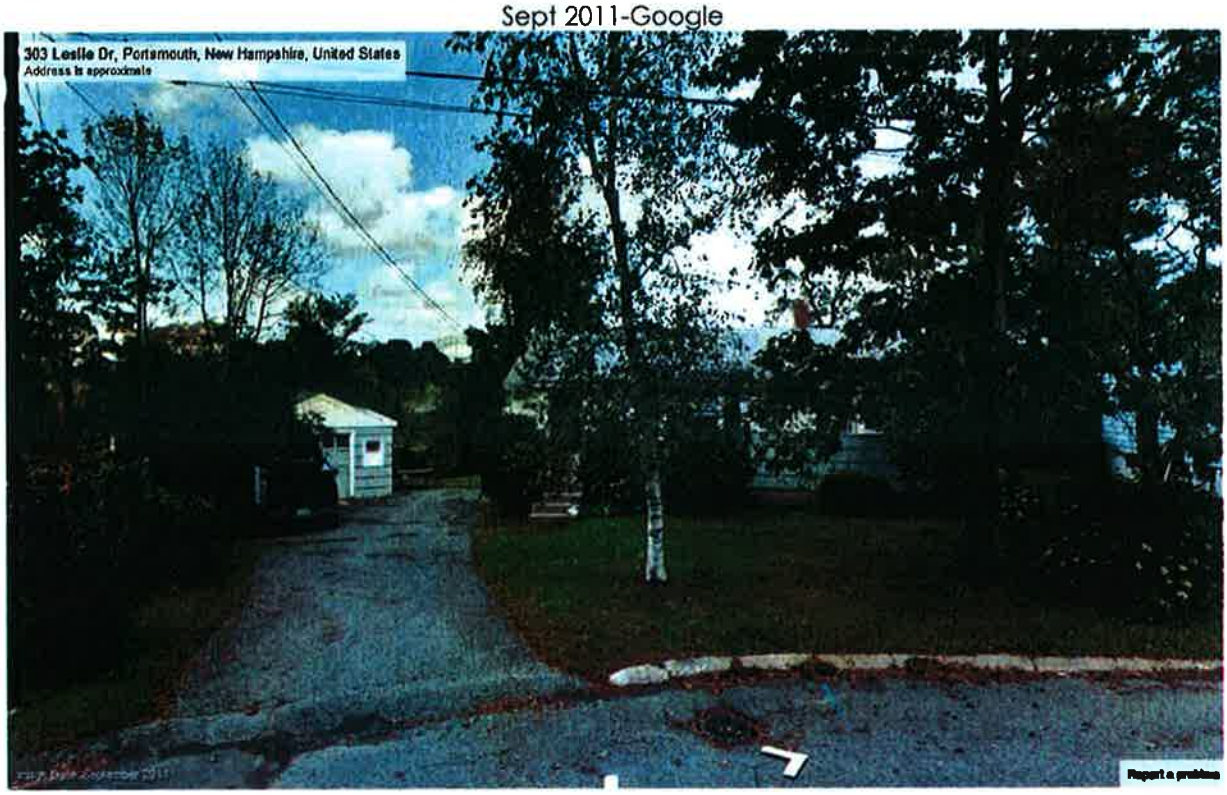
#7 Standing in the driveway of #296 Leslie Drive and the proposed excavation area within the 100 Ft tidal buffer zone and looking northerly across the proposed temporary impact area and top of embankment of Cutts Cove for the proposed drain line replacement to Cutts Cove. Taken 6/11/14

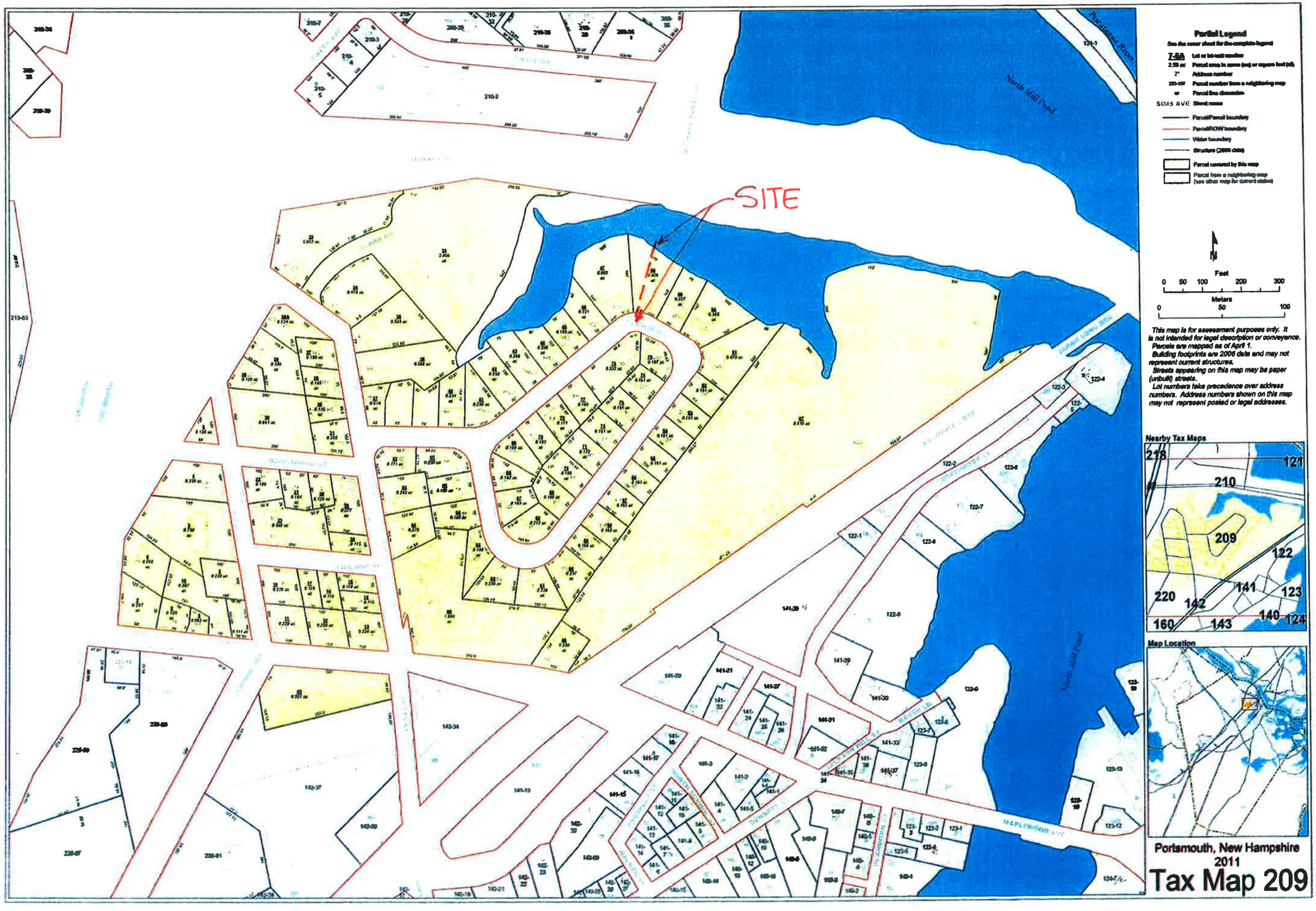


Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

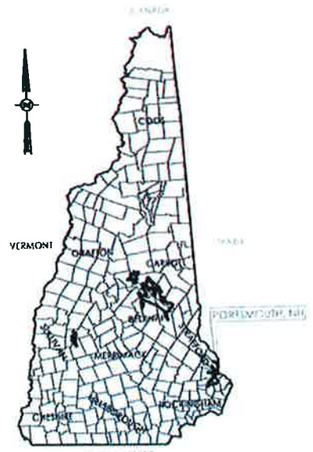
#8 Standing along Leslie Drive opposite #296 and east of the proposed temporary impact area and looking westerly at the existing drain manhole and proposed area work to conduct pipe bursting and proposed replacement of the drain line to Cutts Cove. Taken Sept 2011 - Google

#9 Standing near the existing manhole in Leslie Drive and opposite #296 and at the edge of the proposed temporary impact area and looking northerly toward Cutts Cove at the proposed work area to conduct pipe bursting and proposed replacement of the drain line to Cutts Cove. Taken Sept 2011-Google

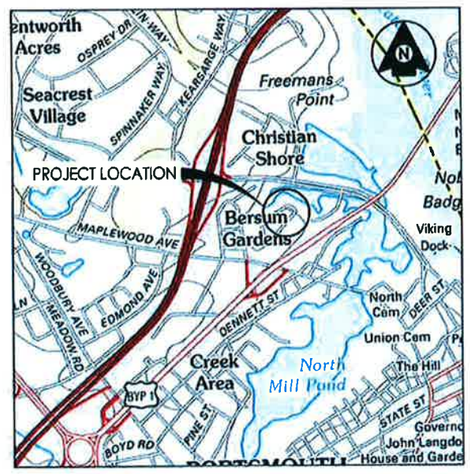



SITE
North Mill Pond
Piscataqua River
SIMS AVE
MAPLEWOOD AVE
Parcel Legend
See the cover sheet for the complete legend
7-5A Lot or lot-unit number
2.59 ac Parcel area in acres (sq), or square feet (sf)
7 Address number
203-107 Parcel number from a neighboring map
xx Parcel line dimension
SIMS AVE Street name
Parcel/Parcel boundary
Parcel/ROW boundary
Water boundary
Structure (2006 data)
Parcel covered by this map
Parcel from a neighboring map (see other map for current status)
Feet
0 50 100 200 300
Meters
0 50 100
This map is for assessment purposes only. It is not intended for legal description or conveyance.
Parcels are mapped as of April 1.
Building footprints are 2006 data and may not represent current structures.
Streets appearing on this map may be paper (unbuilt) streets.
Lot numbers take precedence over address numbers. Address numbers shown on this map may not represent posted or legal addresses.
Nearby Tax Maps
Map Location
Portsmouth, New Hampshire
2011
Tax Map 209

Stantec



LOCATION MAP



VICINITY MAP
1"=1000'

CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS
LESLIE DRIVE DRAINAGE IMPROVEMENTS

JULY 2014

Project Number: 195112947

INDEX OF SHEETS

ISSUED FOR PERMIT
AUGUST 2014

MAYOR
ROBERT LISTER

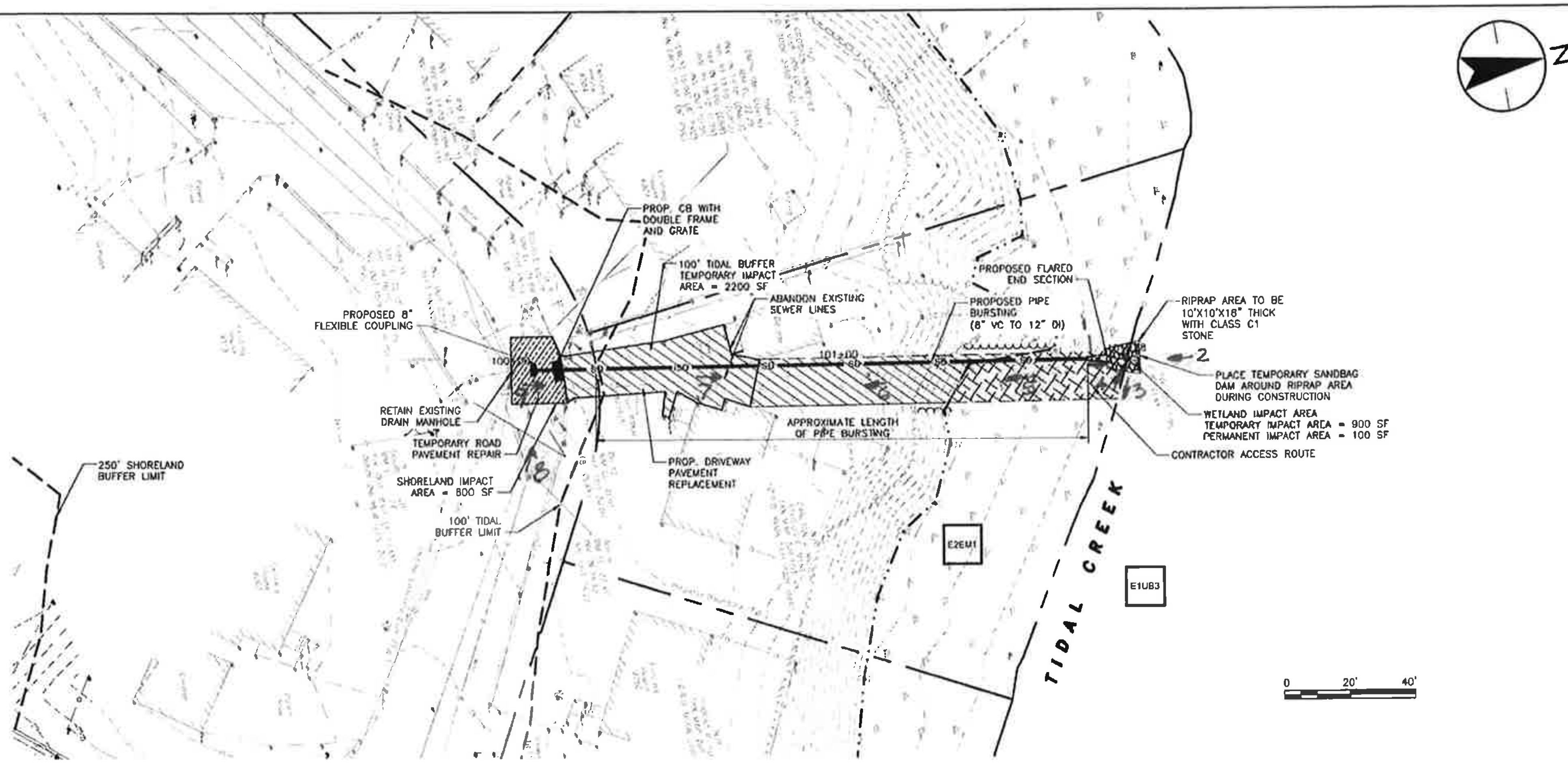
CITY MANAGER
JOHN P. BOHENKO

PUBLIC WORKS DIRECTOR
PETER RICE, P.E.

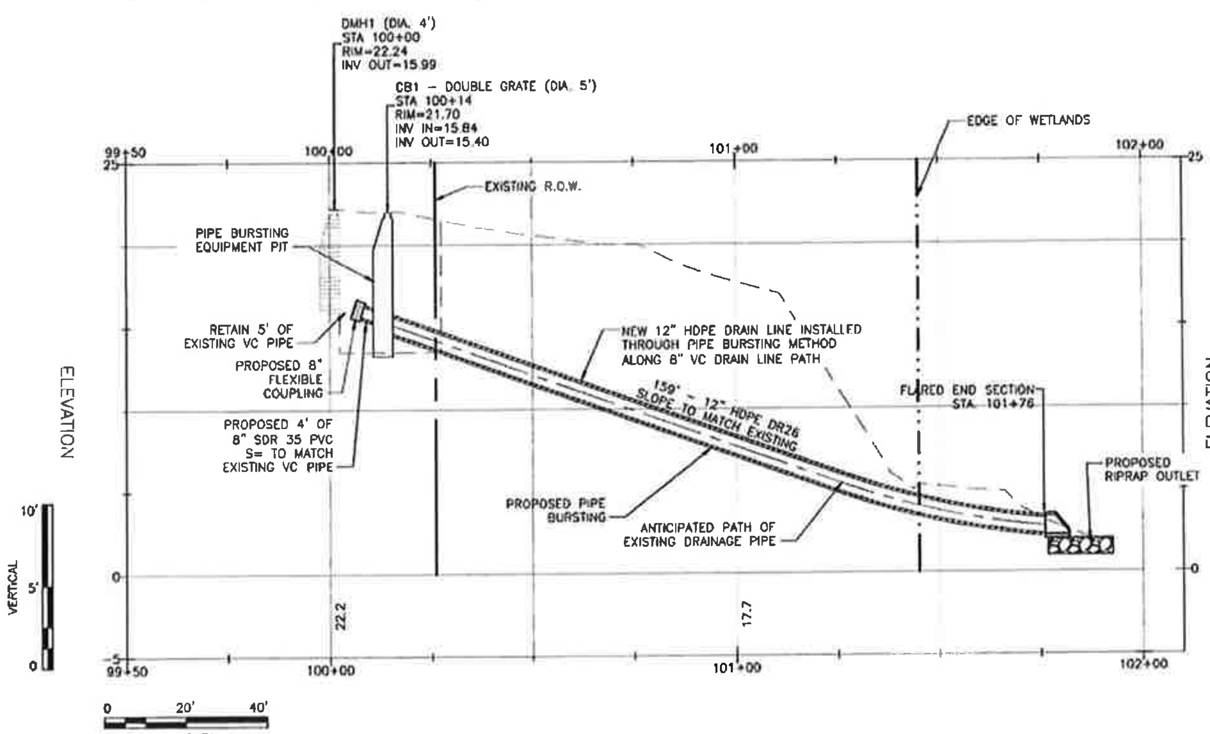
Set No.

EXISTING LEGEND

- EXISTING BOUND
- EXISTING SURVEY POINT
- EXISTING CATCH BASIN (SQUARE)
- EXISTING CATCH BASIN (ROUND)
- EXISTING DRAIN MANHOLE (DMH)
- EXISTING ELECTRICAL MANHOLE
- EXISTING GUY POLE
- EXISTING HYDRANT
- EXISTING IRON PIN
- EXISTING NATURAL GAS MANHOLE
- EXISTING SEWER MANHOLE (SMH)
- EXISTING SINGLE POLE SIGN
- EXISTING DOUBLE POLE SIGN
- EXISTING FLOOD LIGHT
- EXISTING LIGHT POST
- EXISTING MAILBOX
- EXISTING DRAINAGE FLOW
- EXISTING WETLAND
- EXISTING UTILITY POLE
- EXISTING WATER SHUTOFF
- EXISTING GATE VALVE
- EXISTING WELL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING DITCH/SWALE
- EXISTING EDGE OF WATER
- EXISTING WETLAND BOUNDARY
- EXISTING EASEMENT
- EXISTING PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FUEL GAS
- EXISTING NATURAL GAS
- EXISTING OVERHEAD POWER
- EXISTING UNDERGROUND POWER
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- EXISTING WATER MAIN
- EXISTING OVERHEAD TELEPHONE
- EXISTING FENCE
- EXISTING CHAINLINK FENCE
- EXISTING WOODEN FENCE
- EXISTING RETAINING WALL
- EXISTING HAYBALES
- EXISTING STONE WALL
- SHORELAND IMPACT AREA
- TIDAL BUFFER TEMPORARY IMPACT AREA
- WETLAND IMPACT AREA



WETLAND CLASSIFICATION CODES	
E1UB3	ESTUARINE, SUBTIDAL, UNCONSOLIDATED BOTTOM, MUD
E2EM1	ESTUARINE, INTERTIDAL, EMERGENT, PERSISTENT



LESLIE DRIVE DRAINAGE IMPROVEMENTS
CITY OF PORTSMOUTH AND TAX MAP 209 – PARCEL 48
APPLICANT: CITY OF PORTSMOUTH– DPW
AGENT: STANTEC CONSULTING SERVICES, INC

SUGGESTED CONSTRUCTION SEQUENCE:

1. USING MEN AND EQUIPMENT, THE CONTRACTOR SHALL EXCAVATE A PIT FOR BURSTING EQUIPMENT IN LESLIE DRIVE AT EXISTING DRAIN MANHOLE AND THREAD A CABLE IN EXISTING 8" PIPE TO THE OUTLET LOCATION.
2. USING MEN AND EQUIPMENT, THE CONTRACTOR SHALL CLEAR A PATH FOR EQUIPMENT TO ACCESS OUTLET LOCATION. USING LOW IMPACT EQUIPMENT AND APPROPRIATE EROSION CONTROL MEASURES TO MINIMIZE IMPACTS IN THE WETLAND AREA, THE CONTRACTOR PLACES TEMPORARY DIVERSION SANDBAG DAM AROUND OUTSIDE LIMITS OF OUTLET APRON AREA TO RECEIVE CABLE AND CONDUCT PIPE BURST OPERATION. THE WORK AREA SHOULD BE DEWATERED USING APPROPRIATE MEASURES WITH THE DEWATER TREATMENT MEASURES LOCATED A MINIMUM 30 FEET FROM THE WETLANDS.
3. THE CONTRACTOR SHALL MONITOR AND ADJUST SANDBAGS AS NECESSARY TO MAINTAIN APPROPRIATE CONDITIONS TO CONDUCT CONSTRUCTION AND DEWATER. SANDBAG DAM SHOULD PREVENT TIDAL FLOWS INTO NEW PIPE AND UNSTABLIZED AREAS.
4. THE CONTRACTOR ASSEMBLES 12" HDPE PIPE AND SHALL FLOAT THE PIPE IN WATER TO OUTLET LOCATION. THE CONTRACTOR SETS UP BURSTING HEAD AT OUTLET LOCATION, ATTACH CABLE AND NEW HDPE PIPE AND PULLS PIPE BURSTING HEAD AND HDPE PIPE FROM OUTLET LOCATION TOWARD DRAIN MANHOLE IN LESLIE DRIVE.
5. THE CONTRACTOR SHALL MONITOR AND STABILIZE TEMPORARY ACCESS AREA IN WETLANDS WITH APPROPRIATE EROSION MEASURES.
6. UPON COMPLETION OF PIPE BURSTING AND HDPE PIPE INSTALLATION TO LESLIE DRIVE LOCATION, THE CONTRACTOR SHALL INSTALL A HEADWALL AT END OF HDPE PIPE AND INSTALL AN EROSION STONE APRON. NEXT, THE CONTRACTOR SHALL REMOVE THE TEMPORARY DIVISION SANDBAGS AT THE DOWNSTREAM END UPON COMPLETION OF THE HEADWALL AND EROSION STONE APRON INSTALLATION AND AT APPROPRIATE TIDE CONDITIONS.
7. THE CONTRACTOR SHALL REMOVE THE PIPE BURSTING EQUIPMENT FROM PIT IN LESLIE DRIVE AND CONNECT PIPE TO EXISTING DRAIN MANHOLE IN LESLIE DRIVE. THE CONTRACTOR SHALL CONNECT THE TWO (2) FOOTING DRAINS FROM THE EXISTING BUILDINGS TO NEW HDPE PIPE IN DRIVEWAY AREA.
8. THE CONTRACTOR SHALL BACKFILL, COMPACT AND PAVE LESLIE DRIVE AND EXISTING DRIVEWAY LOCATIONS.
9. THE CONTRACTOR SHALL STABILIZE AND RESTORE IMPACTED WETLANDS AND 100– FOOT BUFFER ZONE AREA ALONG TEMPORARY ACCESS.
10. THE CONTRACTOR SHALL COMPLETE RESTORATION AND STABILIZE OF ALL DISTURBED AREAS. MONITOR, REPAIR AND RESTORE ALL DISTURBED AREAS.

Stantec

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Consultants

Legend

Notes

ISSUED FOR PERMIT
AUGUST 2014

Revision | By | Appd. | YY.MM.DD

Issued | By | Appd. | YY.MM.DD

Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
LESLIE DRIVE
PROPOSED PLAN AND PROFILE

Project No.	Scale	
195112947	AS NOTED	
Drawing No.	**Sheet**	**Revision**
WET	2 of 4	0

GENERAL NOTES AND SPECIFICATIONS FOR EROSION CONTROL

1. The contractor is responsible for water control during all phases of construction. No work shall be permitted in flowing water. Streams shall be temporarily dammed by use of sand bags or other suitable means. The diversion shall be accomplished by temporary culverts or by pumping. All diverted water shall be discharged to stone fill or other suitable energy dissipater surrounded by silt fence.

2. This plan is to be used as a guideline only. Additional silt fence, stone check dams, or other measures may be dictated by field conditions.

3. The Contractor is responsible for complying with all local, state, and federal regulations.

4. Temporary Stabilization.
   All disturbed areas shall have temporary or permanent stabilization within 14 days of initial disturbance. After this time any disturbance shall be stabilized by the end of the day, with the following exceptions.
   (1) Stabilization is not required if work is to continue in the area in the next 24 hours and there is no precipitation forecast for the next 24 hours.
   (2) Stabilization is not required if the work is in a self-contained excavation with a depth of 2 feet or more.
   Temporary Stabilization Measures:
   (1) Hay or straw mulch with a thickness of at least 2 inches.
   (2) Soil tracking with tracked equipment. Should be limited to small areas with slopes less than 100 feet long (less than 50 feet with slopes steeper than 3:1).
   (3) A combination of the above.
   (4) Erosion Control matting.

5. Materials
   A. Mulch material: Select mulch material for erosion control that will best meet the site conditions from the following.
   (1) Hay or straw - Shall be dry, free of mold and weed seeds. Hay or straw can be used on disturbed areas that will not be reworked for 7 to 30 days.
   (2) Wood Chips - Shall be dry, free of soil and other foreign material.
   (3) Rolled Erosion Control Products (RECP) - Shall be dry, and shall be made of straw or hay, coconut and related fibers, wood excelsior, jute, polypropylene, nylon, or an approved combination of different materials.
   B. Mulch Anchoring: When mulch must be held in place, the following mulch anchoring material shall be used:
   (1) Mulch Netting (Paper, twine, plastic, or plastic and wood fiber).
   C. Fertilizer: Complete fertilizer 10-20-20 (Standard Product) - Class A
   10-10-10 (Standard Product) - Class B
   D. Lime: Ground limestone containing not less than 95% total carbonates (calcium or magnesium).
   E. Temporary Seed Mixture: When it is impractical to establish permanent protective vegetation on disturbed earth by October 15, use "Conservation Mix" or the following seed mixture. Disturbed areas that will not be reworked for 30 days or more shall also receive temporary seed and mulch.

Kind of Seed	% By Weight
Annual Ryegrass	50
Perennial Ryegrass	50

   Apply seed mixture at 50 pounds per acre.
   F. Permanent Seed Mixture: (Not for Wetland Restoration):
   (1) For Class A (Lawn) restoration of growth. Shall normally be used on loam areas. This seed shall conform to the following and shall be furnished on a pure live seed (PLS) basis.

Class A

Kind of Seed	PLS Per Acre, LBS
Red Fescue (Creeping)	21
Redtop or Bluegrass	21
	21
Perrenial Ryegrass (Manhattann)	21
Total	84

   (2) For Class B (Field) restoration of growth. Shall normally be used for all slope work. This seed shall conform to the table below unless amended by the engineer to suit special local conditions encountered. This seed shall be furnished on a pure live seed (PLS) basis.

Class B

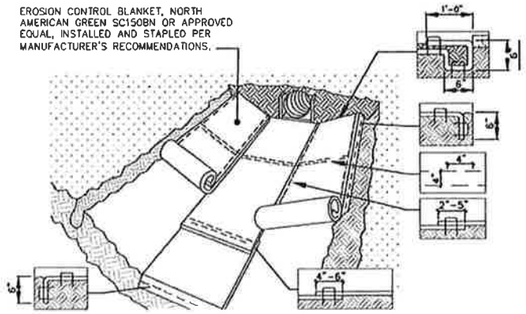
Kind of Seed	PLS Per Acre, LBS
Tall Fescue (ALTA or K-31)	20
Perennial Ryegrass (Manhattan)	15
Red Fescue (Creeping)	5
Red Clover	5
Birdsfoot Trefoil (Empire variety Preferred)	5
Total	50

6. Seeding and Mulching.
   A. All areas shall be seeded and mulched within 48 hours of final grading.
   B. Soil samples may be sent to the county extension service for analysis to determine the proper seed mixture and fertilizer requirements.
   C. The following procedures shall be followed for temporary seeding:
   (1) Apply lime at a rate of 75 to 100 pounds per 1000 square feet. Incorporate into top two inches of soil.
   (2) Apply fertilizer at a rate of 30 pounds per 1000 square feet. Mix thoroughly into the top two inches of soil.
   (3) Apply seed mixture at a rate of 50 pounds per acre and additional 3-4 lbs per 1000 square feet for sloped areas of 45% and greater evenly in two intersecting directions. Rake lightly.
   (4) Apply mulch material within 24 hours after seeding in accordance with the following:
   (A) Hay or Straw: Application rate - 75 to 100 pounds per 1000 square feet. Spread by hand or with mechine. Anchor on slopes and where subject to blowing or slipping.
   (B) Wood Chips - Application rate - Two to six inches deep. Use for tree and shrub planting.
   (5) Anchor mulch on all slopes exceeding 5% and other areas as required using the following method:
   (A) Mulch Netting: Spread over loose mulch and pin to the soil in accordance with the manufacturer's instructions.
   D. When temporary seeding cannot be accomplished to have established or visible growth by October 15, the disturbed areas shall be covered with 6 inches of mulch and anchored or erosion control blankets for the duration of the winter.

7. Maintenance of Erosion Control Structures:
   A. Stone check dams shall be replaced when they become clogged with soil particles or as directed by the owner/representative.
   B. When the sediment accumulation reaches a depth of 12 inches behind the silt fence, it shall be disposed of.
   C. Repair all damages caused by soil erosion or construction equipment at or before the end of each working day.
   D. Stone stabilized construction entrances shall be inspected to ensure tracking of sediments onto public right-of-ways or streets is not occurring. Maintenance may include periodic top dressing with additional aggregate to ensure a minimum thickness of eight inches.
   E. All measures shall be removed within 30 days of stabilization.

8. **Wetland Restoration**
   A. Replace wetland soil from stock pile to a minimum depth of 8 inches or equal to original depth.
   B. Grade areas to match preconstruction grades.
   C. Apply "New England Wetmix" seed or equal in accordance with the manufacturers application rates.

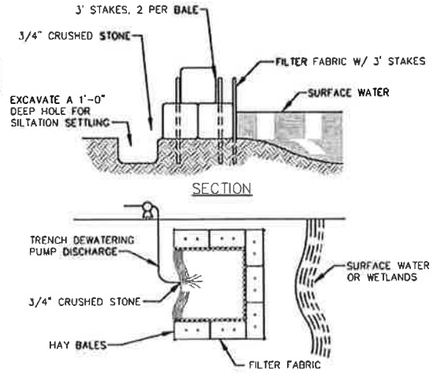
9. Winter Erosion Control
   A. All erosion control features such as silt fence must be in place prior to the ground freezing.
   B. All disturbed areas of the site shall be seeded and mulched from October 15 to May 1 regardless of whether final grading has been finished. Work may continue through this period if the following winter erosion controls are implemented.
   (1) Oat seeds shall be substituted for any other temporary annual grass seeds.
   (2) All exposed earth shall be mulched with 6 inches of hay or straw. Slopes over 5% shall have an additional covering of staked jute mat or its equivalent.
   C. The following maintenance items should be performed specifically for the various erosion control devices:
   (1) Diversion Dike:
   (A) Minimum inspection frequency - Weekly.
   (B) Remove any flow blockage caused by ice or sediment.
   (2) Mulch:
   (A) Minimum inspection frequency - Daily.
   (B) Replace mulch on any area where original mulch cover has been lost.
   (3) Silt Fence:
   (A) Minimum inspection frequency - Weekly.
   (B) Clean and remove any collected sediment before predicted thaws or rainy periods.
   (4) Stone Check Dam:
   (A) Minimum inspection frequency - Weekly.
   (B) Remove and replace clogged stone.

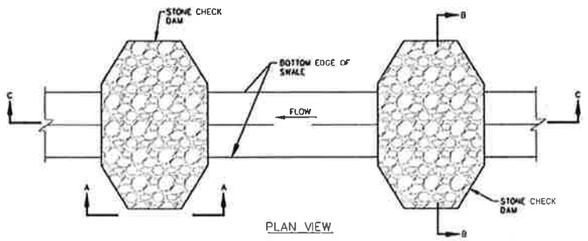


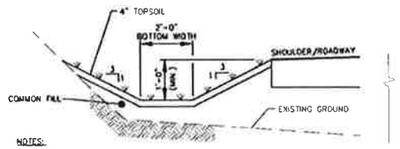
NOTES:

1 TO BE USED ON SLOPES 3 HORIZONTAL TO 1 VERTICAL OR STEEPER.

2 PREPARE SOIL INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED PRIOR TO INSTALLING BLANKET.





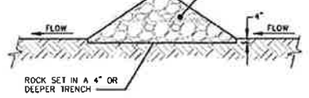


NOTES:

1 GRASS LINED SWALES ARE TO BE USED EVERYWHERE UNLESS INDICATED OTHERWISE.

2 IF LONGITUTINAL SLOPE IS GREATER THAN 2%, TEMPORARY STONE CHECK DAMS ARE NEEDED TO REDUCE STORMWATER VELOCITY AND PREVENT SOIL EROSION WITHIN THE SWALE.

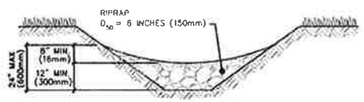
3 SWALE TO BE SEEDED WITH A GRASS SPECIES NATIVE TO THE AREA THAT TOLERATES WET/DRY CONDITIONS.



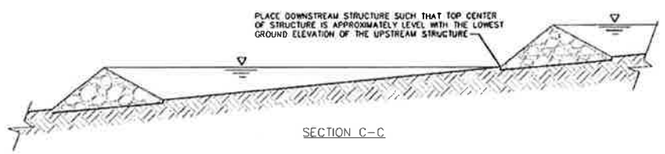
SECTION A-A

DITCH GRADE (G)	CHECK DAM SPACING(S)
0.02 FT/FT (M/M)	67 FT (20.5 M)
0.03 FT/FT (M/M)	44.5 FT (13.6 M)
0.04 FT/FT (M/M)	33.4 FT (10.2 M)
0.05 FT/FT (M/M)	26.7 FT (8.2 M)
0.06 FT/FT (M/M)	22.3 FT (6.8 M)

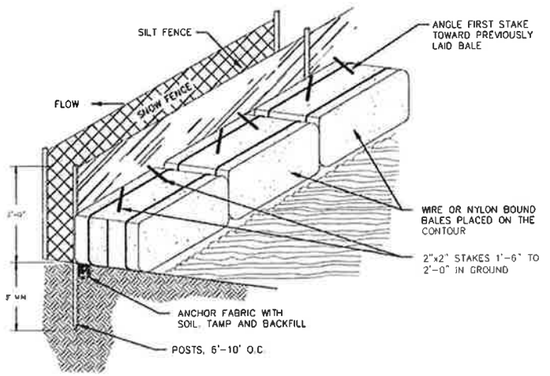
DO NOT USE CHECK DAMS BELOW 2% OR ABOVE 6% DITCH GRADES

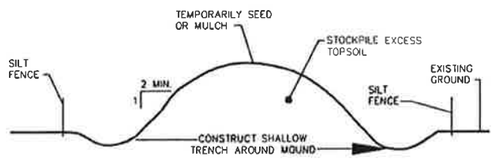


SECTION B-B



SECTION C-C





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Notes

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AUGUST 2014

No.	Revision	By	Appd.	YY.MM.DD

No.	Issued	By	Appd.	YY.MM.DD
File name: 12947-C-DETAILS.dwg		Dwn	Chkd.	Dsgn YY.MM.DD

Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
CONSTRUCTION DETAILS

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195112947	AS NOTED	
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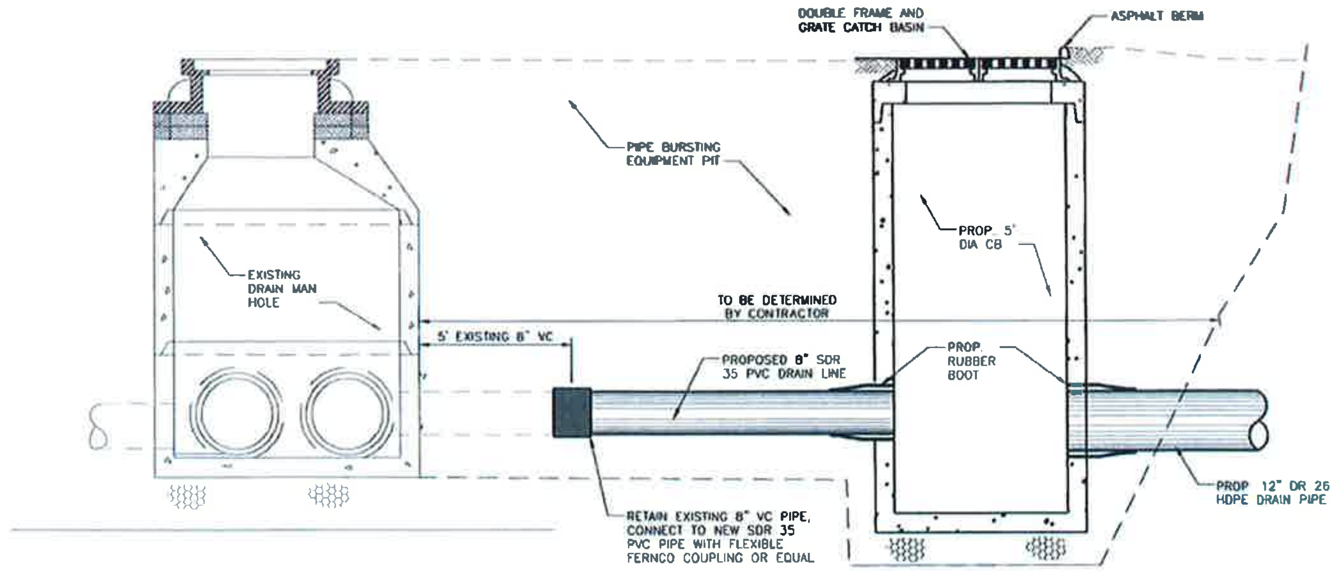
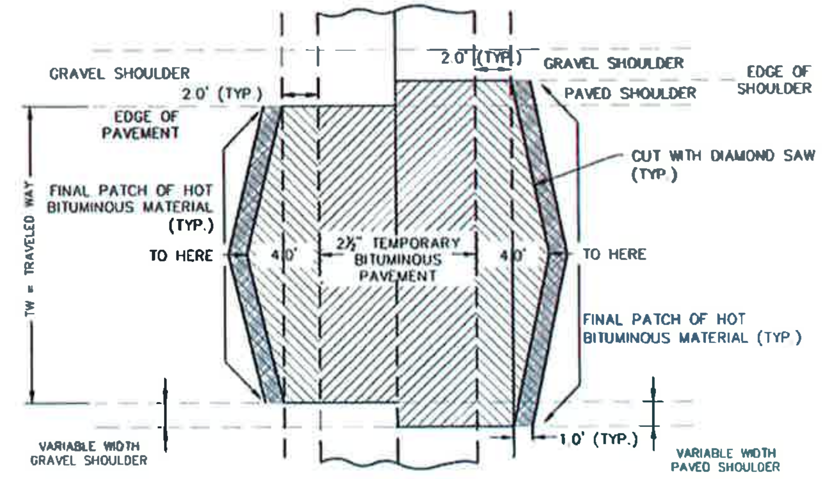
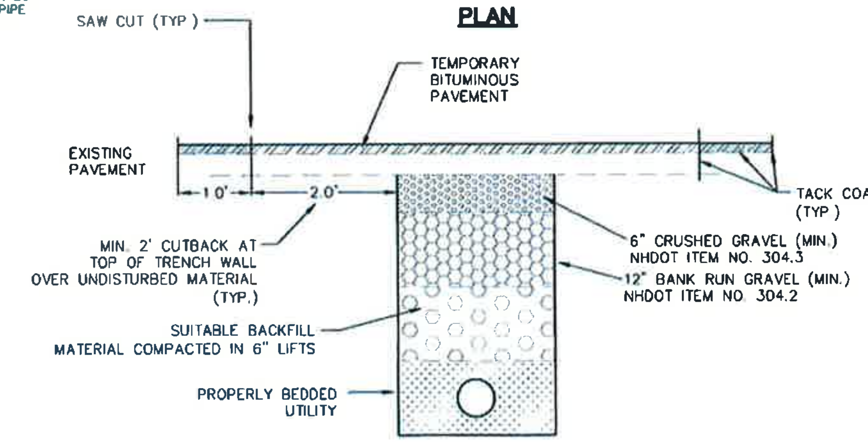


PIPE BURSTING PIT AND DMH CONNECTION DETAIL

NOT TO SCALE



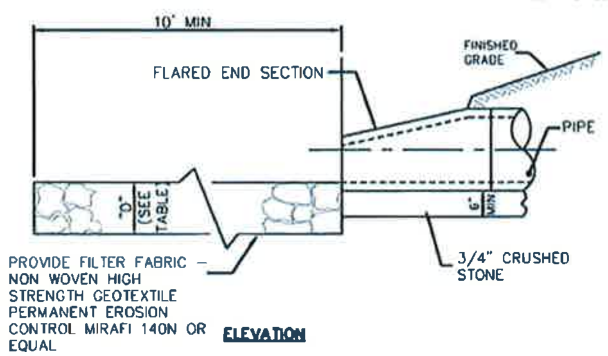
PLAN



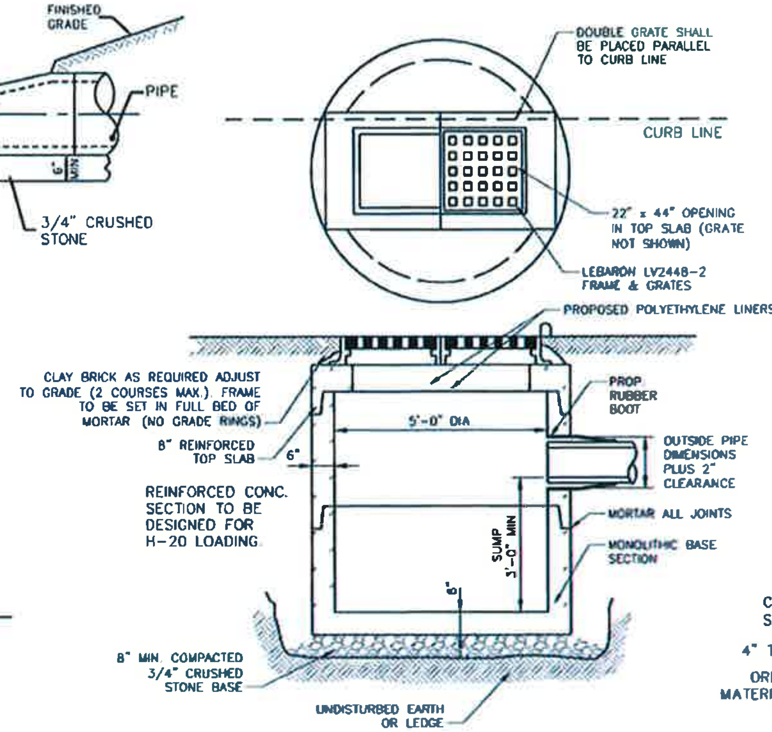
ELEVATION

PAVEMENT PATCH DETAIL

NOT TO SCALE



ELEVATION



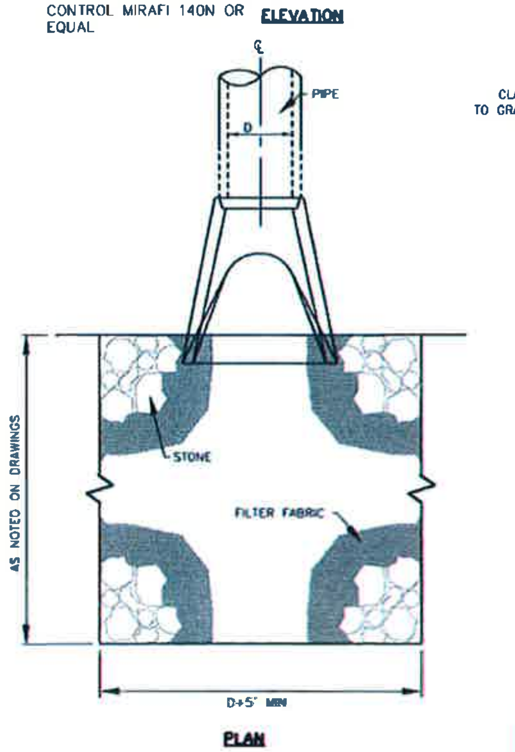
DOUBLE GRATE CATCH BASIN

NOT TO SCALE

NOTES:

1. ALL CONCRETE STRUCTURES INCLUDING FRAMES AND COVERS SHALL BE H-20 LOADING.

CONE SECTIONS SHALL BE ECCENTRIC. WHERE PIPE CORE WOULD OTHERWISE ENTER INTO THE CONE SECTION A FLAT TOP ECCENTRIC LID MAY BE USED.



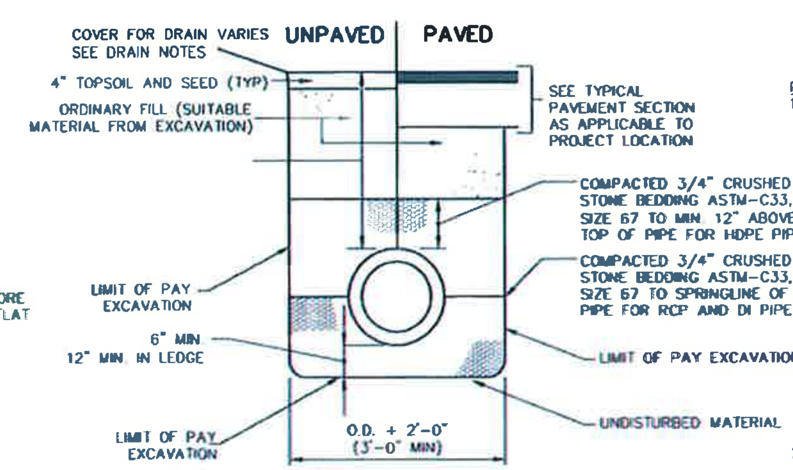
PLAN

END SECTION WITH STONE APRON

NOT TO SCALE

% OF PASSING BY WEIGHT	STONE SIZES C1	C2	C3
	D = BLANKET THICKNESS 12"	18"	24"
100%	8"	12"	18"
85%	7"	11"	16"
50%	5"	8"	12"
15%	2"	3"	4"

NOTE: ALL STONE TO BE SIZE "C1" EXCEPT WHERE NOTED



TYPICAL DRAIN PIPE TRENCH

NOT TO SCALE

PIPE TRENCH NOTES:

1. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER SIX INCHES IN THE LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE TOWN OF WOLFEBORO ENGINEERING DEPARTMENT, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED USING WALK BEHIND HAND OPERATED PLATE COMPACTORS. THE USE OF MACHINE MOUNTED PLATE COMPACTORS IS NOT ALLOWED UNDER THIS PROJECT.
2. BACKFILL OF THE TRENCHES SHALL BE COMPACTED TO TO 95% MAX DRY DENSITY UNDER ALL PAVED AREAS AND 92% MAX DRY DENSITY OF THE MODIFIED PROCTOR UNDER OTHER AREAS.
3. PLASTIC DRAIN PIPE (HDPE) SHALL BE HDPE DR17

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Dwn. | Chkd. | Dsgn. | YY.MM.DD

Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
CONSTRUCTION DETAILS

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195112947	AS NOTED	
Drawing No.	Sheet	Revision
DET2	4 of 4	0

NHDES Wetland Permit and Application

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

November 07, 2014

City of Portsmouth
Dept. of Public Works
680 Peverly Hill Rd
Portsmouth, NH 03801

STANTEC CONSULTING
NOV 12 2014
5 DARTMOUTH DR., STE 101
AUBURN, NH 03032

RE: File #2014-02377 - City Of Portsmouth - Portsmouth
Tax Map/Lot # 209 / 48

Dear Mr. Desfosses:

The Department of Environmental Services (DES) Wetlands Bureau has reviewed and approved the above referenced application to impact a total of 2,010 sq. ft. of tidal wetland and previously developed upland tidal buffer zone to replace an existing 8" clay pipe outfall culvert with a 12" HDPE pipe with stone outlet protection in the same location including the following: 70 sq. ft. of tidal wetland impact to install the 12" HDPE culvert including placement of rip-rap; 990 sq. ft. of temporary impact in tidal wetland for construction access; and 950 sq. ft. of impact to previously developed upland tidal buffer zone to install the 12" HDPE culvert.

Approve as compensatory mitigation the restoration of 15,115 sq. ft. of saltmarsh in North Mill Pond.

Any person aggrieved by this decision may appeal to the N.H. Wetlands Council ("Council") by filing an appeal that meets the requirements specified in RSA 482-A:10, RSA 21-O:14, and the rules adopted by the Council, Env-WtC 100-200. The appeal must be filed **directly with the Council within 30 days** of the date of this decision and must set forth fully **every ground** upon which it is claimed that the decision complained of is unlawful or unreasonable. Only those grounds set forth in the notice of appeal can be considered by the Council.

Information about the Council, including a link to the Council's rules, is available at <http://nhec.nh.gov/> (or more directly at <http://nhec.nh.gov/wetlands/index.htm>.) Copies of the rules also are available from the DES Public Information Center at (603) 271-2975.

Because of the type and classification of this project, the application must also be approved by the Governor and Executive Council. Upon completion of the appeal period, a copy of the file will be forwarded to the Governor and Executive Council for their consideration.

Sincerely,

Collis G. Adams, CWS, CPESC
Wetlands Bureau Administrator

CGA/emk

Enclosure: copy of decision
cc: Portsmouth Conservation Commission/ Portsmouth Board of Selectmen
Michael Leach, Stantec Consulting Services, Inc.
Abutters

File #2014-02377 - City of Portsmouth - Portsmouth

DECISION DATE: 11/05/2014

DECISION:

Impact a total of 2,010 sq. ft. of tidal wetland and previously developed upland tidal buffer zone to replace an existing 8" clay pipe outfall culvert with a 12" HDPE pipe with stone outlet protection in the same location including the following: 70 sq. ft. of tidal wetland impact to install the 12" HDPE culvert including placement of rip-rap; 990 sq. ft. of temporary impact in tidal wetland for construction access; and 950 sq. ft. of impact to previously developed upland tidal buffer zone to install the 12" HDPE culvert.

Approve as compensatory mitigation the restoration of 15,115 sq. ft. of saltmarsh in North Mill Pond.

CONDITIONS:

1. All work shall be in accordance with plans by Stantec dated October 21, 2014, as received by the Department on October 24, 2014.
2. The contractor performing the work shall use a rubber tracked excavator and utilize mats to buffer the substrate from the equipment within the temporary impact area.
3. Siltation/turbidity barrier shall be installed throughout the duration of construction to protect from the occurrence of sedimentation during tidal cycles.
4. All temporary work areas shall be restored to original condition following completion of construction.
5. A coastal wetlands ecologist shall be on-site during construction of the outlet to minimize impacts to aquatic resources.
6. Coastal staff shall be notified in writing prior to commencement of work and upon its completion. Notification may be via e-mail to David Price at David.Price@des.nh.gov.
7. Any future work in jurisdiction as specified in RSA 482-A on this property will require a new application and approval by the Department of Environmental Services ("DES") Wetlands Bureau.
8. This permit shall not be effective until recorded at the Rockingham County Registry of Deeds office by the permittee. A copy of the recorded permit shall be submitted to the DES Wetlands Bureau prior to construction.
9. Appropriate siltation/erosion/turbidity controls shall be in place prior to construction, shall be maintained during construction, and shall remain in place until the area is stabilized.
10. Within three days of final grading or temporary suspension of work in an area that is in or adjacent to wetlands or surface waters, all exposed soil areas shall be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tack or netting and pinning on slopes steeper than 3:1.
11. Work shall be done during low tide.
12. Work shall be conducted in a manner so as to minimize turbidity and sedimentation to surface waters and wetlands.
13. Work shall be conducted in a manner that avoids excessive discharges of sediments to fish spawning areas.
14. Construction equipment shall be inspected daily for leaking fuel, oil and hydraulic fluid prior to entering surface waters or wetlands.
15. Faulty equipment shall be repaired prior to entering jurisdictional areas.
16. The contractor shall have appropriate oil spill kits on site and readily accessible at all times during construction and each operator shall be trained in its use.
17. All refueling of equipment shall occur outside of surface waters or wetlands.

Wetland restoration/construction:
18. This permit is contingent upon the restoration of 15,115 sq. ft. of saltmarsh in accordance with plans received by DES on June 24, 2014.
19. This shall be the last wetland impact that can be considered as a part of this overall saltmarsh restoration effort. This saltmarsh restoration is also providing compensatory mitigation for Wetlands Permit #2014-1636 and Wetlands Permit #2014-1242.
20. This permit shall not be effective until it has been recorded with the county Registry of Deeds office by the Permittee. A copy of the recorded permit shall be submitted to the DES Wetlands Bureau by certified mail, return receipt requested, prior to construction.
21. The schedule for construction of the mitigation area shall coincide with site construction unless otherwise considered and authorized by the Wetlands Bureau.

22. The mitigation area shall be properly constructed, monitored, and managed in accordance with approved final mitigation plans.
23. Saltmarsh restoration areas shall be properly constructed, landscaped, monitored and remedial actions taken that may be necessary to create functioning wetland areas. Remedial measures may include replanting, relocating plantings, removal of invasive species, changing soil composition and depth, changing the elevation of the wetland surface, and changing the hydrologic regime.
24. The permittee shall designate a qualified professional who will be responsible for monitoring and ensuring that the mitigation areas are constructed in accordance with the mitigation plan. Monitoring shall be accomplished in a timely fashion and remedial measures taken if necessary. The Wetlands Bureau shall be notified in writing of the designated professional prior to the start of work and if there is a change of status during the project.
25. The permittee shall notify DES and the local conservation commission in writing of their intention to commence construction no less than 5 business days prior to construction.
26. The permittee or a designee shall conduct a follow-up inspection after the first growing season, to review the success of the mitigation area and schedule remedial actions if necessary. A report outlining these follow-up measures and a schedule for completing the remedial work shall be submitted by December 1 of that year. Similar inspections, reports and remedial actions shall be undertaken in at least the second and third years following the completion of each mitigation site.
27. Saltmarsh restoration areas shall have at least 75% successful establishment of wetlands vegetation after two (2) growing seasons, or shall be replanted and re-established until a functional wetland is replicated in a manner satisfactory to the DES Wetlands Bureau.
28. Wetland soils from areas vegetated with purple loosestrife shall not be used in the wetland creation site. The potential for the establishment of the invasive species should be considered in other areas where spoils may be spread to limit its further establishment.
29. The permittee shall attempt to control invasive, weedy species such as purple loosestrife (Lythrum salicaria) and common reed (Phragmites australis) by measures agreed upon by the Wetlands Bureau if the species is found in the mitigation areas during construction and during the early stages of vegetative establishment.
30. A post-construction report documenting the status of the completed project with photographs shall be submitted to the Wetlands Bureau within 60 days of the completion of construction.

FINDINGS:

1. This is a major impact project per Administrative Rule Wt 303.02(a), projects in sand dunes, tidal wetlands, or bogs, except for the repair of existing structures pursuant to Wt 303.04(v).
2. The need for the proposed impacts has been demonstrated by the applicant per Env-Wt 302.01. The project represents a necessary replacement of an existing 8" clay pipe outfall culvert with a 12" HDPE pipe with stone outlet protection in the same location extending below mean high tide into North Mill Pond. The Leslie Drive area currently floods during large storm events due to the existing undersized 8" clay pipe outfall.
3. The applicant has provided evidence which demonstrates that this proposal is the alternative with the least adverse impact to areas and environments under the department's jurisdiction per Env-Wt 302.03. A majority of the impact is to develop an upland tidal buffer zone with a minimal amount of impact to a tidal wetland area for the new culvert outlet.
4. The impacts are further compensated by the proposed mitigation of 15,115 sq. ft. of saltmarsh restoration along the shore of North Mill Pond in Portsmouth. Pursuant to Env-Wt 803.05(a), the applicant has demonstrated that the compensatory mitigation plan exceeds the ratios listed in Table 800-1 which requires restoration ratio of 2:1 or 140 sq. ft. of restoration.
5. The North Mill Pond saltmarsh mitigation is also providing compensatory mitigation for both the Brewster Street drainage project, DES Wetlands Permit #2014-01636, and the City of Portsmouth pile supported pier project, DES Wetlands Permit #2014-01242, which require a total of 5,800 sq. ft. of saltmarsh restoration. This is the last wetland impact that can be considered as a part of this overall saltmarsh restoration effort.
6. The applicant has demonstrated by plan and example that each factor listed in Env-Wt 302.04(a), Requirements for Application Evaluation, has been considered in the design of the project.
7. The NH Natural Heritage Bureau has no record of sensitive species within the project vicinity.
8. DES staff field inspection on October 31, 2014 found that the site is accurately represented in the application.
9. The Portsmouth Conservation Commission recommends approval of the project.
10. In accordance with RSA 482-A:8, DES finds that the requirements for a public hearing do not apply as the permitted project is not of substantial public interest, and will not have a significant impact on or adversely affect the values of the palustrine resource, as identified under RSA 482-A:1.

Stantec

October 21, 2014

David Price
NHDES Land Resources Management
Pease Office - 222 International Dr. Suite. 175
Portsmouth NH 03801

Reference: Lesley Drive Drainage Improvements
NHDES Wetland Permit Application File No. 2014-02377
Portsmouth, NH

Dear Mr. Price,

The purpose of this letter is to update the project impact areas, clarify the location of buffer impacts within 20 feet from an abutter and to address how the compensatory mitigation is being addressed for the 70 square foot permanent tidal wetlands impact related to the subject project. As indicated on the attached plan, the project impacts within the Tidal Buffer are have been revised and the plan shows that there are no impacts within 2o feet of an abutter.

The intent of the City is to apply the excess compensatory mitigation area being recreated on the Brewster Street project to the wetland impact area on the Lesley Drive project, as was done for the Harborwalk project. A summary of the compensatory mitigation areas applied to on the three projects:

1. Brewster Street
    - Tidal Wetlands Permanent Impact Area..... 600 SF
    - Required Compensatory Mitigation Area..... 1,200 SF
    - Actual Compensatory Mitigation Area..... 15,115 SF
    - Excess Compensatory Mitigation Area..... 13,915 SF
2. Harborwalk Project
    - Tidal Wetlands Permanent Impact Area..... 2,300 SF
    - Required Compensatory Mitigation Area..... 4,600 SF
    - Remaining Compensatory Mitigation Area..... 13,915 SF
    - Remaining Excess Compensatory Mitigation Area..... 9,315 SF
3. Lesley Drive
    - Tidal Wetlands Permanent Impact Area..... 70 SF
    - Required Compensatory Mitigation Area..... 140 SF
    - Remaining Compensatory Mitigation Area..... 9,315 SF
    - Remaining Excess Compensatory Mitigation Area..... 9,175 SF

Reference: **Lesley Drive Drainage Improvements**
NHDES Wetland Permit Application File No. 2014-02377
Portsmouth, NH

On behalf of the City of Portsmouth we ask that 140 square feet of the excess Compensatory Mitigation Area be utilized for the proposed permanent tidal wetland impacts related to the Lesley Drive drainage Improvements project.

Please call with any questions regarding this information.

Sincerely,

Rene LaBranche

Senior Associate
Stantec
5 Dartmouth Drive
Suite 101 Auburn NH 03032

Phone: (603) 206-7532
Cell: (603) 203-3810
Fax: (603) 669-8672

c. Dave Desfosses, Peter Britz – City of Portsmouth, NH
City of Portsmouth NH – Conservation Commission
Mike Leach - Stantec

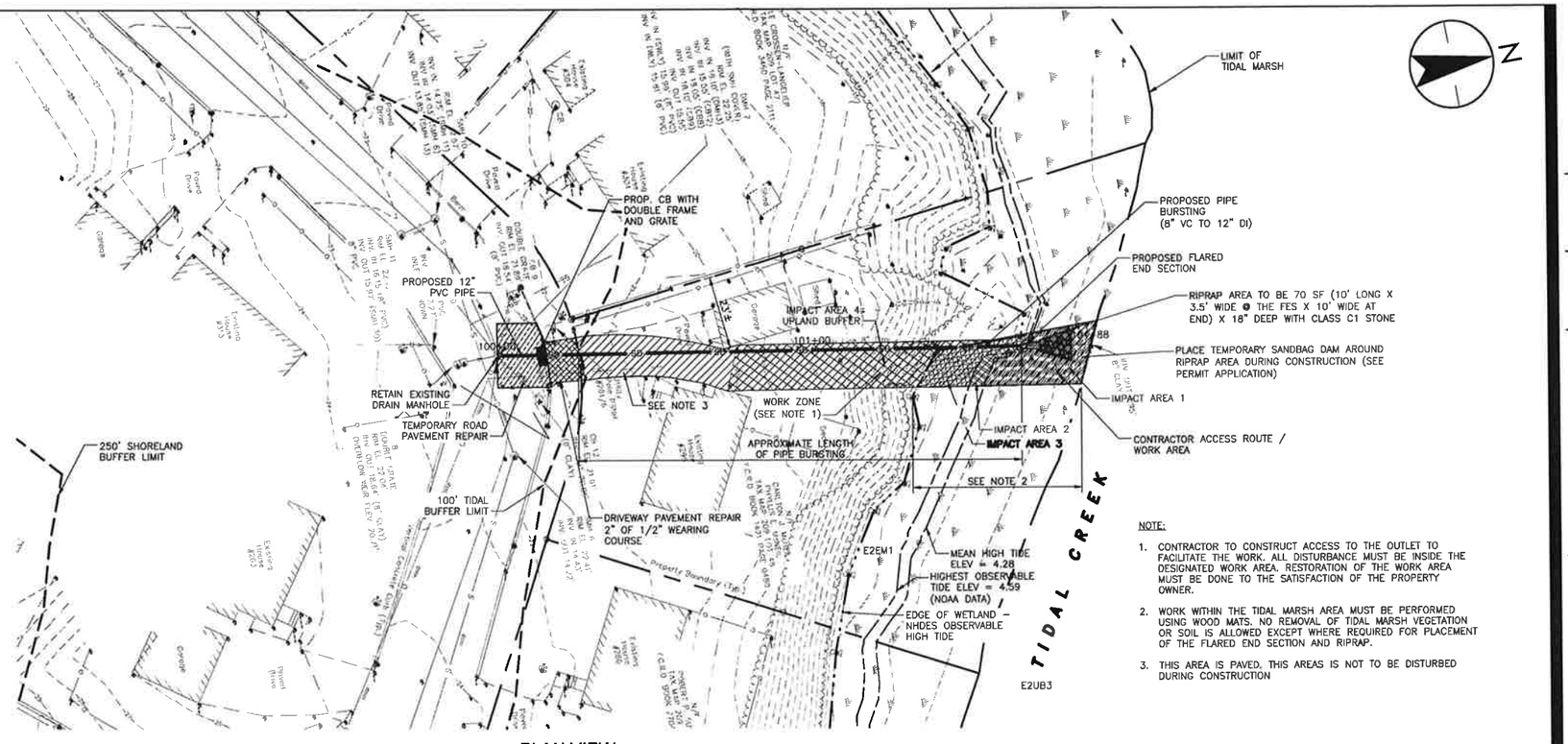
EXISTING LEGEND

- EXISTING BOUND
- EXISTING SURVEY POINT
- EXISTING CATCH BASIN (SQUARE)
- EXISTING CATCH BASIN (ROUND)
- EXISTING DRAIN MANHOLE (DMH)
- EXISTING ELECTRICAL MANHOLE
- EXISTING GUY POLE
- EXISTING HYDRANT
- EXISTING IRON PIN
- EXISTING NATURAL GAS MANHOLE
- EXISTING SEWER MANHOLE (SMH)
- EXISTING SINGLE POLE SIGN
- EXISTING DOUBLE POLE SIGN
- EXISTING FLOOD LIGHT
- EXISTING LIGHT POST
- EXISTING MAILBOX
- EXISTING DRAINAGE FLOW
- EXISTING WETLAND
- EXISTING UTILITY POLE
- EXISTING WATER SHUTOFF
- EXISTING GATE VALVE
- EXISTING WELL
- 100 EXISTING MAJOR CONTOUR
- 98 EXISTING MINOR CONTOUR
- EXISTING DITCH/SWALE
- EXISTING EDGE OF WATER
- EXISTING WETLAND BOUNDARY
- EXISTING EASEMENT
- EXISTING PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- G EXISTING FUEL GAS
- GAS EXISTING NATURAL GAS
- OHE EXISTING OVERHEAD POWER
- UGE EXISTING UNDERGROUND POWER
- S EXISTING SANITARY SEWER
- SD EXISTING STORM DRAIN
- W EXISTING WATER MAIN
- T EXISTING OVERHEAD TELEPHONE
- X EXISTING FENCE
- O EXISTING CHAINLINK FENCE
- EXISTING WOODEN FENCE
- EXISTING RETAINING WALL
- EXISTING HAYBALES
- EXISTING STONE WALL
- HIGHEST OBSERVABLE TIDE LINE
- MEAN HIGH TIDE LINE

- SHORELAND IMPACT AREA
- TIDAL BUFFER TEMPORARY IMPACT AREA
- WETLAND IMPACT AREA
- TEMPORARY IMPACT BETWEEN WETLAND AND HIGHEST OBSERVABLE TIDAL LINE
- TEMPORARY IMPACT BETWEEN HIGHEST OBSERVABLE TIDAL LINE AND MEAN HIGH TIDE
- TEMPORARY IMPACT BETWEEN MEAN HIGH TIDE AND LIMIT OF TIDAL MARSH
- PERMANANT IMPACT BETWEEN MEAN HIGH TIDE AND LIMIT OF TIDAL MARSH

WETLAND IMPACT SUMMARY

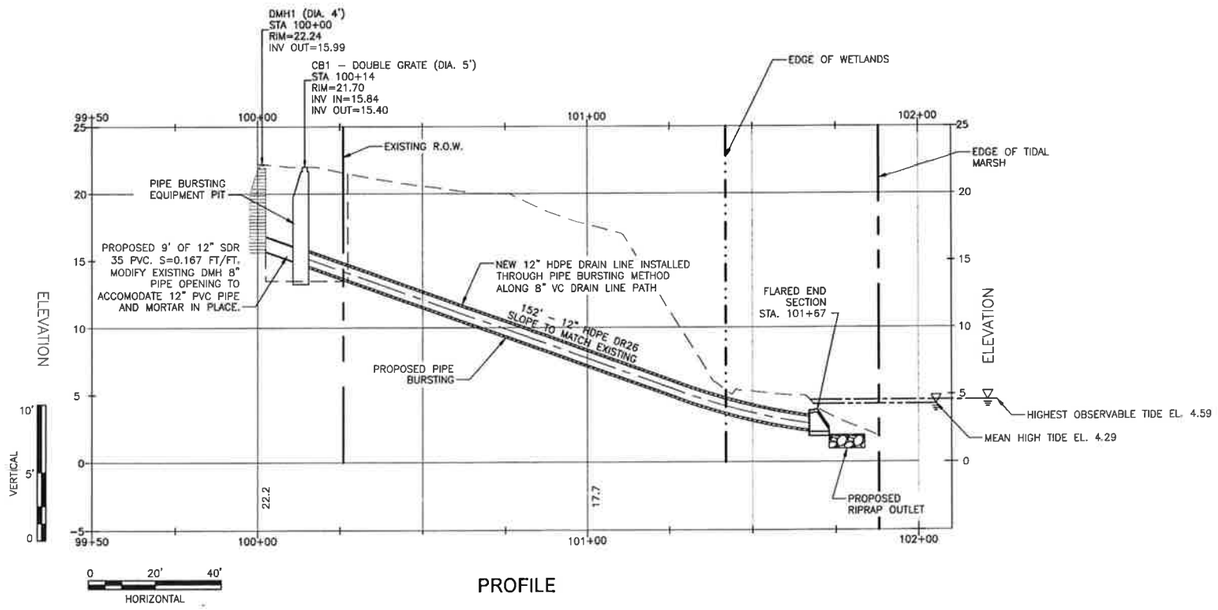
IMPACT AREA	PERMANENT IMPACT	TEMPORARY IMPACT	TOTAL IMPACT
1	70 SF	630 SF	700 SF
2	0 SF	60 SF	60 SF
3	0 SF	300 SF	300 SF
4	0 SF	950 SF	950 SF
TOTAL	70 SF	1940 SF	2010 SF



PLAN VIEW

NOTE:

1. CONTRACTOR TO CONSTRUCT ACCESS TO THE OUTLET TO FACILITATE THE WORK. ALL DISTURBANCE MUST BE INSIDE THE DESIGNATED WORK AREA. RESTORATION OF THE WORK AREA MUST BE DONE TO THE SATISFACTION OF THE PROPERTY OWNER.
2. WORK WITHIN THE TIDAL MARSH AREA MUST BE PERFORMED USING WOOD MATS. NO REMOVAL OF TIDAL MARSH VEGETATION OR SOIL IS ALLOWED EXCEPT WHERE REQUIRED FOR PLACEMENT OF THE FLARED END SECTION AND RIPRAP.
3. THIS AREA IS PAVED. THIS AREAS IS NOT TO BE DISTURBED DURING CONSTRUCTION



PROFILE

Stantec

Stantec Consulting Services Inc.
5 Dartmouth Drive, Suite 101
Auburn, NH 03032 U.S.A.
Tel. 603.669.8672
Fax. 603.669.7636
www.stantec.com

Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD
2 ADDRESS NHDES WETLANDS COMMENTS	ML	RL	14.10.21
1 ADDRESS NHDES WETLANDS COMMENTS	ML	RL	14.09.26

Issued	By	Appd.	YY.MM.DD
File Name: 195147-C-PDF.dwg	TJA Own	RL Cked	TJA Dsgn.	14.12.08 YY.MM.DD

Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
LESLIE DRIVE
PROPOSED PLAN AND PROFILE

Project No.	Scale	
195112947	AS NOTED	
Drawing No.	Sheet	Revision
PDR1	2 of 4	1

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
LAND RESOURCES MANAGEMENT
WETLANDS BUREAU
29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
Phone: (603) 271-2147 Fax: (603) 271-6588
http://des.nh.gov/organization/divisions/water/wetlands

PERMIT APPLICATION

1. REVIEW TIME:
Indicate your Review Time below. Refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact) ☐ Expedited Review (Minimum Impact)

2. PROJECT LOCATION:
Separate applications must be filed with each municipality that jurisdictional impacts will occur in.

ADDRESS: **Leslie Drive**			TOWN/CITY: **Portsmouth**
TAX MAP: **209**	BLOCK:	LOT: **48**	UNIT:
USGS TOPO MAP WATERBODY NAME: **North Mill Pond** ☐ NA		STREAM WATERSHED SIZE: ☐ NA	
LOCATION COORDINATES (If known): **N:213,948 E:1,224,195** UTM ☒ State Plane		☐ Latitude/Longitude ☐	

3. PROJECT DESCRIPTION:
Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

Conduct pipe bursting of existing 8" clay drain pipe that will be replaced with 12" HDPE pipe and install headwall with erosion stone apron at new pipe outlet located at tidal creek in Cutts Cove (tidal wetland) that connects to North Mill Pond with temporary and permanent impacts to tidal wetlands & 100 ft. upland tidal buffer totaling to 3,200 SF. The outlet location is at an existing impacted wetland area from the existing 8" pipe discharge. Work includes excavation, horizontal trenchless pipe installation under the existing roadway & abutting lot. Temporary impacts to the 100 ft. upland tidal buffer & tidal wetlands of 3100 SF and permanent impacts of 100 SF in the tidal wetlands for the outlet headwall and stone erosion apron. See additional information in Attachment A

4. RELATED PERMITS, ENFORCEMENT, EMERGENCY AUTHORIZATION, SHORELAND, ALTERATION OF TERRAIN, ETC...

A shoreland permit is being submitted.

5. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:
See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB 14 - 1141 .

b. ☐ Designated River the project is in ¼ miles of: _____ ; and
date a copy of the application was sent to Local River Advisory Committee: Month: __ Day: __ Year: ____
☒ NA

6. APPLICANT INFORMATION (Desired permit holder)

LAST NAME, FIRST NAME, M.I.: **City of Portsmouth - DPW**

TRUST / COMPANY NAME: | MAILING ADDRESS: **680 Peverly Hill Road**

TOWN/CITY: **Portsmouth** | STATE: **NH** | ZIP CODE: **03801**

EMAIL or FAX: **djdesfosses@pw.cityofportsmouth.com** | PHONE: **427-1530**

ELECTRONIC COMMUNICATION: By initialing here: PHR, I hereby authorize DES to communicate all matters relative to this application electronically

7. PROPERTY OWNER INFORMATION (If different than applicant)

LAST NAME, FIRST NAME, M.I.: **City of Portsmouth Easement to construct piping**

TRUST / COMPANY NAME: | MAILING ADDRESS:

TOWN/CITY: | STATE: | ZIP CODE:

EMAIL or FAX: | PHONE:

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize DES to communicate all matters relative to this application electronically

8. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.: **Michael Leach** | COMPANY NAME: **Stantec Consulting Services, Inc**

MAILING ADDRESS: **5 Dartmouth Drive - Suite 101**

TOWN/CITY: **Auburn** | STATE: **NH** | ZIP CODE: **03032**

EMAIL or FAX: **michael.leach@stantec.com** | PHONE: **603-669-8672**

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize DES to communicate all matters relative to this application electronically

9. PROPERTY OWNER SIGNATURE:

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a copy of the application materials to the NH State Historic Preservation Officer.
8. I authorize DES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of DES correspondence. DES will not forward returned mail.

Property Owner Signature	Print name legibly	Date
[signature]	Peter Rice	8/25/14

MUNICIPAL SIGNATURES

10. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

Authorized Commission Signature	Print name legibly	Date
⇨		

DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. The Conservation Commission signature should be obtained prior to the submittal of the original application and four copies to the town/city clerk for mailing to the DES.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will reviewed in the standard review time frame.

11. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 1991), I hereby certify that the applicant has filed five application forms, five detailed plans, and five USGS location maps with the town/city indicated below and I have received and retained certified postal receipts (or copies) for all abutters identified by the applicant.

Town/City Clerk Signature	Print name legibly	Town/City	Date
Kelli L Barnaby	Kelli L. Barnaby	Portsmouth	8-26-2019

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I(d):

1. For applications where "Expedited Review" is checked on page 1, accept the application for mailing only if the Conservation Commission signature has been sought;
2. Collect the postal receipts demonstrating that all abutters and the Local Advisory Committee were sent proper notice;
3. Collect any administrative fees, not to exceed $10 plus the cost of postage by certified mail (RSA 482-A:3,I).
4. IMMEDIATELY sign the original application and four copies in the signature space provided above;
5. Retain one copy of the application form, one complete set of attachments and the postal receipts demonstrating that all abutters and the Local River Advisory Committee were notified and make them reasonably accessible to the public;
6. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board in accordance with RSA 482-A:3, I; and
7. IMMEDIATELY send the ORIGINAL application form, one complete set of attachments and filing fee, by CERTIFIED MAIL to the NHDES Wetlands Bureau at the address indicated on page 1 of this application. (DO NOT HOLD FOR CONSERVATION COMMISSION SIGNATURE).

12. IMPACT AREA:
For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact
Permanent: impacts that will remain after the project is complete.
Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.
After-the-fact (ATF): work completed prior to receipt of this application by DES. Check box to indicate ATF.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.		TEMPORARY Sq. Ft. / Lin. Ft.	
Forested wetland		☐ ATF		☐ ATF
Scrub-shrub wetland		☐ ATF		☐ ATF
Emergent wetland		☐ ATF		☐ ATF
Wet meadow		☐ ATF		☐ ATF
Intermittent stream		☐ ATF		☐ ATF
Perennial Stream / River	/	☐ ATF	/	☐ ATF
Lake / Pond	/	☐ ATF	/	☐ ATF
Bank - Intermittent stream	/	☐ ATF	/	☐ ATF
Bank - Perennial stream / River	/	☐ ATF	200 / 30	☐ ATF
Bank - Lake / Pond	/	☐ ATF	/	☐ ATF
Tidal water	100 / 15	☐ ATF	900 /	☐ ATF
Salt marsh		☐ ATF		☐ ATF
Sand dune		☐ ATF		☐ ATF
Prime wetland		☐ ATF		☐ ATF
Prime wetland buffer		☐ ATF		☐ ATF
Undeveloped Tidal Buffer Zone (TBZ)		☐ ATF		☐ ATF
Previously-developed upland in TBZ		☐ ATF	2000	☐ ATF
Docking - Lake / Pond		☐ ATF		☐ ATF
Docking - River		☐ ATF		☐ ATF
Docking - Tidal Water		☐ ATF		☐ ATF
TOTAL	100 / 15		3100 / 30	

13. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee: Flat fee of $ 200
☒ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking)	3200 sq. ft.	X	$0.20 =	$ 640
Temporary (seasonal) docking structure:	sq. ft.	X	$1.00 =	$
Permanent docking structure:	sq. ft.	X	$2.00 =	$
Projects proposing shoreline structures (including docks) add $200 =				$
Total =				$ 640
The Application Fee is the above calculated Total or $200, whichever is greater =				$ 640

Stantec Consulting Services Inc.
Check Date: Aug 19, 2014

Vendor Name: Treasurer State of New Hampshire
Vendor Number: 26515

Check Number: **439199**

Invoice Number	Invoice Date	Invoice Amount	Discount Taken	Amount Paid
MANCK.AUG1814	18-Aug-14	640.00	0.00	640.00

Net Check Amount: 640.00
(US Dollars)

STANTEC CONSULTING

AUG 2 1 2014

5 DARTMOUTH DR., STE 101
AUBURN, NH 03032

Stantec

Stantec Consulting Services Inc.

Bank Of America
Delkalb County
Atlanta, GA
061112788

64-1278
611 GA

439199

DATE 0 8 1 9 2 0 1 4
M M D D Y Y Y Y

PAY **********Six Hundred Forty Dollars And Zero Cents

$******640.00**

US Funds

TO THE ORDER OF **Treasurer State of New Hampshire**
25 Capitol Street
Room 121
Concord, NH 03301

THIS DOCUMENT CONTAINS A GRADIENT COLOUR BACKGROUND • INVISIBLE FLUORESCENT PATTERN UNDER CONVENIENCE FIELD XXX • SECURITY MICROPRINTING • TRUE WATERMARK

⑈0439199⑈ ⑆061112788⑆ 329 902 7492⑈

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
LAND RESOURCES MANAGEMENT
WETLANDS BUREAU
29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
Phone: (603) 271-2147 Fax: (603) 271-6588
http://des.nh.gov/organization/divisions/water/wetlands/index.htm
Permit Application Status: http://des.nh.gov/onestop/index.htm

PERMIT APPLICATION - ATTACHMENT A
MINOR & MAJOR 20 QUESTIONS

Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

To permit construction of a replacement drainage outfall into Cutts Cove (tidal wetland) after conducting pipe bursting of an existing 8" clay pipe outfall. The proposed impact area for the outlet is the same location area previously impacted by the current pipe outfall and erosion at the outfall location. Due to the small 8" outlet pipe size, Leslie Drive experiences flooding of the roadway and neighboring properties as a result. Under this project the existing pipe would be burst and replaced with a 12" HDPE pipe in the same location. This method of replacement would minimize the impact to the wetlands, 100 buffer tidal zone, existing residences and the shoreland area to the extent practical.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

Most of the proposed impacts are temporary associated with the construction of the pipe outlet the installation of the stone erosion apron in the tidal wetland area adjacent to Cutts Cove. The permanent impacts are associated with the headwall and stone erosion apron to be constructed. The proposed pipe burst construction method are intented to minimize impacts to the wetlands to the extent practical. Construction will also minimize impacts to the developed 100 foot upland tidal buffer area to the extent practical.

3. The type and classification of the wetlands involved.

There are two types in the project outlet area E1ub3 - Estuarine subtidal unconsolidated bottom, mud as related to the stream bed area at the outlet and E2em1 - Estuarine intertidal emergent persistent as related to the upper portion of the tidal wetlands that will have temporary impacts during construction.

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

The impacted wetland area is located in the tidal wetland and tidal waters of Cutts Cove. Project impacts also include the 100 ft. upland tidal buffer area of Cutts Cove that is part of North Mill Pond.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

The state has limited tidal wetlands and it is our understanding that the permanent impact area is a tidal stream and salt marsh, but a portion of the the marsh and stream area has eroded away over time. The project is intended to address the flooding issues along Leslie Drive and the erosion that has occurred at the pipe outlet area within the tidal wetlands.

6. The surface area of the wetlands that will be impacted.

The surface area of wetlands impacted is 1,000 SF total with 100 SF permanent and 900 SF temporary for the construction of the outlet headwall and erosion apron. Temporary impact area of upland 100-foot tidal buffer area that includes the stream embankment is 2,200 SF for construction.

7. The impact on plants, fish and wildlife including, but not limited to:
   a. Rare, special concern species;
   b. State and federally listed threatened and endangered species;
   c. Species at the extremities of their ranges;
   d. Migratory fish and wildlife;
   e. Exemplary natural communities identified by the DRED-NHB; and
   f. Vernal pools.

NH14--1141 for the project does not identify any rare or special concern species, state or federal threatened or endangered species, species at the extremities, or exemplary natural communities. The proposed project impacts are not anticipated to impact migratory fish and wildlife. There are no known vernal pools in the impact area.

8. The impact of the proposed project on public commerce, navigation and recreation.

It is anticipated the project would not impact public commerce, navigation or recreation. It is anticipated upon completion, that the project would benefit public commerce with the elimination of the flooding within and adjacent to the Leslie Drive during and after large storm events.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

It is anticipated the aesthetic interest of the general public would not be interfered, but would be enhanced upon completion with the elimination of the erosion within the tidal stream and salt marsh in the project area.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

It is anticipted that the project would not have any interference with the public rights of passage or access upon completion. Temporary limited access will occur only during construction.

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

It is anticipated the project would not have any significant impact or effect on abutters upon completion. The immediate abutters to the project area are residences that have been impacted due to the small drain pipe outlet and flooding of Leslie Drive during large storm events. The 100 SF stone erosion apron would only be visible during low tide and would not affect the abutters. Upon completion of the project it is anticipated the visual effect would be enhanced in the area.

12. The benefit of a project to the health, safety, and well being of the general public.

The project will be a significant benefit to the public health, safety and well being. The proposed stormwater improvement will minimize impacts the City's roadway and abutters along Leslie Drive. The stormwater runoff will no longer pond along Leslie Drive and thus significantly reduce the public safety, well being and health concerns.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

It is anticipated upon completion that the water quality of the stormwater discharging to Cutts Cove would be improved with the elimination of erosion at the outlet area of the drainage system. The project is anticipated to not increase stormwater runoff into Cutts Cove upon completion.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

It is anticipated that the project will significantly reduce flooding, erosion and sedimentation in the Leslie Drive area upon completion. In addition, the proposed erosion control apron at the outlet is anticipated to reduce some of the current erosion effects in Cutts Cove.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

It is anticipated that the project would have minimal impacts to current and wave energy upon completion since the tidal waters and water depths constantly vary with the tide over the project area.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

It is anticipated that the cumulative impacts would be insignificant and under this project and intended to provide some enhancement, since the project proposed to repair an existing erosion issue at the pipe outlet location area and address flooding concerns in the developed tidal buffer areas along Leslie Drive. Most of the proposed impacts under this project application are temporary for construction and will be restored upon completion of construction. The permanent impacts are associated with the proposed new otlet headwall and erosion stone apron that is intended to address the current erosion issue at the pipe outlet area. Under this project application, 100 SF of permanent impact is proposed.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

It is anticipated that the project will enhance the funtions and values of the Cutts Cove tidal wetland and wetland complex with the elimination of the erosion issue in the tidal water.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

It is anticipated that the project will not impact any site associated with National Register of Natural Landmarks or sites eligible.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

It is anticipated the project would increase the value of Cutts Cove and the Leslie Drive area upon completion. It is our understanding the project impact area is not associated with any named areas per congressional or presidential proclaimations and is not part of any national areas.

20. The degree to which a project redirects water from one watershed to another.

The project does not redirect water from one watershed to another.

Additional comments

KNOW ALL MEN BY THESE PRESENTS:

That the Margo Construction Co., Inc., a corporation duly established under the laws of the State of New Hampshire, and having a place of business at Portsmouth, County of Rockingham and State of New Hampshire for and in consideration of One ($1.00) Dollar and other valuable considerations paid, grant to Carlton J. McNeil and Phyllis E. McNeil, both of Portsmouth, in the County of Rockingham and State of New Hampshire, as joint tenants and not as tenants in common, to them the survivor of them, his or her heirs forever,

A certain lot or parcel of land with the buildings thereon situate in Portsmouth, County of Rockingham and State of New Hampshire on the Easterly side of Cutts Street, the same being lot #27 as shown on a plan of Bersum Gardens for Margo Construction Co., Inc., dated October, 1955, John W. Durgin, C. E. and recorded in the Rockingham County Registry of Deeds, Plat 67, Page 14, and more particularly described as follows:

Beginning at the Southwesterly corner of said lot #27 at an iron stake at Leslie Drive, a public way as shown on said plan at the Southeasterly corner of lot #26, thence running North 6° 43' West by said lot #26, 190 feet more or less to a creek as shown on said plan, thence running Southeasterly by said creek a distance of 170 feet more or less to the Northwesterly corner of lot #28, thence turning and running South 26° 28' West by said lot #28, 143 feet more or less to an iron stake at said Leslie Drive, thence turning and running North 63°32' West by said Leslie Drive, 26.57 feet, and thence continuing on a curve to the left of said Leslie Drive, said curve having a radius of 75 feet, a distance of 43.43 feet to the point of beginning.

Reserving to the Grantor, its successors and assigns, the right to maintain a sewer line across the Westerly bound of said lot, and the right to go upon said lot for the purpose of maintaining, repairing or replacing any sewer line contained therein.

Subject to the protective covenants recorded by said corporation on July 7, 1955 and recorded in Rockingham Registry of Deeds in Book 1360, Page 298.

Being part of the premises conveyed by Harry Winebaum to Margo Construction Co., Inc. by deed dated November 28, 1955 and recorded in Rockingham County Registry of Deeds, Book 1378, Page 82.

IN WITNESS WHEREOF, the said Margo Construction Co., Inc. has set its hand and affixed its corporate seal by Leo B. Margolian, its Treasurer duly authorized, this 3rd day of January, 1957.

Witness:

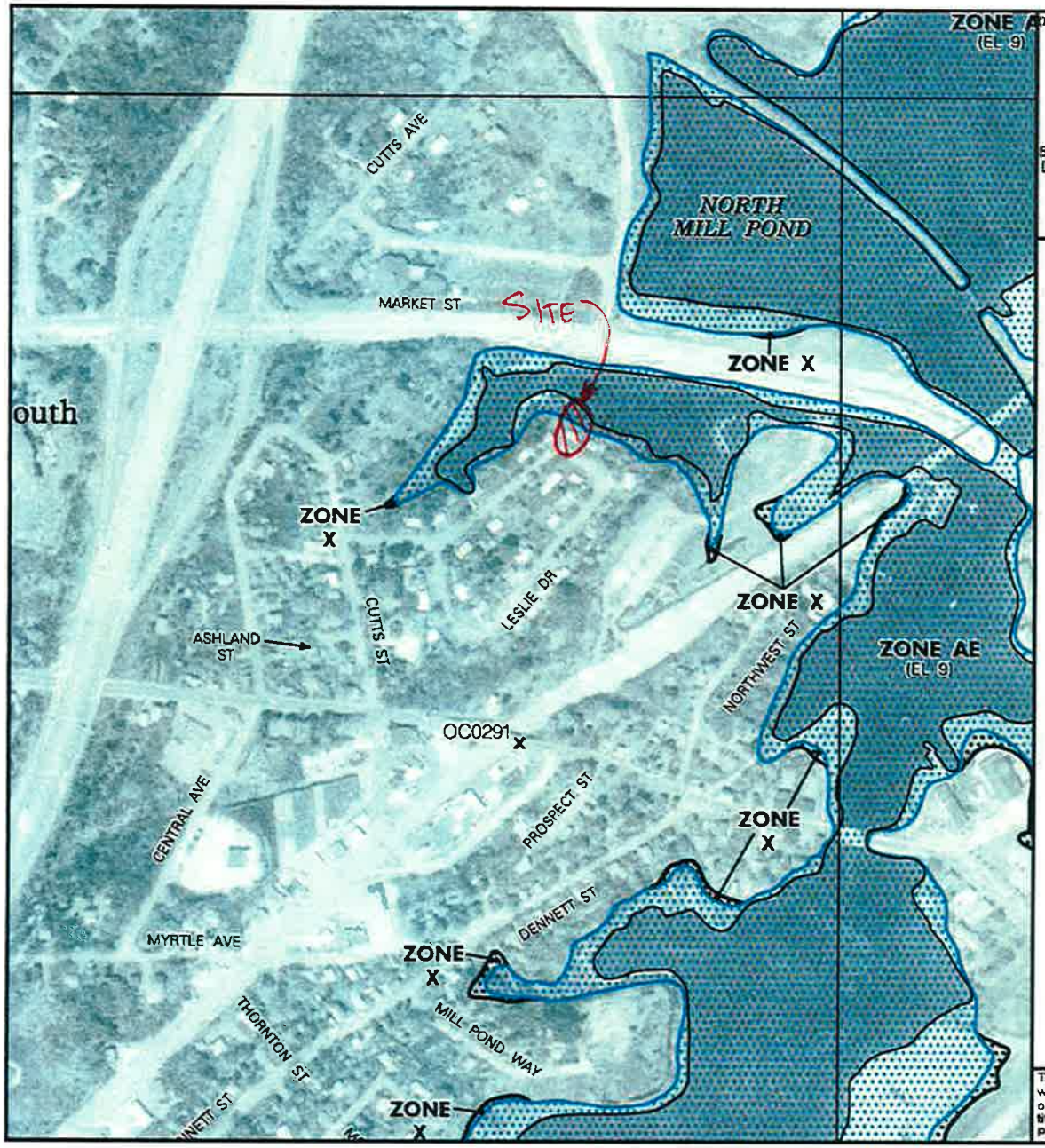
MARGO CONSTRUCTION CO., INC.

By Leo B. Margolian
Treasurer

STATE OF NEW HAMPSHIRE

County of Rockingham

On this the 3rd day of January, 1957, before me, Samuel Levy, the undersigned officer, personally appeared Leo B.



onal Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0259E

FIRM

FLOOD INSURANCE RATE MAP

ROCKINGHAM COUNTY,
NEW HAMPSHIRE
(ALL JURISDICTIONS)

PANEL 259 OF 681

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PORTSMOUTH, CITY OF	330139	0259	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
33015C0259E

EFFECTIVE DATE
MAY 17, 2005

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Stantec Consulting Services Inc.
5 Dartmouth Drive Suite 101, Auburn NH 03032

WRITTEN NOTIFICATION FOR WETLAND AND SHORELAND PERMIT APPLICATION

August 21, 2014

City of Portsmouth
P.O. Box 628
Portsmouth, NH 03802

Re: Proposed Drainage Improvements
Leslie Drive to Cutts Cove- Portsmouth, NH and
Tax Map 209 – Lot 48
Applicant: City of Portsmouth, NH

Dear Abutter:

This letter is to inform you that the City of Portsmouth, Owner of the above referenced project, will be applying to the New Hampshire Wetlands Bureau for a Wetlands Permit for temporary and permanent impacts to the tidal wetland and 100 foot upland tidal buffer area of the Cutts Cove portion of North Mill Pond and for a Shoreland Permit for temporary impacts within 250 feet Shoreland Area of the Cutts Cove portion of North Mill Pond. The project proposed to pipe burst the existing 8" clay pipe and replace the pipe with a 12" HDPE pipe with a headwall and erosion stone apron at the outlet location within Cutts Cove, a tidal wetland. The project proposed to impact a total of ***3,200*** square feet (SF) of wetlands and 100 foot upland tidal buffer area with ***3,100 SF*** being temporary impacts for construction and also proposes ***600 SF*** of temporary impact to the 250 foot Shoreland Area beyond the 100 foot upland tidal buffer area associated with the construction. The proposed temporary impacts are located within the City's easement upon the above noted parcel. The project will impact a total of approximately ***3,800 SF*** of Wetlands, 100 foot upland tidal buffer area and Shoreland area associated with Cutts Cove and North Mill Pond with most of the impact temporary for construction of this necessary improvement. Under state law RSA 482-A:3 I (d)(1), it is required that you are notified about the application, which proposes work near your property.

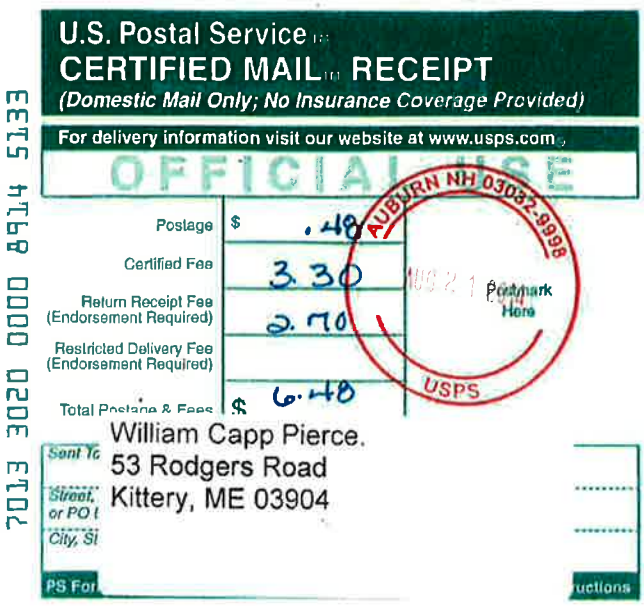
Once the applications have been submitted, copies of the applications and plans will be available at the New Hampshire Wetlands Bureau in Concord, New Hampshire and at the City of Portsmouth Planning Department during normal business hours. Please call ahead to ensure the application is available for your review.

If you have any questions, you may contact at 206-7538.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Michael Leach, CWS
Associate
Tel: (603) 206-7538
Fax: (603) 669-7636
michael.leach@stantec.com


U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
OFFICIAL USE
Postage $ .48
Certified Fee 3.30
Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Sent To
William Capp Pierce.
53 Rodgers Road
Kittery, ME 03904
7013 3020 0000 8914 5133


U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
OFFICIAL USE
Postage $ .48
Certified Fee 3.30
Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Sent To
Kyle Crossen Langelier
304 Leslie Drive
Portsmouth, NH 03801
7013 3020 0000 8914 5140


U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
OFFICIAL USE
Postage $ .48
Certified Fee 3.30
Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Sent To
Robert P. Sullivan
208 Leslie Drive
Portsmouth, NH 03801
7013 3020 0000 8914 5126


U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
OFFICIAL USE
Postage $ .48
Certified Fee 3.30
Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Sent To
City of Portsmouth
P.O. Box 628
Portsmouth, NH 03802
7013 3020 0000 8914 5157


U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery information visit our website at www.usps.com
OFFICIAL USE
Postage $ .48
Certified Fee 3.30
Return Receipt Fee (Endorsement Required) 2.70
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 6.48
AUBURN NH 03032-9998
Postmark Here
USPS
Laurie Bowditch Rosa
264 Leslie Drive
Portsmouth, NH 03801
7013 3020 0000 8914 5119

Wetland Permit Application for Parcel 48 on Map 209
Leslie Drive Drainage Improvements - Portsmouth NH
Applicant: City of Portsmouth – DPW

WRITTEN NOTIFICATION LIST FOR

WETLANDS & SHORELAND PERMIT

Map 209 Lot 47
Kyle Crossen Langelier
304 Leslie Drive
Portsmouth, NH 03801

Map 209 Lot 48
William Capp Pierce.
53 Rodgers Road
Kittery, ME 03904

Map 209 Lot 49
Robert P. Sullivan
208 Leslie Drive
Portsmouth, NH 03801

Map 209 Lot 50
Laurie Bowditch Rosa
264 Leslie Drive
Portsmouth, NH 03801

Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

Suggested Construction Sequence:

1. Using men and equipment, the Contractor shall excavate a pit for bursting equipment in Leslie Drive at existing drain manhole and thread a cable in existing 8" pipe to the outlet location.

2. Using men and equipment, the Contractor shall clear a path for equipment to access outlet location. Using low impact equipment and appropriate erosion control measures to minimize impacts in the wetland area, the Contractor places temporary diversion sandbag dam around outside limits of outlet apron area to receive cable and conduct pipe burst operation. The work area should be dewatered using appropriate measures with the dewater treatment measures located a minimum 30 feet from the wetlands.

3. The Contractor shall monitor and adjust sandbags as necessary to maintain appropriate conditions to conduct construction and dewater. Sandbag dam should prevent tidal flows into new pipe and unstablized areas.

4. The Contractor assembles 12" HDPE pipe and shall float the pipe in water to outlet location. The Contractor sets up bursting head at outlet location, attaches cable and new HDPE and pulls pipe bursting head and HDPE pipe from outlet location toward drain manhole in Leslie Drive.

5. The Contractor shall monitor and stabilize temporary access area in wetlands with appropriate erosion measures.

6. Upon completion of pipe bursting and HDPE pipe installation to Leslie Drive location, the Contractor shall install a headwall at end of HDPE pipe and install an erosion stone apron. Next, the Contractor shall remove the temporary division sandbags at the downstream end upon completion of the headwall and erosion stone apron installation and at appropriate tide conditions.

7. The Contractor shall remove the pipe bursting equipment from pit in Leslie Drive and connect pipe to existing drain manhole in Leslie Drive. The Contractor shall connect the two (2) footing drains from the existing buildings to new HDPE pipe in driveway area.

8. The Contractor shall backfill, compact and pave Leslie Drive and existing driveway locations.

9. The Contractor shall stabilize and restore impacted wetlands and 100- foot buffer zone area along temporary access.

10. The Contractor shall complete restoration and stabilize of all disturbed areas. Monitor, repair and restore all disturbed areas.

BMP #5

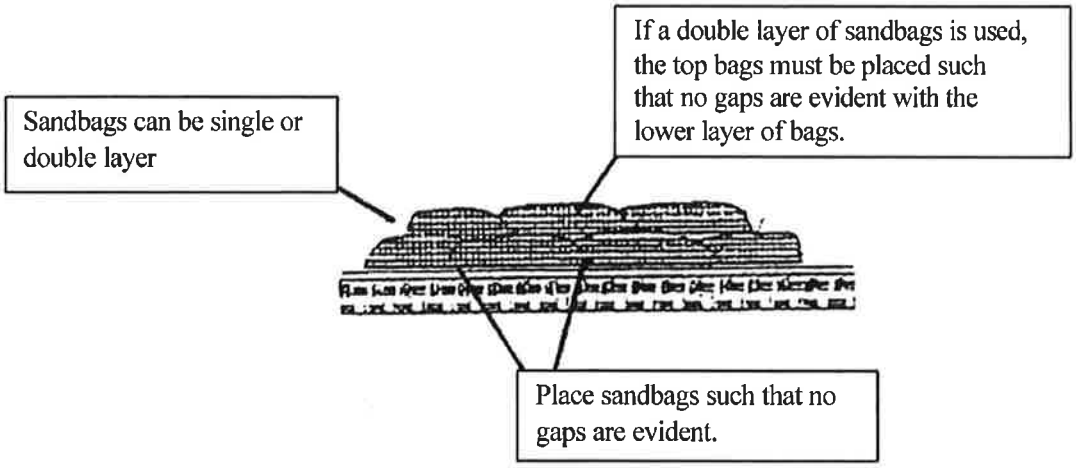
Sandbags

Sandbags work well as diversion structures, temporary cofferdams, sediment control devices and temporary flow dissipaters during any number of routine roadway maintenance activities.

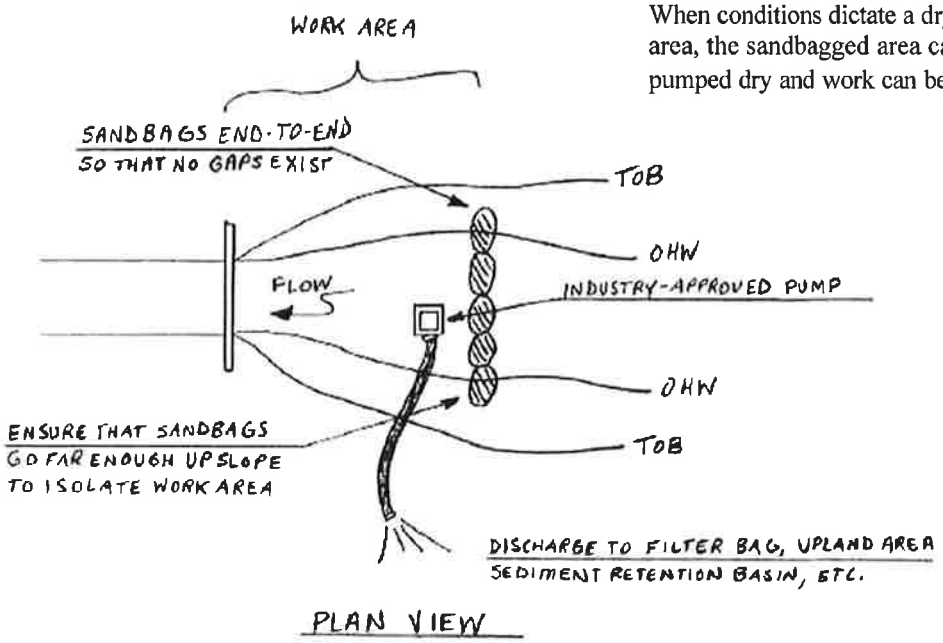
When appropriately designed and used as a cofferdam, these sandbags are stable enough for water to pond behind them. The ponded water behind the dam structure can then be pumped to a sediment retention basin or filter bag to allow work to be performed in-the-dry.

When used in conjunction with other BMPs, sandbags can be useful at:

- ensuring that sediment does not enter surface waters or wetlands while stabilizing exposed soil surfaces;
- helping to retain sediment in a sediment retention basin; and
- diverting and/or dissipating runoff water during roadside ditch maintenance.



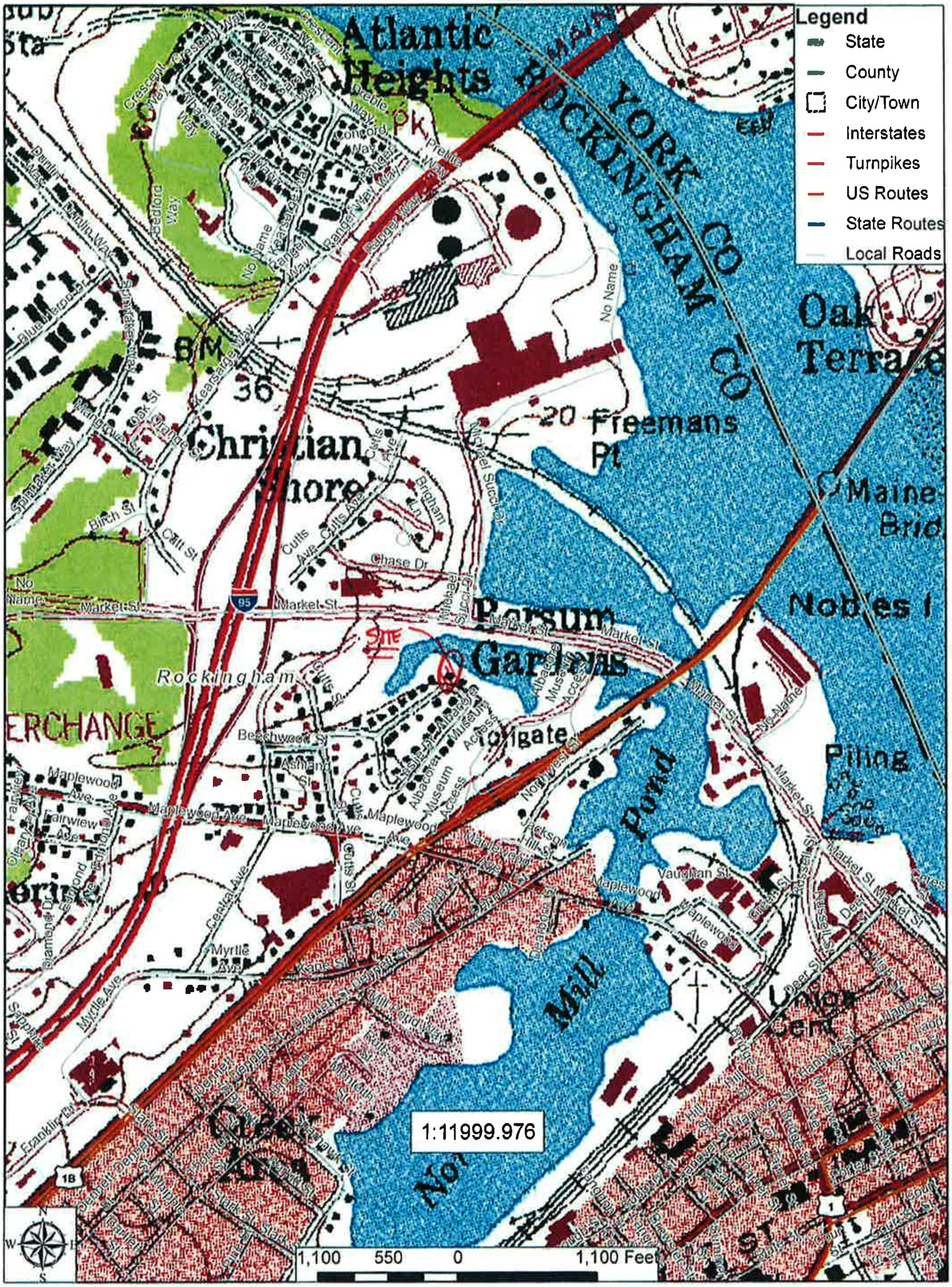
Sandbags used as a cofferdam below:



PLAN VIEW

When conditions dictate a dry work area, the sandbagged area can be pumped dry and work can begin.


View
Map Layers
Tools
Help
Visit the GRANIT website at www.granit.unh.edu/
SITE
Current Scale = 1:2,257
500 ft


Legend
State
County
City/Town
Interstates
Turnpikes
US Routes
State Routes
Local Roads
Atlantic Heights
ROCKINGHAM CO
YORK CO
Oak Terrace
Freemans Pt
Christian Shore
Market St
Rockingham
SITE
Tollgate
North Mill Pond
Maplewood Ave
1:11999.976
1,100 550 0 1,100 Feet

New Hampshire Natural Heritage Bureau

To: Michael Leach
5 Dartmouth Drive - Suite 101
Auburn, NH 03032

Date: 4/1/2014

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 4/1/2014

NHB File ID: NHB14-1141 Applicant: Michael Leach

Location: Tax Map(s)/Lot(s):
Portsmouth

Project Description: Upgrade and Replacement of existing drainage pipe

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

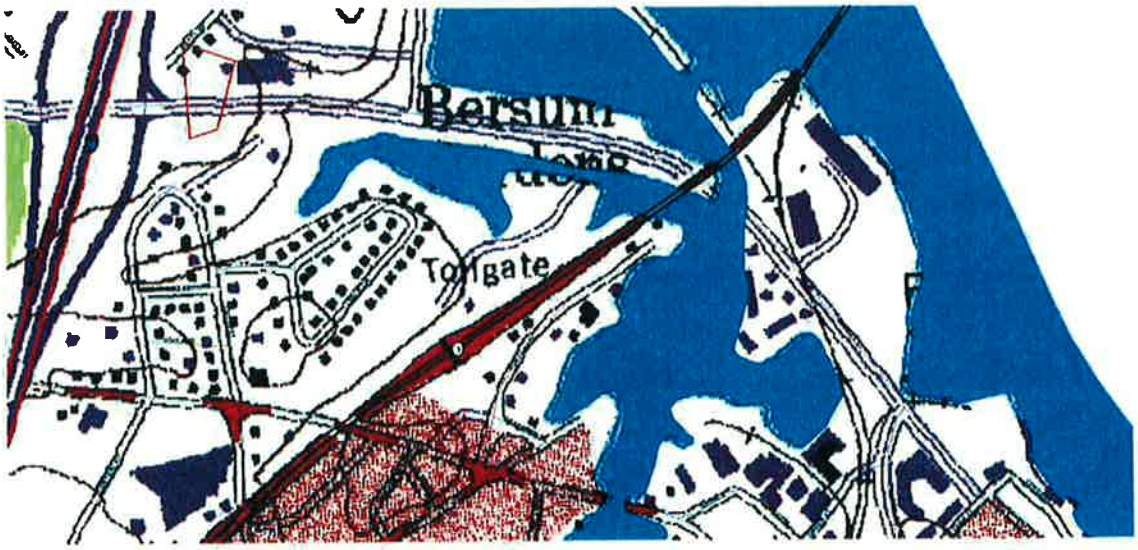
A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 3/31/2015.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB14-1141



Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

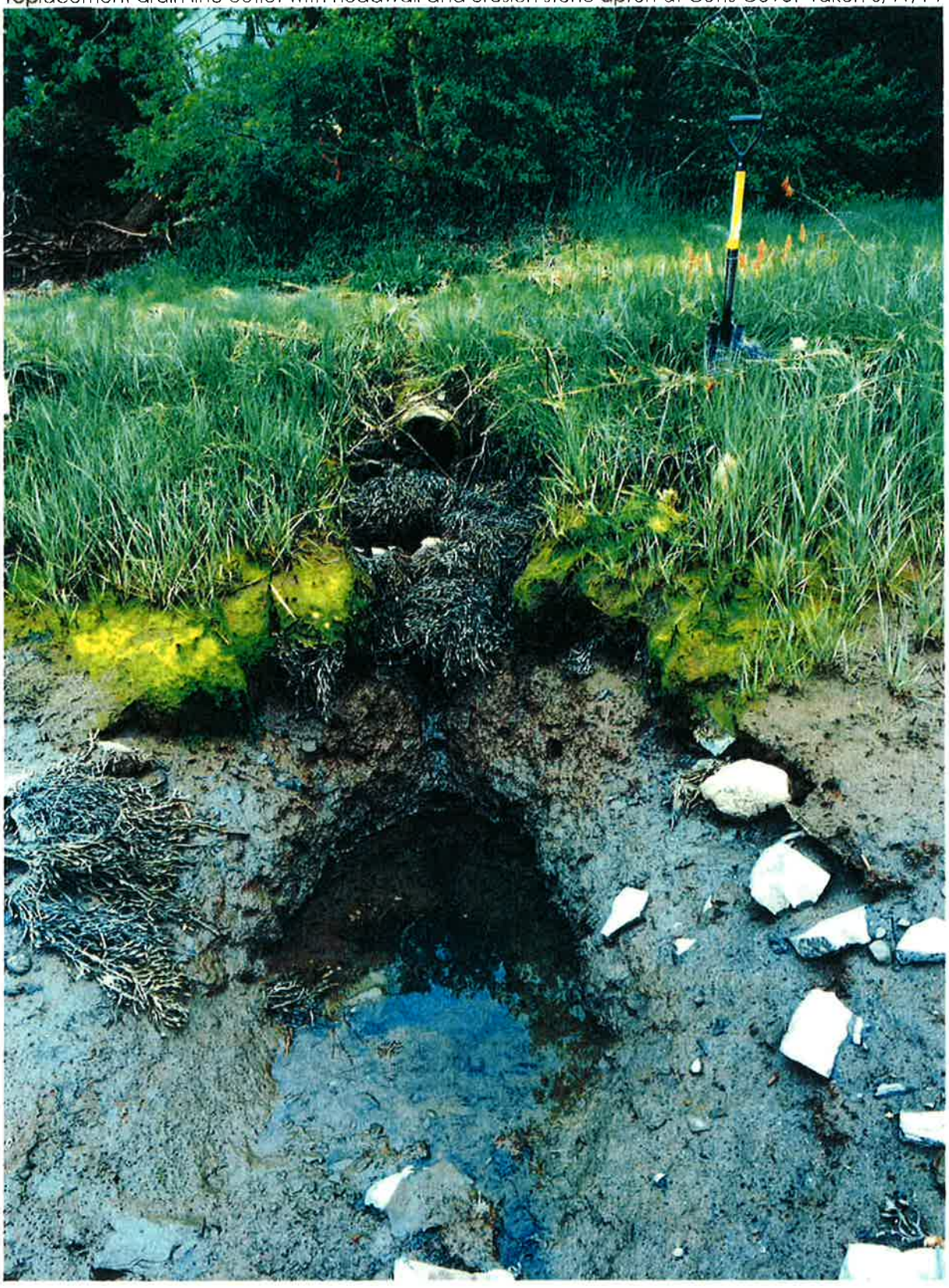
DRED/NHB
PO Box 1856
Concord NH 03302-1856

Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#1 Standing south of the existing pipe outlet location within the tidal wetlands looking northerly toward the outlet area and erosion area and proposed area of work for a replacement drain line outlet with headwall and erosion stone apron at Cutts Cove. Taken 6/11/14

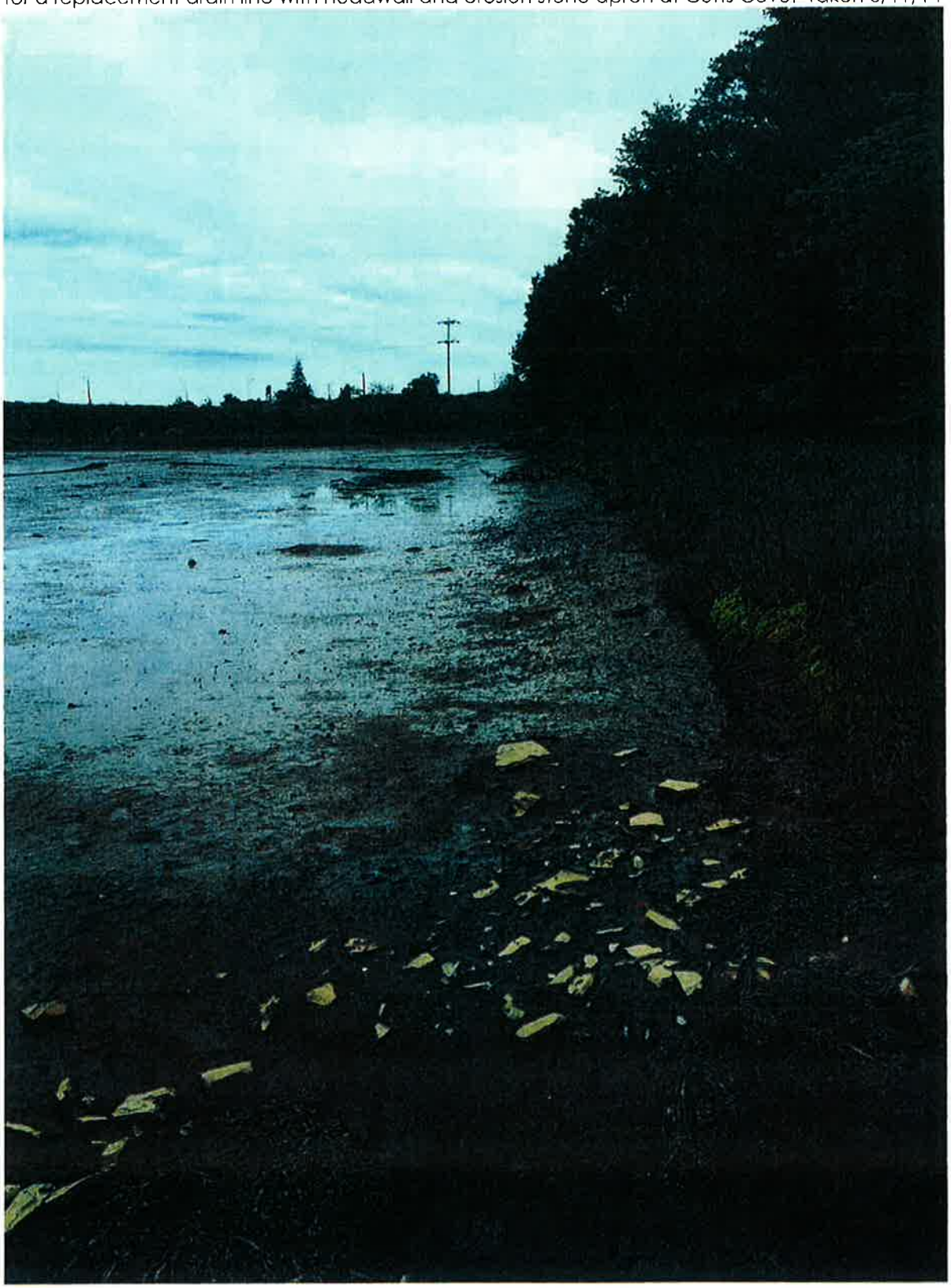
Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#2 Standing north of the existing pipe outlet location within the tidal creek area of Cutts Cove looking southerly toward the outlet area and erosion area and proposed area of work for a replacement drain line outlet with headwall and erosion stone apron at Cutts Cove. Taken 6/11/14



Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#3 Standing west of the existing pipe outlet location within the tidal wetlands looking easterly and downstream along the creek toward the outlet area and erosion area and proposed area of work for a replacement drain line with headwall and erosion stone apron at Cutts Cove. Taken 6/11/14



Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#4 Standing east of the existing pipe outlet location within the tidal wetlands looking westerly and upstream along the creek toward the outlet area and erosion area and proposed area of work for a replacement drain line with headwall and erosion stone apron at Cutts Cove. Taken 6/11/14

Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

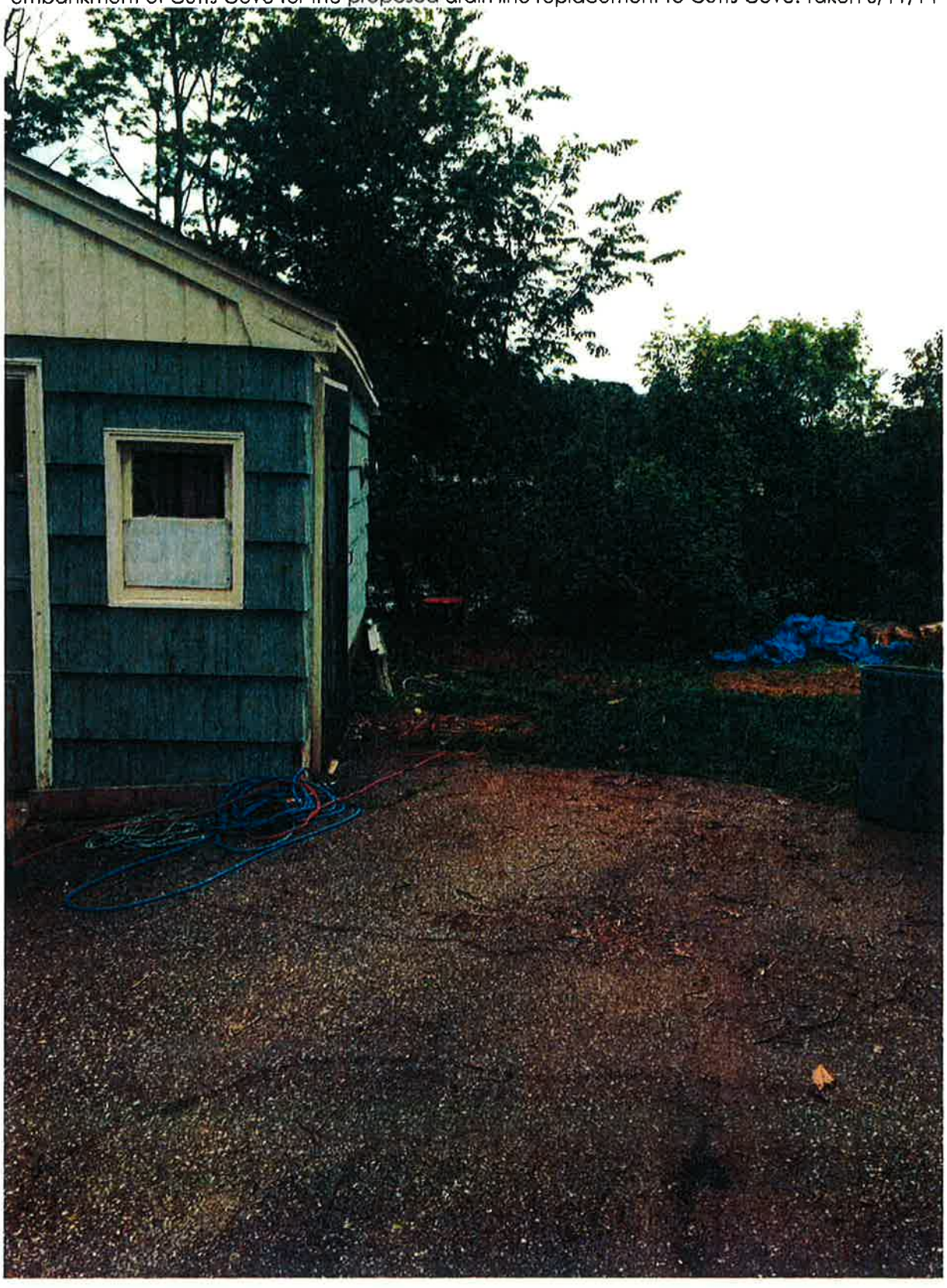
#5 Standing near the toe of bank of Cutts Cove near the proposed access route to the pipe outlet location and looking southerly along the existing embankment area toward Leslie Drive proposed temporary impact area for the proposed drain line replacement work. Taken 6/11/14

Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#6 Standing near the top of bank of Cutts Cove near the proposed access route to the pipe outlet location and looking southerly along the existing developed 100 Ft tidal buffer zone toward Leslie Drive and proposed temporary impact area for the proposed drain line replacement work. Taken 6/11/14

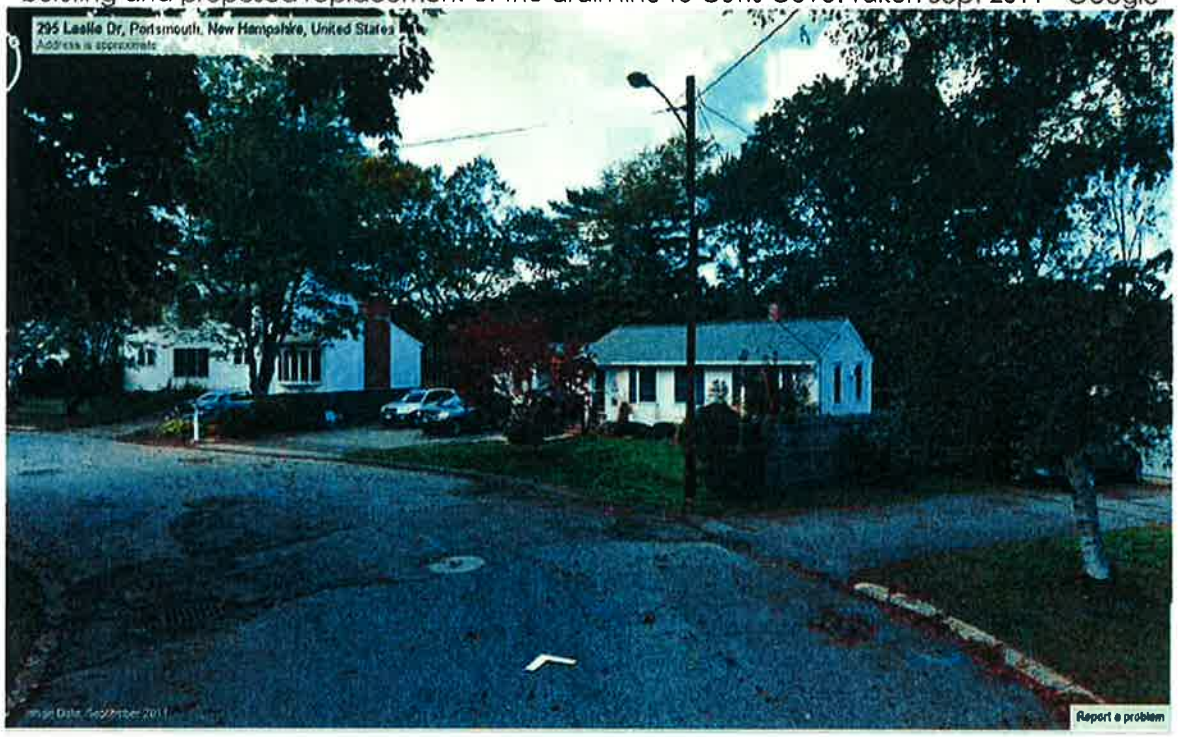
Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#7 Standing in the driveway of #296 Leslie Drive and the proposed excavation area within the 100 Ft tidal buffer zone and looking northerly across the proposed temporary impact area and top of embankment of Cutts Cove for the proposed drain line replacement to Cutts Cove. Taken 6/11/14

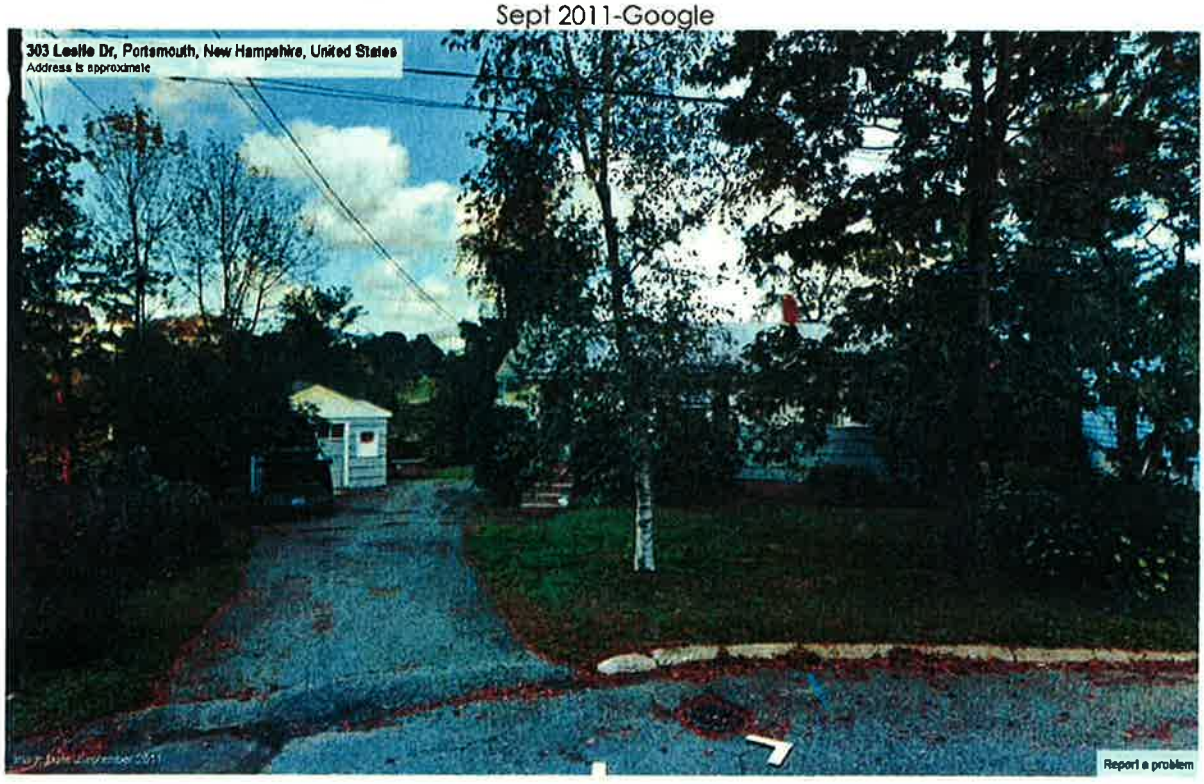


Leslie Drive Drainage Improvements
City of Portsmouth and Tax Map 209 – Parcel 48
Applicant: City of Portsmouth- DPW
Agent: Stantec Consulting Services, Inc.

#8 Standing along Leslie Drive opposite #296 and east of the proposed temporary impact area and looking westerly at the existing drain manhole and proposed area work to conduct pipe bursting and proposed replacement of the drain line to Cutts Cove. Taken Sept 2011 - Google



#9 Standing near the existing manhole in Leslie Drive and opposite #296 and at the edge of the proposed temporary impact area and looking northerly toward Cutts Cove at the proposed work area to conduct pipe bursting and proposed replacement of the drain line to Cutts Cove. Taken Sept 2011-Google



US Army Corps of Engineers ®
New England District

LESLIE DRIVE- PORTSMOUTH

New Hampshire Programmatic General Permit (PGP)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See PGP, GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*	X	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, shellfish beds, special wetlands and vernal pools (see PGP, GC 26 and Appendix A)? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) website, www.nhnaturalheritage.org, specifically the book Natural Community Systems of New Hampshire.	X	
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?		X
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)	X	
2.5 The overall project site is more than 40 acres.		X
2.6 What is the size of the existing impervious surface area?	1500 SF	
2.7 What is the size of the proposed impervious surface area?	—	
2.8 What is the % of the impervious area (new and existing) to the overall project site?	2%	
3. Wildlife	Yes	No
3.1 Has the NHB determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require a NHB determination.)		X
3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.	X	

LESLIE DRIVE - PORTSMOUTH

3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the PGP, GC 21?		X
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?	X	
5. Historic/Archaeological Resources		
For a minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) shall be sent to the NH Division of Historical Resources as required on Page 5 of the PGP**	X	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.
** If project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law..

SITE

MARKET ST
CHASE DR
MICHAEL SUCCI DR
CUTTS AVE
CLARK DR
LESLIE DR
SARAH LONG BRG
Piscataqua River
North Mill Pond
I-95 SOUTH
I-95 NORTH
BEECHWOOD ST
ASHLAND ST
CENTRAL AVE
CUTTS ST
U.S. ROUTE 1 BYP
NORTHWEST ST
MARSH LN
JACKSON HILL ST
NORTH SCHOOL ST
PROSPECT ST
DENNETT ST
WALKER ST
GEARBORN ST
MAPLEWOOD AVE

Partial Legend

See the cover sheet for the complete legend

- 7-5A — Lot or lot-unit number
- 2.56 ac — Parcel area in acres (ac) or square feet (sf)
- Address number
- 233-137 — Parcel number from a neighboring map
- Parcel line dimension
- SIMS AVE — Street name
- Parcel/Parcel boundary
- Parcel/ROW boundary
- Water boundary
- Structure (2006 data)
- Parcel covered by this map
- Parcel from a neighboring map (see other map for current status)

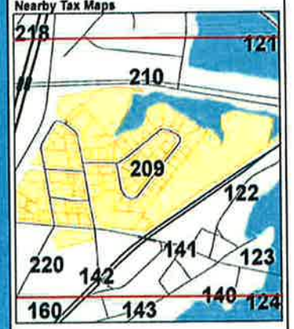
N

Feet: 0 50 100 200 300

Meters: 0 50 100

This map is for assessment purposes only. It is not intended for legal description or conveyance.
Parcels are mapped as of April 1.
Building footprints are 2006 data and may not represent current structures.
Streets appearing on this map may be paper (unbuilt) streets.
Lot numbers take precedence over address numbers. Address numbers shown on this map may not represent posted or legal addresses.

Nearby Tax Maps



Map Location

Portsmouth, New Hampshire
2011

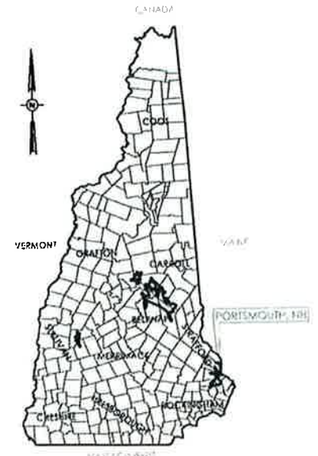
Tax Map 209

Stantec

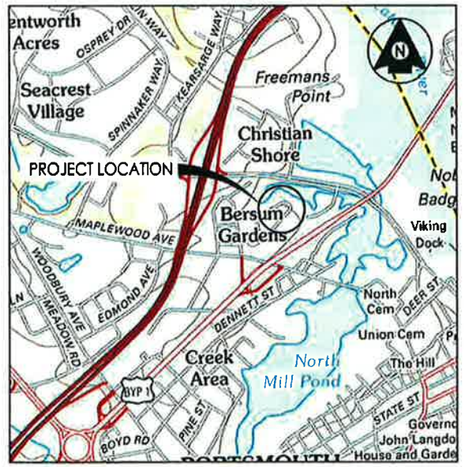
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS
LESLIE DRIVE DRAINAGE IMPROVEMENTS

JULY 2014

Project Number: 195112947



LOCATION MAP



VICINITY MAP
1"=1000'

INDEX OF SHEETS

SHEET NO.	TITLE
	COVER SHEET
2.	GENERAL PLANS AND PROFILE
3. - 4.	CONSTRUCTION DETAILS

ISSUED FOR PERMIT
AUGUST 2014

MAYOR
ROBERT LISTER

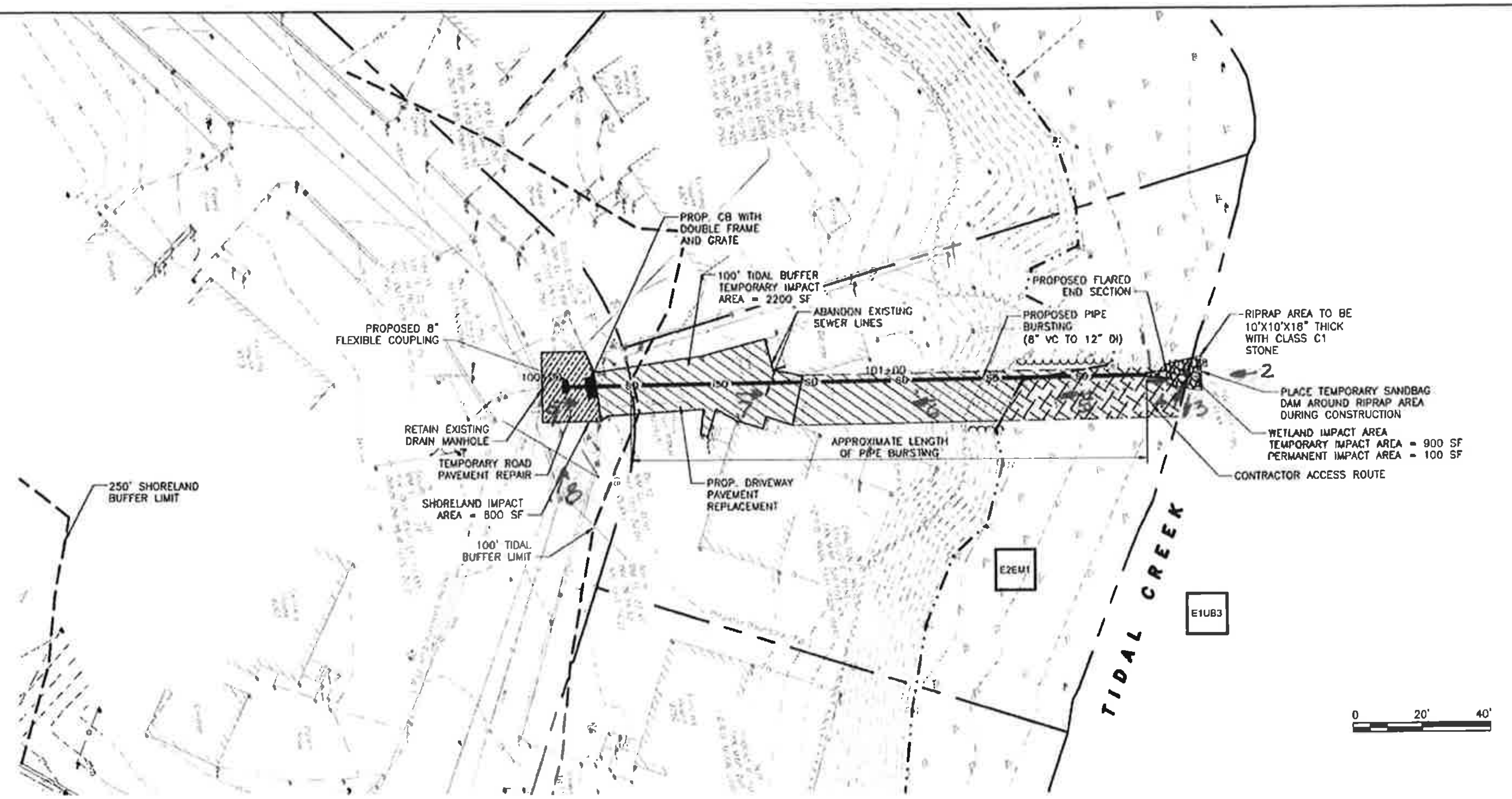
CITY MANAGER
JOHN P. BOHENKO

PUBLIC WORKS DIRECTOR
PETER RICE, P.E.

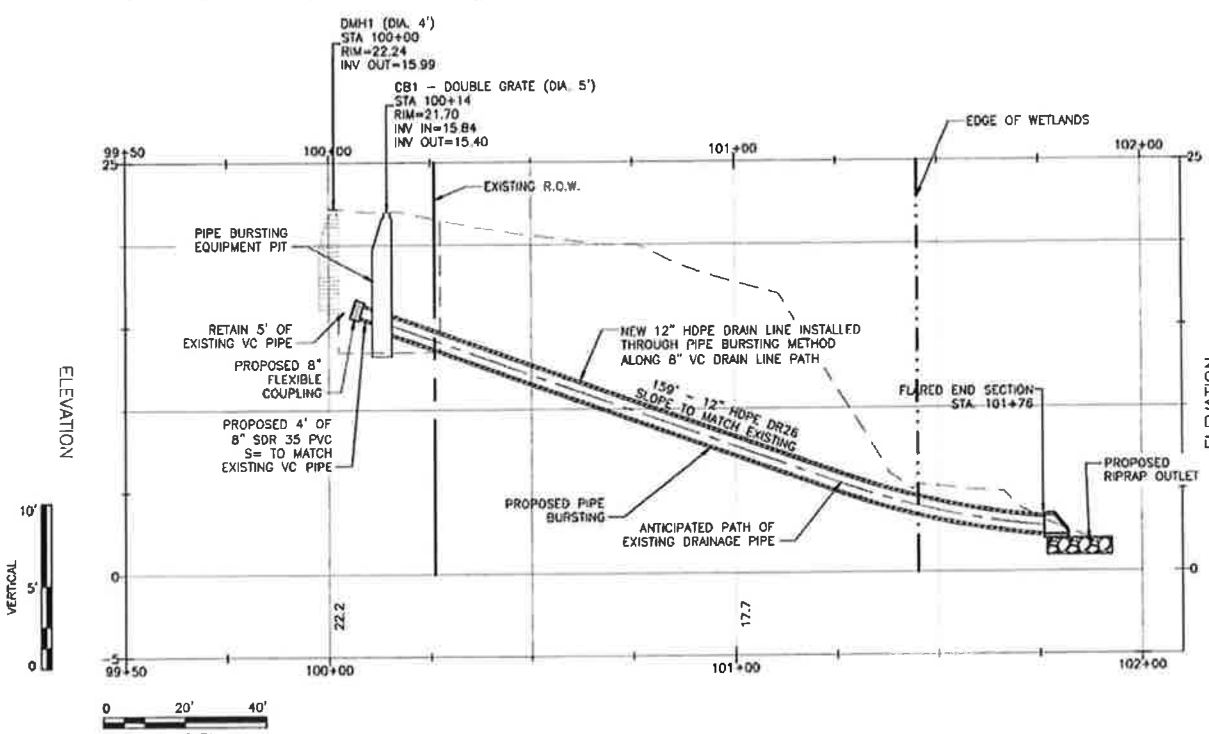
Set No.

EXISTING LEGEND

- EXISTING BOUND
- EXISTING SURVEY POINT
- EXISTING CATCH BASIN (SQUARE)
- EXISTING CATCH BASIN (ROUND)
- EXISTING DRAIN MANHOLE (DMH)
- EXISTING ELECTRICAL MANHOLE
- EXISTING GUY POLE
- EXISTING HYDRANT
- EXISTING IRON PIN
- EXISTING NATURAL GAS MANHOLE
- EXISTING SEWER MANHOLE (SMH)
- EXISTING SINGLE POLE SIGN
- EXISTING DOUBLE POLE SIGN
- EXISTING FLOOD LIGHT
- EXISTING LIGHT POST
- EXISTING MAILBOX
- EXISTING DRAINAGE FLOW
- EXISTING WETLAND
- EXISTING UTILITY POLE
- EXISTING WATER SHUTOFF
- EXISTING GATE VALVE
- EXISTING WELL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING DITCH/SWALE
- EXISTING EDGE OF WATER
- EXISTING WETLAND BOUNDARY
- EXISTING EASEMENT
- EXISTING PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FUEL GAS
- EXISTING NATURAL GAS
- EXISTING OVERHEAD POWER
- EXISTING UNDERGROUND POWER
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- EXISTING WATER MAIN
- EXISTING OVERHEAD TELEPHONE
- EXISTING FENCE
- EXISTING CHAINLINK FENCE
- EXISTING WOODEN FENCE
- EXISTING RETAINING WALL
- EXISTING HAYBALES
- EXISTING STONE WALL
- SHORELAND IMPACT AREA
- TIDAL BUFFER TEMPORARY IMPACT AREA
- WETLAND IMPACT AREA



WETLAND CLASSIFICATION CODES	
E1UB3	ESTUARINE, SUBTIDAL, UNCONSOLIDATED BOTTOM, MUD
E2EM1	ESTUARINE, INTERTIDAL, EMERGENT, PERSISTENT



LESLIE DRIVE DRAINAGE IMPROVEMENTS
CITY OF PORTSMOUTH AND TAX MAP 209 - PARCEL 48
APPLICANT: CITY OF PORTSMOUTH- DPW
AGENT: STANTEC CONSULTING SERVICES, INC

SUGGESTED CONSTRUCTION SEQUENCE:

1. USING MEN AND EQUIPMENT, THE CONTRACTOR SHALL EXCAVATE A PIT FOR BURSTING EQUIPMENT IN LESLIE DRIVE AT EXISTING DRAIN MANHOLE AND THREAD A CABLE IN EXISTING 8" PIPE TO THE OUTLET LOCATION.
2. USING MEN AND EQUIPMENT, THE CONTRACTOR SHALL CLEAR A PATH FOR EQUIPMENT TO ACCESS OUTLET LOCATION. USING LOW IMPACT EQUIPMENT AND APPROPRIATE EROSION CONTROL MEASURES TO MINIMIZE IMPACTS IN THE WETLAND AREA, THE CONTRACTOR PLACES TEMPORARY DIVERSION SANDBAG DAM AROUND OUTSIDE LIMITS OF OUTLET APRON AREA TO RECEIVE CABLE AND CONDUCT PIPE BURST OPERATION. THE WORK AREA SHOULD BE DEWATERED USING APPROPRIATE MEASURES WITH THE DEWATER TREATMENT MEASURES LOCATED A MINIMUM 30 FEET FROM THE WETLANDS.
3. THE CONTRACTOR SHALL MONITOR AND ADJUST SANDBAGS AS NECESSARY TO MAINTAIN APPROPRIATE CONDITIONS TO CONDUCT CONSTRUCTION AND DEWATER. SANDBAG DAM SHOULD PREVENT TIDAL FLOWS INTO NEW PIPE AND UNSTABLIZED AREAS.
4. THE CONTRACTOR ASSEMBLES 12" HDPE PIPE AND SHALL FLOAT THE PIPE IN WATER TO OUTLET LOCATION. THE CONTRACTOR SETS UP BURSTING HEAD AT OUTLET LOCATION, ATTACH CABLE AND NEW HDPE PIPE AND PULLS PIPE BURSTING HEAD AND HDPE PIPE FROM OUTLET LOCATION TOWARD DRAIN MANHOLE IN LESLIE DRIVE.
5. THE CONTRACTOR SHALL MONITOR AND STABILIZE TEMPORARY ACCESS AREA IN WETLANDS WITH APPROPRIATE EROSION MEASURES.
6. UPON COMPLETION OF PIPE BURSTING AND HDPE PIPE INSTALLATION TO LESLIE DRIVE LOCATION, THE CONTRACTOR SHALL INSTALL A HEADWALL AT END OF HDPE PIPE AND INSTALL AN EROSION STONE APRON. NEXT, THE CONTRACTOR SHALL REMOVE THE TEMPORARY DIVISION SANDBAGS AT THE DOWNSTREAM END UPON COMPLETION OF THE HEADWALL AND EROSION STONE APRON INSTALLATION AND AT APPROPRIATE TIDE CONDITIONS.
7. THE CONTRACTOR SHALL REMOVE THE PIPE BURSTING EQUIPMENT FROM PIT IN LESLIE DRIVE AND CONNECT PIPE TO EXISTING DRAIN MANHOLE IN LESLIE DRIVE. THE CONTRACTOR SHALL CONNECT THE TWO (2) FOOTING DRAINS FROM THE EXISTING BUILDINGS TO NEW HDPE PIPE IN DRIVEWAY AREA.
8. THE CONTRACTOR SHALL BACKFILL, COMPACT AND PAVE LESLIE DRIVE AND EXISTING DRIVEWAY LOCATIONS.
9. THE CONTRACTOR SHALL STABILIZE AND RESTORE IMPACTED WETLANDS AND 100- FOOT BUFFER ZONE AREA ALONG TEMPORARY ACCESS.
10. THE CONTRACTOR SHALL COMPLETE RESTORATION AND STABILIZE OF ALL DISTURBED AREAS. MONITOR, REPAIR AND RESTORE ALL DISTURBED AREAS.

Stantec

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Auburn, NH 03032 U.S.A.
Tel. 603.669.8672
Fax. 603.669.7636
www.stantec.com

Consultants

Legend

Notes

ISSUED FOR PERMIT
AUGUST 2014

Revision

Issued

Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
LESLIE DRIVE
PROPOSED PLAN AND PROFILE

Project No.	Scale	
195112947	AS NOTED	
Drawing No.	Sheet	Revision
WET	2 of 4	0

GENERAL NOTES AND SPECIFICATIONS FOR EROSION CONTROL

1. The contractor is responsible for water control during all phases of construction. No work shall be permitted in flowing water. Streams shall be temporarily dammed by use of sand bags or other suitable means. The diversion shall be accomplished by temporary culverts or by pumping. All diverted water shall be discharged to stone fill or other suitable energy dissipater surrounded by silt fence.

2. This plan is to be used as a guideline only. Additional silt fence, stone check dams, or other measures may be dictated by field conditions.

3. The Contractor is responsible for complying with all local, state, and federal regulations.

4. Temporary Stabilization.
   All disturbed areas shall have temporary or permanent stabilization within 14 days of initial disturbance. After this time any disturbance shall be stabilized by the end of the day, with the following exceptions.
   (1) Stabilization is not required if work is to continue in the area in the next 24 hours and there is no precipitation forecast for the next 24 hours.
   (2) Stabilization is not required if the work is in a self-contained excavation with a depth of 2 feet or more.
   Temporary Stabilization Measures:
   (1) Hay or straw mulch with a thickness of at least 2 inches.
   (2) Soil tracking with tracked equipment. Should be limited to small areas with slopes less than 100 feet long (less than 50 feet with slopes steeper than 3:1).
   (3) A combination of the above.
   (4) Erosion Control matting.

5. Materials
   A. Mulch material: Select mulch material for erosion control that will best meet the site conditions from the following.
   (1) Hay or straw - Shall be dry, free of mold and weed seeds. Hay or straw can be used on disturbed areas that will not be reworked for 7 to 30 days.
   (2) Wood Chips - Shall be dry, free of soil and other foreign material.
   (3) Rolled Erosion Control Products (RECP) - Shall be dry, and shall be made of straw or hay, coconut and related fibers, wood excelsior, jute, polypropylene, nylon, or an approved combination of different materials.
   B. Mulch Anchoring: When mulch must be held in place, the following mulch anchoring material shall be used:
   (1) Mulch Netting (Paper, twine, plastic, or plastic and wood fiber).
   C. Fertilizer: Complete fertilizer 10-20-20 (Standard Product) - Class A
   10-10-10 (Standard Product) - Class B
   D. Lime: Ground limestone containing not less than 95% total carbonates (calcium or magnesium).
   E. Temporary Seed Mixture: When it is impractical to establish permanent protective vegetation on disturbed earth by October 15, use "Conservation Mix" or the following seed mixture. Disturbed areas that will not be reworked for 30 days or more shall also receive temporary seed and mulch.

Kind of Seed	% By Weight
Annual Ryegrass	50
Perennial Ryegrass	50

   Apply seed mixture at 50 pounds per acre.
   F. Permanent Seed Mixture: (Not for Wetland Restoration):
   (1) For Class A (Lawn) restoration of growth. Shall normally be used on loam areas. This seed shall conform to the following and shall be furnished on a pure live seed (PLS) basis.

Class A

Kind of Seed	PLS Per Acre, LBS
Red Fescue (Creeping)	21
Redtop or Bluegrass	21
	21
Perrenial Ryegrass (Manhattann)	21
Total	84

   (2) For Class B (Field) restoration of growth. Shall normally be used for all slope work. This seed shall conform to the table below unless amended by the engineer to suit special local conditions encountered. This seed shall be furnished on a pure live seed (PLS) basis.

Class B

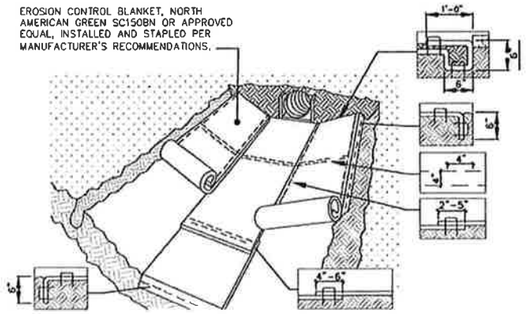
Kind of Seed	PLS Per Acre, LBS
Tall Fescue (ALTA or K-31)	20
Perennial Ryegrass (Manhattan)	15
Red Fescue (Creeping)	5
Red Clover	5
Birdsfoot Trefoil (Empire variety Preferred)	5
Total	50

6. Seeding and Mulching.
   A. All areas shall be seeded and mulched within 48 hours of final grading.
   B. Soil samples may be sent to the county extension service for analysis to determine the proper seed mixture and fertilizer requirements.
   C. The following procedures shall be followed for temporary seeding:
   (1) Apply lime at a rate of 75 to 100 pounds per 1000 square feet. Incorporate into top two inches of soil.
   (2) Apply fertilizer at a rate of 30 pounds per 1000 square feet. Mix thoroughly into the top two inches of soil.
   (3) Apply seed mixture at a rate of 50 pounds per acre and additional 3-4 lbs per 1000 square feet for sloped areas of 45% and greater evenly in two intersecting directions. Rake lightly.
   (4) Apply mulch material within 24 hours after seeding in accordance with the following:
   (A) Hay or Straw: Application rate - 75 to 100 pounds per 1000 square feet. Spread by hand or with mechine. Anchor on slopes and where subject to blowing or slipping.
   (B) Wood Chips - Application rate - Two to six inches deep. Use for tree and shrub planting.
   (5) Anchor mulch on all slopes exceeding 5% and other areas as required using the following method:
   (A) Mulch Netting: Spread over loose mulch and pin to the soil in accordance with the manufacturer's instructions.
   D. When temporary seeding cannot be accomplished to have established or visible growth by October 15, the disturbed areas shall be covered with 6 inches of mulch and anchored or erosion control blankets for the duration of the winter.

7. Maintenance of Erosion Control Structures:
   A. Stone check dams shall be replaced when they become clogged with soil particles or as directed by the owner/representative.
   B. When the sediment accumulation reaches a depth of 12 inches behind the silt fence, it shall be disposed of.
   C. Repair all damages caused by soil erosion or construction equipment at or before the end of each working day.
   D. Stone stabilized construction entrances shall be inspected to ensure tracking of sediments onto public right-of-ways or streets is not occurring. Maintenance may include periodic top dressing with additional aggregate to ensure a minimum thickness of eight inches.
   E. All measures shall be removed within 30 days of stabilization.

8. **Wetland Restoration**
   A. Replace wetland soil from stock pile to a minimum depth of 8 inches or equal to original depth.
   B. Grade areas to match preconstruction grades.
   C. Apply "New England Wetmix" seed or equal in accordance with the manufacturers application rates.

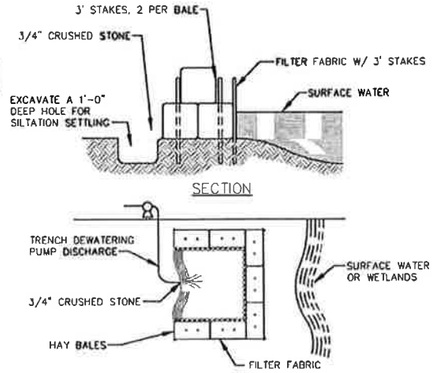
9. Winter Erosion Control
   A. All erosion control features such as silt fence must be in place prior to the ground freezing.
   B. All disturbed areas of the site shall be seeded and mulched from October 15 to May 1 regardless of whether final grading has been finished. Work may continue through this period if the following winter erosion controls are implemented.
   (1) Oat seeds shall be substituted for any other temporary annual grass seeds.
   (2) All exposed earth shall be mulched with 6 inches of hay or straw. Slopes over 5% shall have an additional covering of staked jute mat or its equivalent.
   C. The following maintenance items should be performed specifically for the various erosion control devices:
   (1) Diversion Dike:
   (A) Minimum inspection frequency - Weekly.
   (B) Remove any flow blockage caused by ice or sediment.
   (2) Mulch:
   (A) Minimum inspection frequency - Daily.
   (B) Replace mulch on any area where original mulch cover has been lost.
   (3) Silt Fence:
   (A) Minimum inspection frequency - Weekly.
   (B) Clean and remove any collected sediment before predicted thaws or rainy periods.
   (4) Stone Check Dam:
   (A) Minimum inspection frequency - Weekly.
   (B) Remove and replace clogged stone.

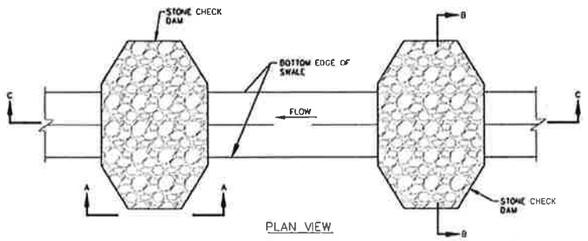


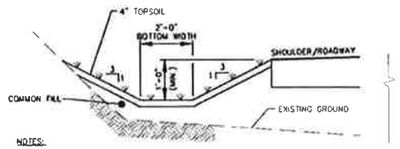
NOTES:

1 TO BE USED ON SLOPES 3 HORIZONTAL TO 1 VERTICAL OR STEEPER.

2 PREPARE SOIL INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED PRIOR TO INSTALLING BLANKET.





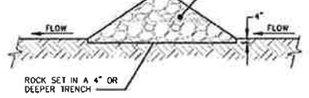


NOTES:

1 GRASS LINED SWALES ARE TO BE USED EVERYWHERE UNLESS INDICATED OTHERWISE.

2 IF LONGITUTINAL SLOPE IS GREATER THAN 2%, TEMPORARY STONE CHECK DAMS ARE NEEDED TO REDUCE STORMWATER VELOCITY AND PREVENT SOIL EROSION WITHIN THE SWALE.

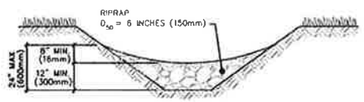
3 SWALE TO BE SEEDED WITH A GRASS SPECIES NATIVE TO THE AREA THAT TOLERATES WET/DRY CONDITIONS.



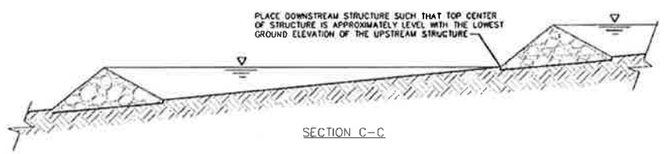
SECTION A-A

DITCH GRADE (G)	CHECK DAM SPACING(S)
0.02 FT/FT (M/M)	67 FT (20.5 M)
0.03 FT/FT (M/M)	44.5 FT (13.6 M)
0.04 FT/FT (M/M)	33.4 FT (10.2 M)
0.05 FT/FT (M/M)	26.7 FT (8.2 M)
0.06 FT/FT (M/M)	22.3 FT (6.8 M)

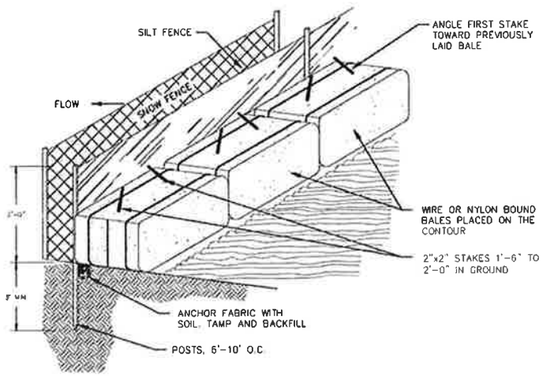
DO NOT USE CHECK DAMS BELOW 2% OR ABOVE 6% DITCH GRADES

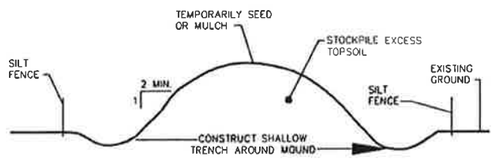


SECTION B-B



SECTION C-C





Stantec

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Consultants

Legend

Notes

ISSUED FOR PERMIT
AUGUST 2014

No.	Revision	By	Appd.	YY.MM.DD

No.	Issued	By	Appd.	YY.MM.DD
File name: 12947-C-DETAILS.dwg		Dwn	Chkd.	Dsgn YY.MM.DD

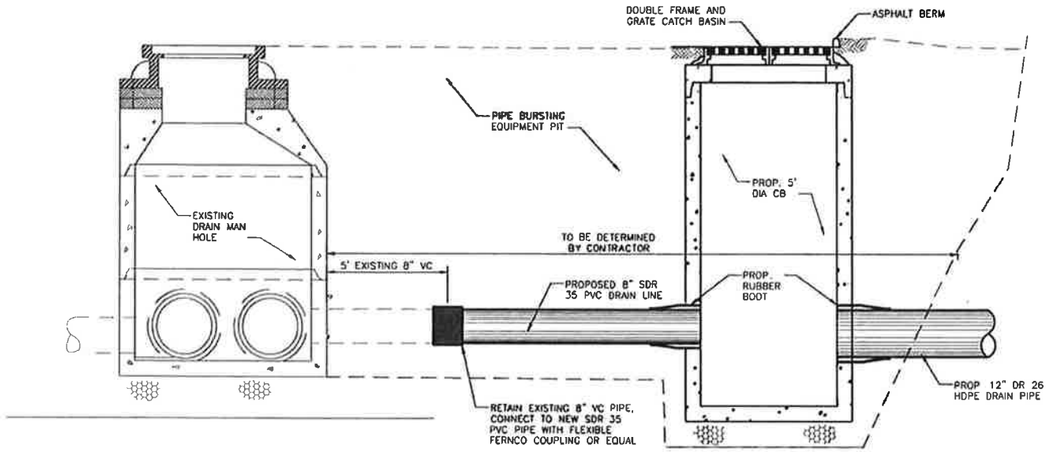
Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

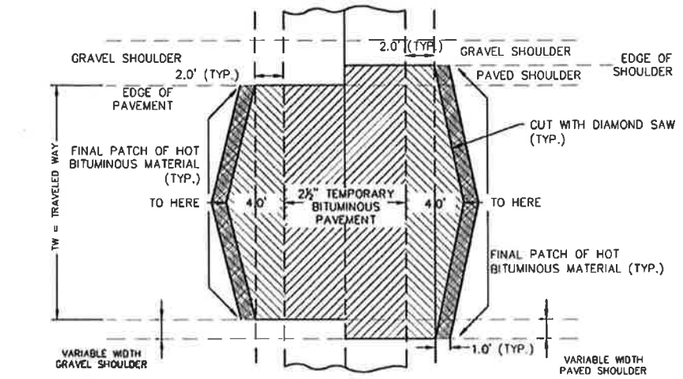
Title
CONSTRUCTION DETAILS

Project No.	Scale	
195112947	AS NOTED	
Drawing No.	Sheet	Revision
DET1	3 of 4	0

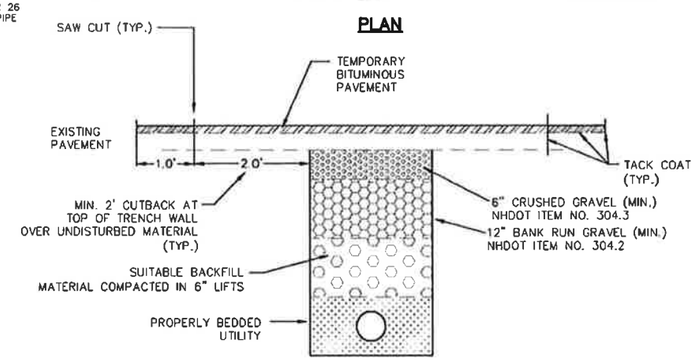


PIPE BURSTING PIT AND DMH CONNECTION DETAIL

NOT TO SCALE

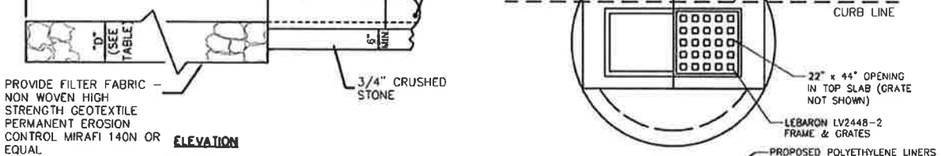


PLAN

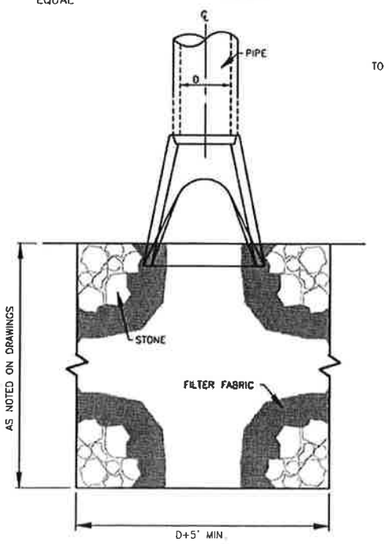


ELEVATION
PAVEMENT PATCH DETAIL

NOT TO SCALE



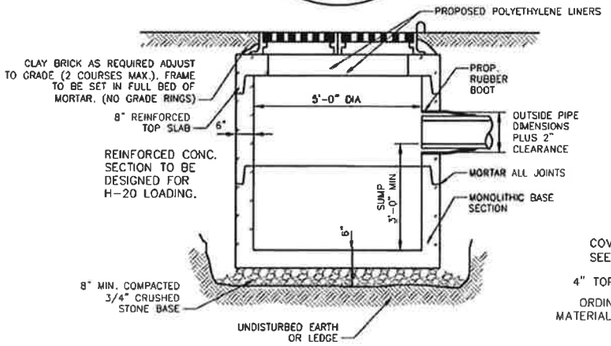
ELEVATION



PLAN

END SECTION WITH STONE APRON

NOT TO SCALE



DOUBLE GRATE CATCH BASIN

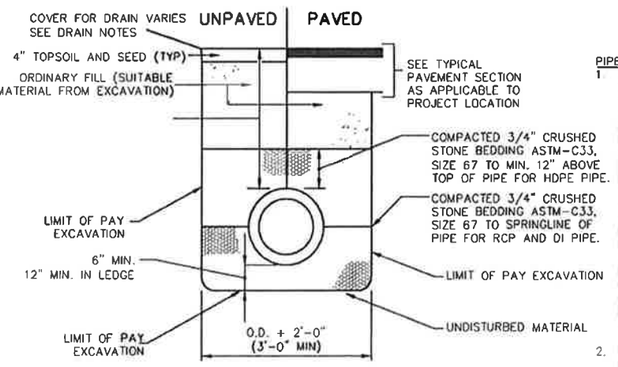
NOT TO SCALE

NOTES:
1. ALL CONCRETE STRUCTURES INCLUDING FRAMES AND COVERS SHALL BE H-20 LOADING.

   CONE SECTIONS SHALL BE ECCENTRIC. WHERE PIPE CORE WOULD OTHERWISE ENTER INTO THE CONE SECTION A FLAT TOP ECCENTRIC LID MAY BE USED.

% OF PASSING BY WEIGHT	STONE SIZES C1 D = BLANKET THICKNESS 12"	C2 18"	C3 24"
100%	8"	12"	18"
85%	7"	11"	16"
50%	5"	8"	12"
15%	2"	3"	4"

NOTE: ALL STONE TO BE SIZE "C1" EXCEPT WHERE NOTED.



TYPICAL DRAIN PIPE TRENCH

NOT TO SCALE

PIPE TRENCH NOTES:
1. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER SIX INCHES IN THE LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE TOWN OF WOLFEBORO ENGINEERING DEPARTMENT, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED USING WALK BEHIND HAND OPERATED PLATE COMPACTORS. THE USE OF MACHINE MOUNTED PLATE COMPACTORS IS NOT ALLOWED UNDER THIS PROJECT
2. BACKFILL OF THE TRENCHES SHALL BE COMPACTED TO TO 95% MAX. DRY DENSITY UNDER ALL PAVED AREAS AND 92% MAX. DRY DENSITY OF THE MODIFIED PROCTOR UNDER OTHER AREAS.
3. PLASTIC DRAIN PIPE (HDPE) SHALL BE HDPE DR17.

Stantec

Stantec Consulting Services Inc.
5 Dartmouth Drive, Suite 101
Auburn, NH 03032 U.S.A.
Tel 603.669.8672
Fax 603.669.7636
www.stantec.com

Consultants

Legend

Notes

ISSUED FOR PERMIT
AUGUST 2014

Revision	By	Appd	YY.MM.DD
Issued	By	Appd	YY.MM.DD

File Name: 12047-C-DETAILS.dwg | Dwn | Chkd | Dgn | YY.MM.DD

Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
CONSTRUCTION DETAILS

Project No.	Scale	
195112947	AS NOTED	
Drawing No.	Sheet	Revision
DET2	4 of 4	0

Army Corps Permit

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO
ATTENTION OF

December 10, 2014

Regulatory Division
CENAE-R-PEC
Permit Number: **NAE-2014-02310**

City of Portsmouth
Department of Public Works
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

Dear Applicants:

This is to inform you that we have reviewed your request as described on the attached State of New Hampshire Letter File No. 2014-02377, dated November 7, 2014.

Based on our review of the information you provided to the NHDES Wetlands Bureau, we have determined that your project, will have only minimal individual or cumulative environmental impacts on waters of the United States, including wetlands. **We hereby conditionally authorize your project under the attached Federal permit known as the New Hampshire State Programmatic General Permit (NHSPGP) pending final concurrence with the Wetlands Bureau approval by the Governor & Executive Council (G&C).** This work must be performed in accordance with the terms and conditions of the PGP.

You are responsible for complying with all of the PGP's requirements. Please review the attached PGP carefully to familiarize yourself with its contents. You should ensure that whoever does the work fully understands the requirements and that a copy of the permit document is at the project site throughout the time the work is underway. A copy of the PGP can also be found at http://www.nae.usace.army.mil/Regulatory/SGP/NH_PGP.pdf.

This authorization expires on August 03, 2017 unless the PGP is modified, suspended, or revoked before that. You must complete the work authorized herein by that date. If you do not, you must contact this office to determine the need for further authorization before continuing the activity. We recommend that you contact us *before* this authorization expires to discuss a time extension or reissuance of the authorization.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

This authorization requires you to complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

Please note that if your proposal is vetoed or modified by the G&C, making it different from that which the NHDES Wetlands Bureau approved on the date stated in the first paragraph

of this letter, you must re-submit a complete application to this office for review and processing in accordance with the terms and conditions of the then-current NHSPGP.

This authorization presumes that the work as described above and as shown on your plans is in Waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to this office.

This permit does not obviate the need to obtain other Federal, state or local authorizations required by law, including those listed in the PGP. Performing work not specifically authorized by this determination or failing to comply with all the terms and conditions of the PGP may subject you to the enforcement provisions of Corps regulations.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://www.nae.usace.army.mil/reg/Customer_Service_Survey.pdf.

If you have questions concerning this, please contact Richard Kristoff of my staff at (978) 318-8157, (978) 318-8335/8338, (800) 343-4789, or, if calling from within Massachusetts, (800) 362-4367. His e-mail address is Richard.C.Kristoff@usace.army.mil.

Sincerely,

Frank J. DelGiudice
Chief, Permits & Enforcement Branch
Regulatory Division

Enclosures

Copies Furnished:

New Hampshire Department of Environmental Services, Wetlands Bureau, Attn: Mr. Collis Adams, P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095

Michael Leach, Stantec, 5 Dartmouth Drive Suite 101, Auburn NH 03032-3984
Michael.Leach@stantec.com

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

November 07, 2014

City of Portsmouth
Dept. of Public Works
680 Peverly Hill Rd
Portsmouth, NH 03801

RE: File #2014-02377 - City Of Portsmouth - Portsmouth
Tax Map/Lot # 209 / 48

Dear Mr. Desfosses:

The Department of Environmental Services (DES) Wetlands Bureau has reviewed and approved the above referenced application to impact a total of 2,010 sq. ft. of tidal wetland and previously developed upland tidal buffer zone to replace an existing 8" clay pipe outfall culvert with a 12" HDPE pipe with stone outlet protection in the same location including the following: 70 sq. ft. of tidal wetland impact to install the 12" HDPE culvert including placement of rip-rap; 990 sq. ft. of temporary impact in tidal wetland for construction access; and 950 sq. ft. of impact to previously developed upland tidal buffer zone to install the 12" HDPE culvert.

Approve as compensatory mitigation the restoration of 15,115 sq. ft. of saltmarsh in North Mill Pond.

Any person aggrieved by this decision may appeal to the N.H. Wetlands Council ("Council") by filing an appeal that meets the requirements specified in RSA 482-A:10, RSA 21-O:14, and the rules adopted by the Council, Env-WtC 100-200. The appeal must be filed **directly with the Council within 30 days** of the date of this decision and must set forth fully **every ground** upon which it is claimed that the decision complained of is unlawful or unreasonable. Only those grounds set forth in the notice of appeal can be considered by the Council.

Information about the Council, including a link to the Council's rules, is available at <http://nhec.nh.gov/> (or more directly at <http://nhec.nh.gov/wetlands/index.htm>.) Copies of the rules also are available from the DES Public Information Center at (603) 271-2975.

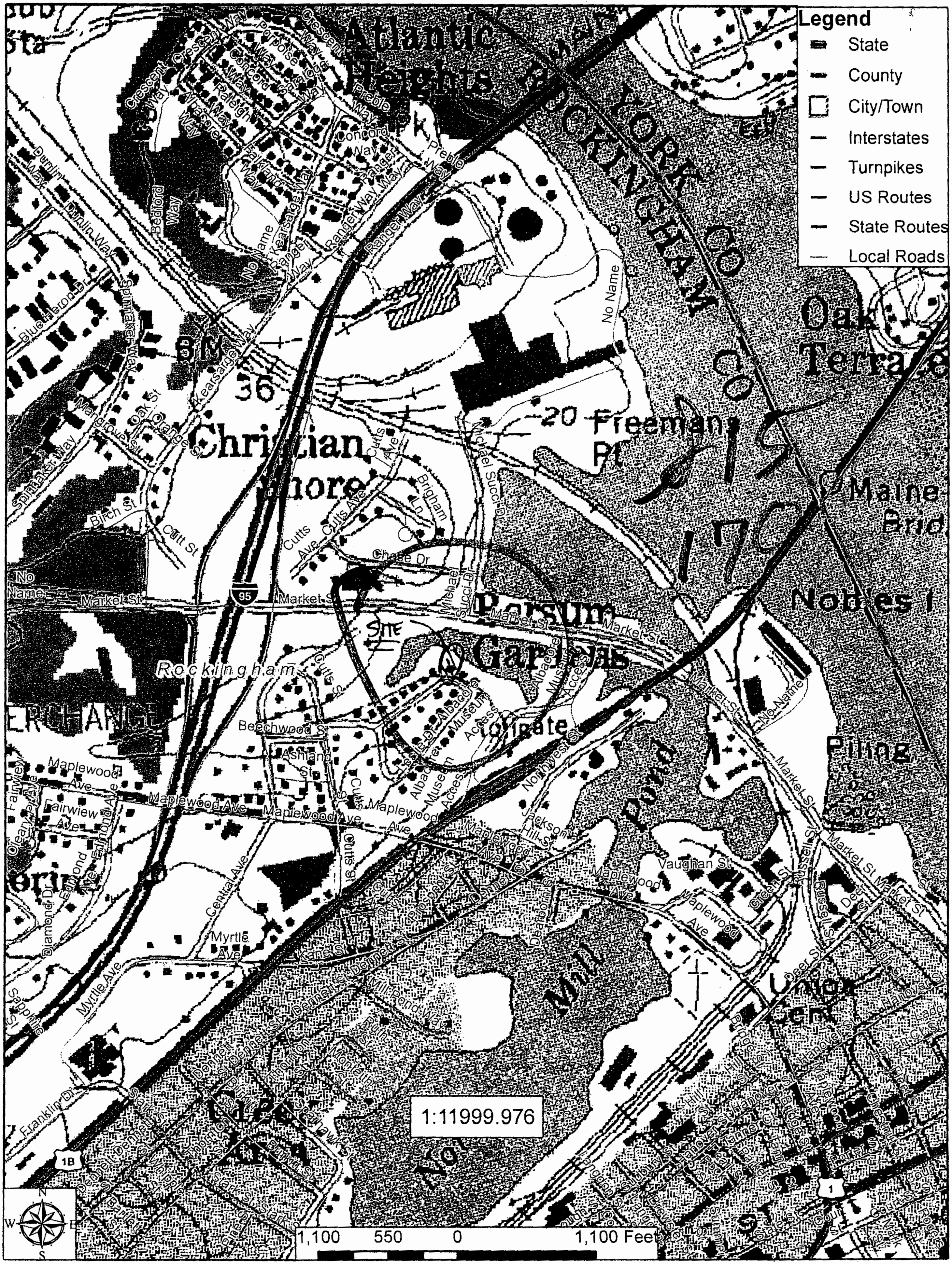
Because of the type and classification of this project, the application must also be approved by the Governor and Executive Council. Upon completion of the appeal period, a copy of the file will be forwarded to the Governor and Executive Council for their consideration.

Sincerely,

Collis G. Adams, CWS, CPESC
Wetlands Bureau Administrator

CGA/emk

Enclosure: copy of decision
cc: Portsmouth Conservation Commission/ Portsmouth Board of Selectmen
Michael Leach, Stantec Consulting Services, Inc.
Abutters



Legend
State
County
City/Town
Interstates
Turnpikes
US Routes
State Routes
Local Roads
Atlantic Heights
YORK CO
ROCKINGHAM CO
Oak Terrace
Christian Shore
Freeman Pt
Market St
Maplewood Ave
Rockingham
Mill Pond
Union Cem
Maine Brid
Piling
Vaughan St
Cutts Ave
Chase Dr
Michael Succi Dr
Beechwood St
Ashland St
Central Ave
Myrtle Ave
Kearsarge Way
Spinnaker Way
Dunlin Way
Bedford Way
Ranger Way
Concord Way
Preble Way
Crescent Way
Birch St
Orange St
Blue Heron Dr
Fairview Ave
Edmond Ave
Diamond Dr
Franklin Dr
Jackson Hill St
Northwest St
Albacore Way
Museum Access
No Name
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1,100 550 0 1,100 Feet
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W


CUTTS AVE
CHASE DR
MICHAEL SUCCI DR
MARKET ST
CLARK DR
LESLIE DR
I-95 SOUTH
I-95 NORTH
BEECHWOOD ST
ASHLAND ST
CENTRAL AVE
CUTTS ST
PROSPECT ST
NORTH SCHOOL ST
WALKER ST
218-34
218-38
218-39
219-63
210-7
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Stantec

CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WOR
LESLIE DRIVE DRAINAGE IMPROVEMENTS

INDEX OF SHEETS

JULY 2014

Project Number: 195112947

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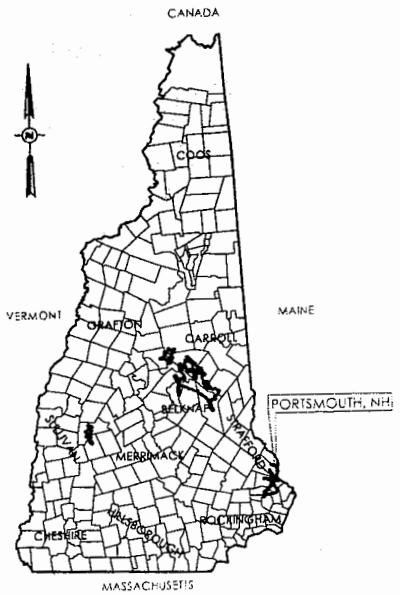
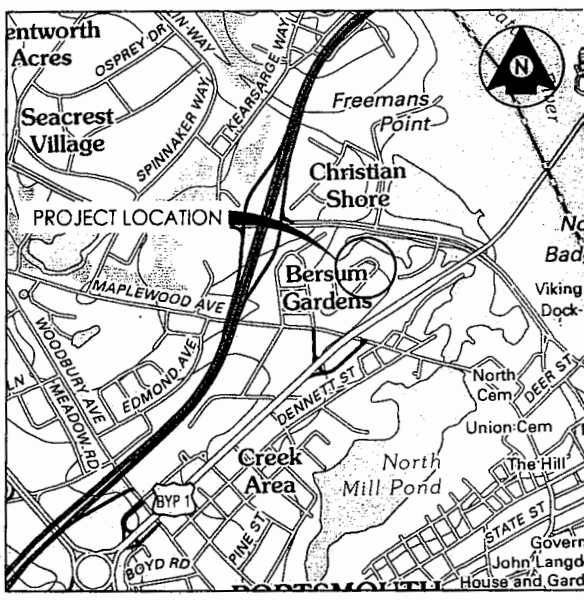


LOCATION MAP



VICINITY MAP
1"=1000'

OF SHEETS

O.	TITLE
	COVER SHEET
	GENERAL PLANS AND PROFILE
	CONSTRUCTION DETAILS

ISSUED FOR PERMIT
AUGUST 2014

MAYOR
ROBERT LISTER

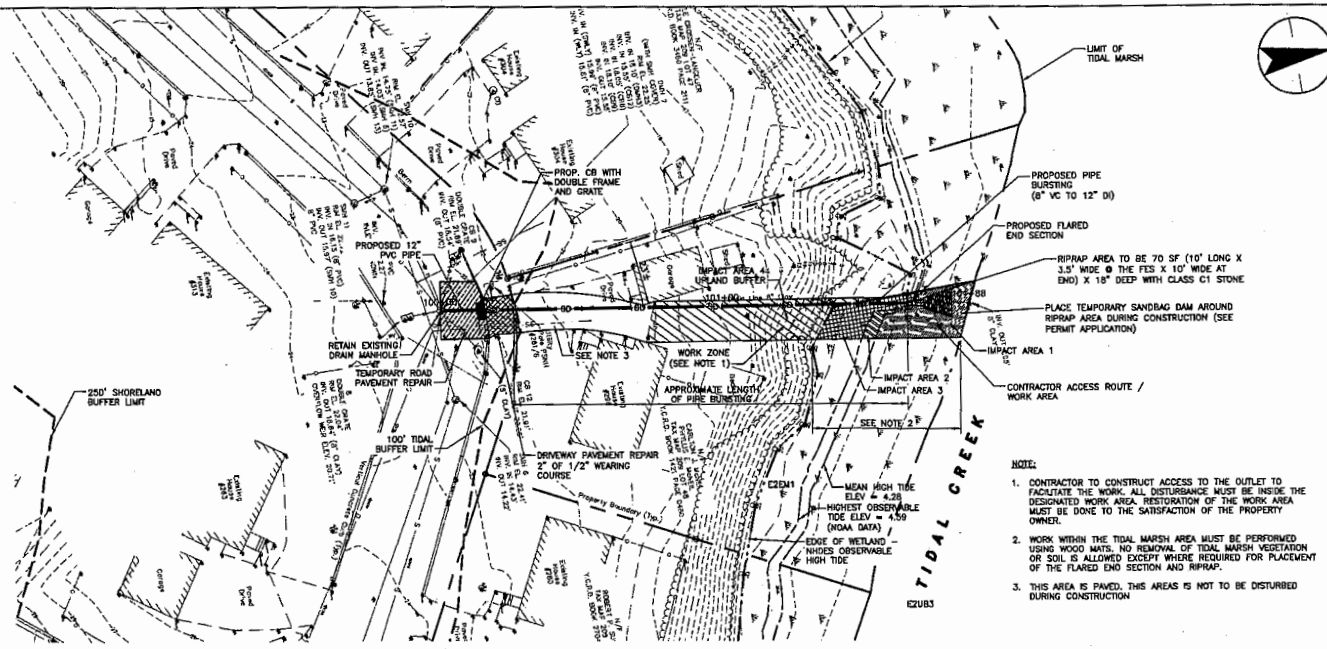
CITY MANAGER
JOHN P. BOHENKO

PUBLIC WORKS DIRECTOR
PETER RICE, P.E

Set No.

EXISTING LEGEND

- EXISTING BOUND
- EXISTING SURVEY POINT
- EXISTING CATCH BASIN (SQUARE)
- EXISTING CATCH BASIN (ROUND)
- EXISTING DRAIN MANHOLE (DMH)
- EXISTING ELECTRICAL MANHOLE
- EXISTING GUY POLE
- EXISTING HYDRANT
- EXISTING IRON PIN
- EXISTING NATURAL GAS MANHOLE
- EXISTING SEWER MANHOLE (SMH)
- EXISTING SINGLE POLE SIGN
- EXISTING DOUBLE POLE SIGN
- EXISTING FLOOD LIGHT
- EXISTING LIGHT POST
- EXISTING MAILBOX
- EXISTING DRAINAGE FLOW
- EXISTING WETLAND
- EXISTING UTILITY POLE
- EXISTING WATER SHUTOFF
- EXISTING GATE VALVE
- EXISTING WELL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING DITCH/SWALE
- EXISTING EDGE OF WATER
- EXISTING WETLAND BOUNDARY
- EXISTING EASEMENT
- EXISTING PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- EXISTING FUEL GAS
- EXISTING NATURAL GAS
- EXISTING OVERHEAD POWER
- EXISTING UNDERGROUND POWER
- EXISTING SANITARY SEWER
- EXISTING STORM DRAIN
- EXISTING WATER MAIN
- EXISTING OVERHEAD TELEPHONE
- EXISTING FENCE
- EXISTING CHAINLINK FENCE
- EXISTING WOODEN FENCE
- EXISTING RETAINING WALL
- EXISTING HAYBALES
- EXISTING STONE WALL
- HIGHEST OBSERVABLE TIDE LINE
- MEAN HIGH TIDE LINE



NOTE:

1. CONTRACTOR TO CONSTRUCT ACCESS TO THE OUTLET TO FACILITATE THE WORK. ALL DISTURBANCE MUST BE INSIDE THE DESIGNATED WORK AREA. RESTORATION OF THE WORK AREA MUST BE DONE TO THE SATISFACTION OF THE PROPERTY OWNER.
2. WORK WITHIN THE TIDAL MARSH AREA MUST BE PERFORMED USING WOOD MATS. NO REMOVAL OF TIDAL MARSH VEGETATION OR SOIL IS ALLOWED EXCEPT WHERE REQUIRED FOR PLACEMENT OF THE FLARED END SECTION AND RIPRAP.
3. THIS AREA IS PAVED. THIS AREAS IS NOT TO BE DISTURBED DURING CONSTRUCTION

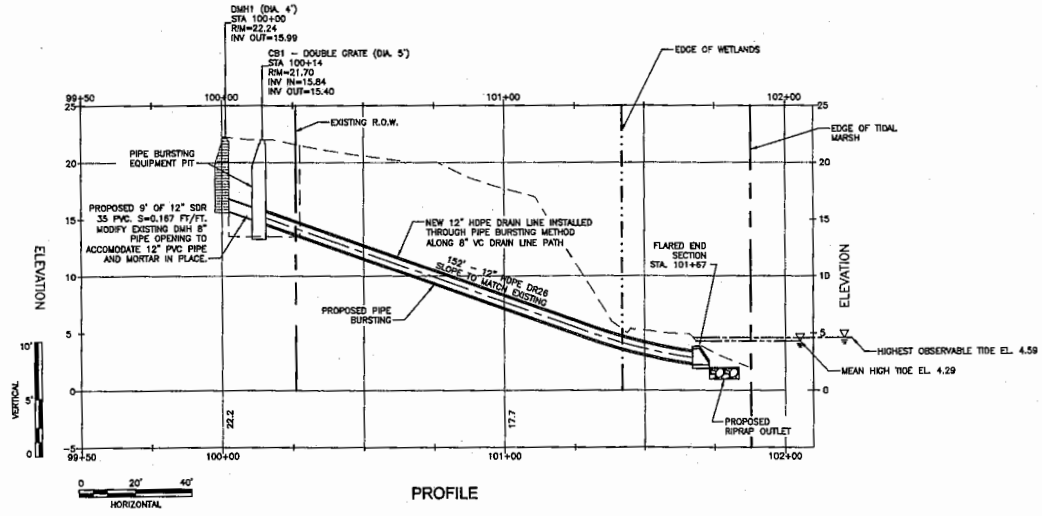
PLAN VIEW

0 20' 40'

- SHORELAND IMPACT AREA
- TIDAL BUFFER TEMPORARY IMPACT AREA
- WETLAND IMPACT AREA
- TEMPORARY IMPACT BETWEEN WETLAND AND HIGHEST OBSERVABLE TIDAL LINE
- TEMPORARY IMPACT BETWEEN HIGHEST OBSERVABLE TIDAL LINE AND MEAN HIGH TIDE
- TEMPORARY IMPACT BETWEEN MEAN HIGH TIDE AND LIMIT OF TIDAL MARSH
- PERMANANT IMPACT BETWEEN MEAN HIGH TIDE AND LIMIT OF TIDAL MARSH

WETLAND IMPACT SUMMARY

IMPACT AREA	PERMANENT IMPACT	TEMPORARY IMPACT	TOTAL IMPACT
1	70 SF	630 SF	700 SF
2	0 SF	60 SF	60 SF
3	0 SF	300 SF	300 SF
4	0 SF	950 SF	950 SF
TOTAL	70 SF	1940 SF	2010 SF



PROFILE

Stantec

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Fax. 603.669.7636
www.stantec.com

Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD
2 ADDRESS NHDES WETLANDS COMMENTS	MK	JH	14.10.21
1 ADDRESS NHDES WETLANDS COMMENTS	MK	RL	14.09.26

Issued	By	Appd.	YY.MM.DD
File Name: 12140C-POR.dwg	TJA Dwn.	RL Chkd.	TJA 14.11.26 Dsgn. YY.MM.DD

Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
LESLIE DRIVE
PROPOSED PLAN AND PROFILE

Project No.	Scale	
195112947	AS NOTED	
Drawing No.	Sheet	Revision
PDR1	2 of 4	1

GENERAL NOTES AND SPECIFICATIONS FOR EROSION CONTROL

1. The contractor is responsible for water control during all phases of construction. No work shall be permitted in flowing water. Streams shall be temporarily dammed by use of sand bags or other suitable means. The diversion shall be accomplished by temporary culverts or by pumping. All diverted water shall be discharged to stone fill or other suitable energy dissipater surrounded by silt fence.

2. This plan is to be used as a guideline only. Additional silt fence, stone check dams, or other measures may be dictated by field conditions.

3. The Contractor is responsible for complying with all local, state, and federal regulations.

4. Temporary Stabilization:

All disturbed areas shall have temporary or permanent stabilization within 14 days of initial disturbance. After this time any disturbance shall be stabilized by the end of the day, with the following exceptions:

(1) Stabilization is not required if work is to continue in the area in the next 24 hours and there is no precipitation forecast for the next 24 hours.

(2) Stabilization is not required if the work is in a self-contained excavation with a depth of 2 feet or more.

Temporary Stabilization Measures:

(1) Hay or straw mulch with a thickness of at least 2 inches.

(2) Soil tracking with tracked equipment. Should be limited to small areas with slopes less than 100 feet long (less than 50 feet with slopes steeper than 3:1)

(3) A combination of the above.

(4) Erosion Control matting.

5. Materials

A. Mulch material: Select mulch material for erosion control that will best meet the site conditions from the following.

(1) Hay or straw - Shall be dry, free of mold and weed seeds. Hay or straw can be used on disturbed areas that will not be reworked for 7 to 30 days.

(2) Wood Chips - Shall be dry, free of soil and other foreign material.

(3) Rolled Erosion Control Products (RECP) - Shall be dry, and shall be made of straw or hay, coconut and related fibers, wood excelsior, jute, polypropylene, nylon, or an approved combination of different materials.

B. Mulch Anchoring: When mulch must be held in place, the following mulch anchoring material shall be used:

(1) Mulch Netting (Paper, twine, plastic, or plastic and wood fiber).

C. Fertilizer: Complete fertilizer 10-20-20 (Standard Product) - Class A
10-10-10 (Standard Product) - Class B

D. Lime: Ground limestone containing not less than 95% total carbonates (calcium or magnesium).

E. Temporary Seed Mixture: When it is impractical to establish permanent protective vegetation on disturbed earth by October 15, use "Conservation Mix" or the following seed mixture. Disturbed areas that will not be reworked for 30 days or more shall also receive temporary seed and mulch.

Kind of Seed:	% By Weight
Annual Ryegrass	50
Perennial Ryegrass	50

Apply seed mixture at 50 pounds per acre.

F. Permanent Seed Mixture: (Not for Wetland Restoration):

(1) For Class A (Lawn) restoration of growth: Shall normally be used on loam areas. This seed shall conform to the following and shall be furnished on a pure live seed (PLS) basis.

Class A

Kind of Seed:	PLS Per Acre, LBS
Red Fescue (Creeping)	21
Kentucky Bluegrass	21
Perennial Ryegrass (Manhattann)	21
	21
Total	84

(2) For Class B (Field) restoration of growth: Shall normally be used for all slope work. This seed shall conform to the table below unless amended by the engineer to suit special local conditions encountered. This seed shall be furnished on a pure live seed (PLS) basis.

Class B

Kind of Seed:	PLS Per Acre, LBS
Tall Fescue (ALTA or K-31)	20
Perennial Ryegrass (Manhattan)	15
Red Fescue (Creeping)	5
Red Clover	5
Birdsfoot Trefoil (Empire variety Preferred)	5
Total	50

6. Seeding and Mulching:

A. All areas shall be seeded and mulched within 48 hours of final grading.

B. Soil samples may be sent to the county extension service for analysis to determine the proper seed mixture and fertilizer requirements.

C. The following procedures shall be followed for temporary seeding:

(1) Apply lime at a rate of 75 to 100 pounds per 1000 square feet. Incorporate into top two inches of soil.

(2) Apply fertilizer at a rate of 30 pounds per 1000 square feet. Mix thoroughly into the top two inches of soil.

(3) Apply seed mixture at a rate of 50 pounds per acre and additional 3-4 lbs. per 1000 square feet for sloped areas of 45% and greater evenly in two intersecting directions. Rake lightly.

(4) Apply mulch material within 24 hours after seeding in accordance with the following:

(A) Hay or Straw: Application rate - 75 to 100 pounds per 1000 square feet. Spread by hand or with machine. Anchor on slopes and where subject to blowing or slipping.

(B) Wood Chips - Application rate - Two to six inches deep. Use for tree and shrub planting.

(5) Anchor mulch on all slopes exceeding 5% and other areas as required using the following method:

(A) Mulch Netting: Spread over loose mulch and pin to the soil in accordance with the manufacturer's instructions.

D. When temporary seeding cannot be accomplished to have established or visible growth by October 15, the disturbed areas shall be covered with 6 inches of mulch and anchored or erosion control blankets for the duration of the winter.

7. Maintenance of Erosion Control Structures:

A. Stone check dams shall be replaced when they become clogged with soil particles or as directed by the owner/representative.

B. When the sediment accumulation reaches a depth of 12 inches behind the silt fence, it shall be disposed of.

C. Repair all damages caused by soil erosion or construction equipment at or before the end of each working day.

D. Stone stabilized construction entrances shall be inspected to ensure tracking of sediments onto public right-of-ways or streets is not occurring. Maintenance may include periodic top dressing with additional aggregate to ensure a minimum thickness of eight inches.

E. All measures shall be removed within 30 days of stabilization.

8. Wetland Restoration

A. Replace wetland soil from stock pile to a minimum depth of 8 inches or equal to original depth.

B. Grade areas to match preconstruction grades

C. Apply "New England Wetmix" seed or equal in accordance with the manufacturers application rates.

9. Winter Erosion Control

A. All erosion control features such as silt fence must be in place prior to the ground freezing.

B. All disturbed areas of the site shall be seeded and mulched from October 15 to May 1 regardless of whether final grading has been finished. Work may continue through this period if the following winter erosion controls are implemented.

(1) Oat seeds shall be substituted for any other temporary annual grass seeds.

(2) All exposed earth shall be mulched with 6 inches of hay or straw. Slopes over 5% shall have an additional covering of staked jute mat or its equivalent.

C. The following maintenance items should be performed specifically for the various erosion control devices:

(1) Diversion Dike:

(A) Minimum inspection frequency - Weekly.

(B) Remove any flow blockage caused by ice or sediment.

(2) Mulch:

(A) Minimum inspection frequency - Daily.

(B) Replace mulch on any area where original mulch cover has been lost.

(3) Silt Fence:

(A) Minimum inspection frequency - Weekly.

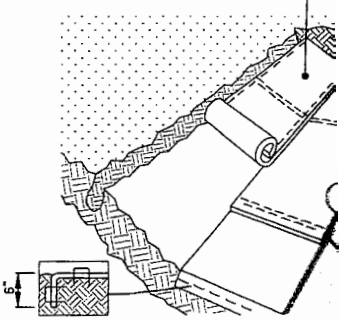
(B) Clean and remove any collected sediment before predicted thaws or rainy periods.

(4) Stone Check Dam:

(A) Minimum inspection frequency - Weekly.

(B) Remove and replace clogged stone.

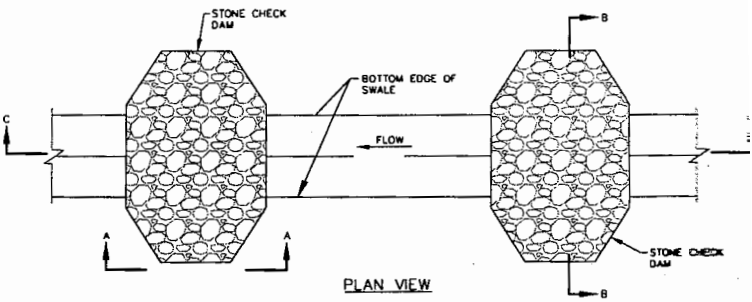
EROSION CONTROL BLANKET, NORTH AMERICAN GREEN SC150BN OR APPROVED EQUAL, INSTALLED AND STAPLED PER MANUFACTURER'S RECOMMENDATIONS.



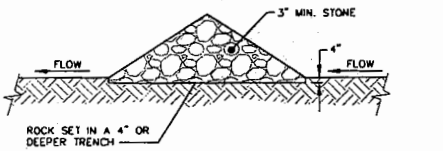
NOTES:

1. TO BE USED ON SLOPES 3 HORIZONTAL T

2. PREPARE SOIL INCLUDING APPLICATION OF
PRIOR TO INSTALLING BLANKET



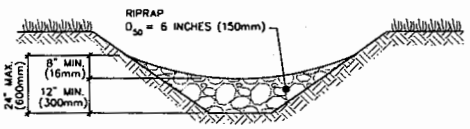
PLAN VIEW



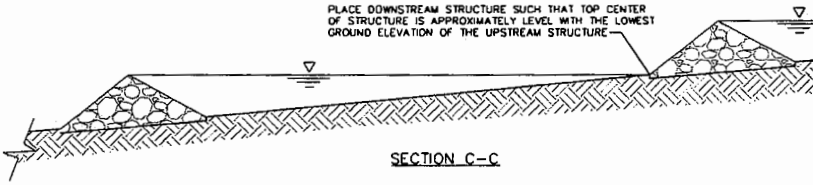
SECTION A-A

DITCH GRADE (G)
0.02 FT/FT (M/M)
0.03 FT/FT (M/M)
0.04 FT/FT (M/M)
0.05 FT/FT (M/M)
0.06 FT/FT (M/M)

DO NOT USE CHECK DA
ABOVE 6% DITCH GRAD

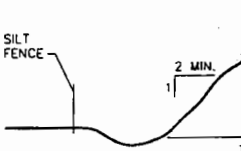


SECTION B-B

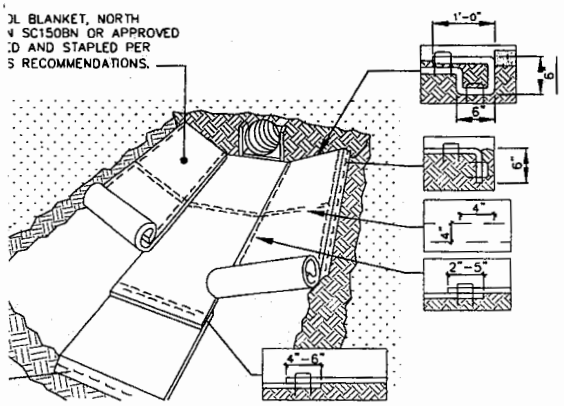


SECTION C-C

TE
OR



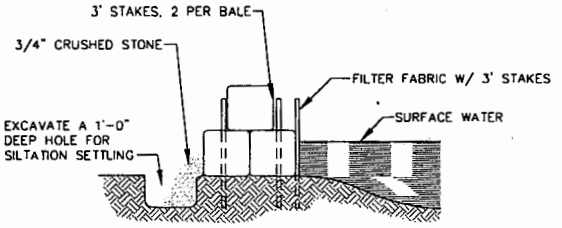
ORIGINAL SHEET - ARCH D



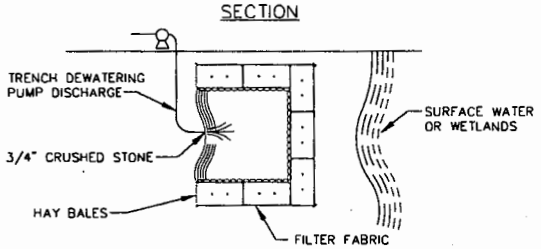
)L BLANKET, NORTH
N SC150BN OR APPROVED
:D AND STAPLED PER
S RECOMMENDATIONS.

ED ON SLOPES 3 HORIZONTAL TO 1 VERTICAL OR STEEPER.

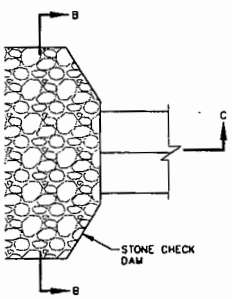
SOIL INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED
TALLING BLANKET

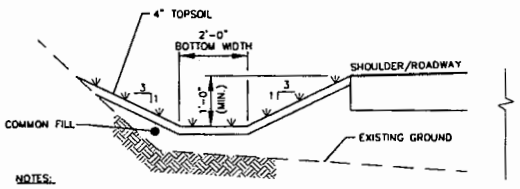


SECTION



PLAN





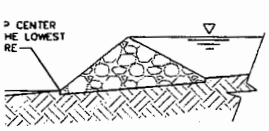
NOTES:

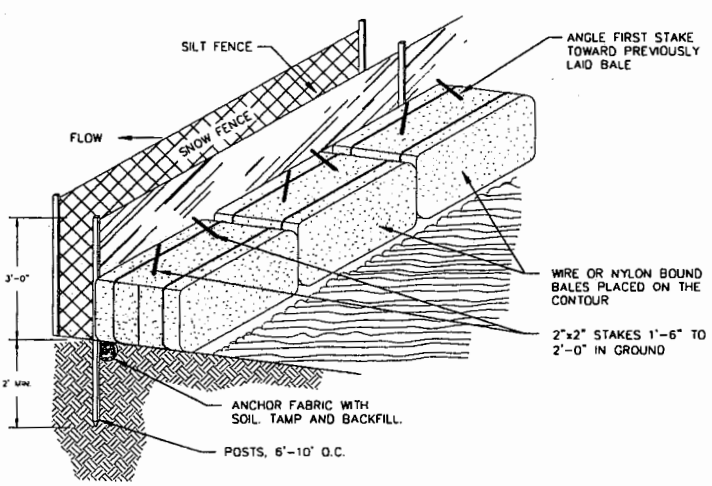
1. GRASS LINED SWALES ARE TO BE USED EVERYWHERE UNLESS INDICATED OTHERWISE.
2. IF LONGITUTINAL SLOPE IS GREATER THAN 2% , TEMPORARY STONE CHECK DAMS ARE NEEDED TO REDUCE STORMWATER VELOCITY AND PREVENT SOIL EROSION WITHIN THE SWALE.
3. SWALE TO BE SEEDED WITH A GRASS SPECIES NATIVE TO THE AREA THAT TOLERATES WET/DRY CONDITIONS.

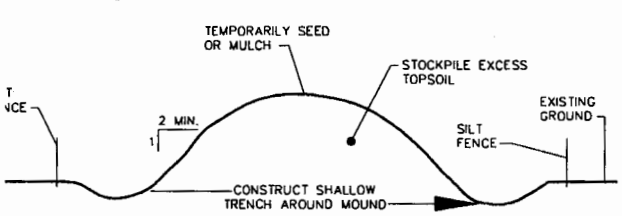
OW

DITCH GRADE (G)	CHECK DAM SPACING(S)
0.02 FT/FT (M/M)	67 FT (20.5 M)
0.03 FT/FT (M/M)	44.5 FT (13.6 M)
0.04 FT/FT (M/M)	33.4 FT (10.2 M)
0.05 FT/FT (M/M)	26.7 FT (8.2 M)
0.06 FT/FT (M/M)	22.3 FT (6.8 M)

DO NOT USE CHECK DAMS BELOW 2% OR ABOVE 6% DITCH GRADES







Stantec

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Consultants

Legend

Notes

ISSUED FOR PERMIT
AUGUST 2014

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name: 12947-C-DETAILS.dwg
Dwn. Chkd. Dsgn. YY.MM.DD

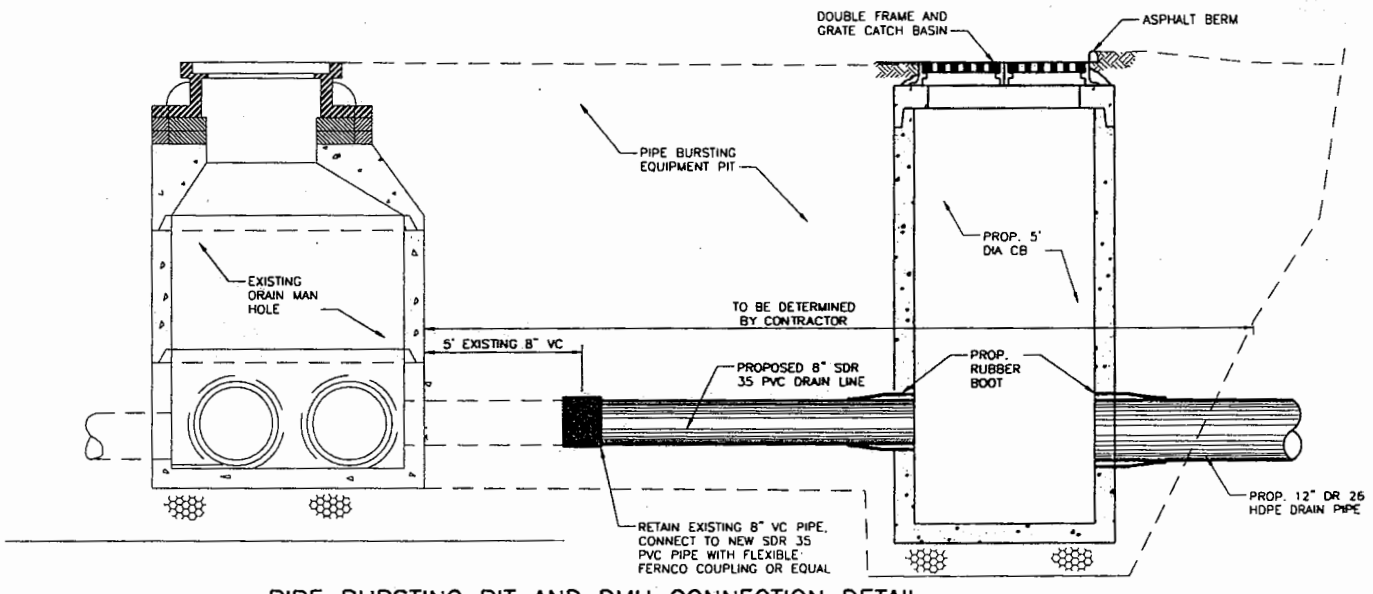
Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

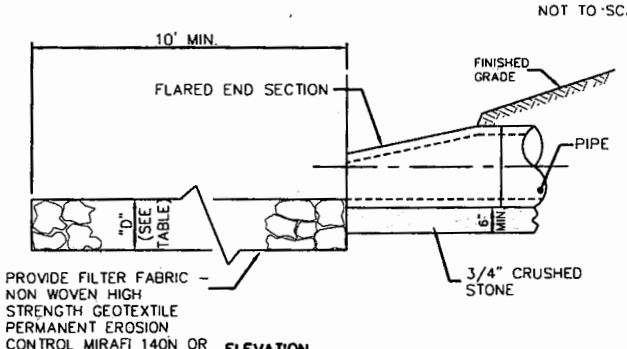
Title
CONSTRUCTION DETAILS

Project No.	Scale	
195112947	AS NOTED	
Drawing No.	Sheet	Revision
DET1	3 of 4	0

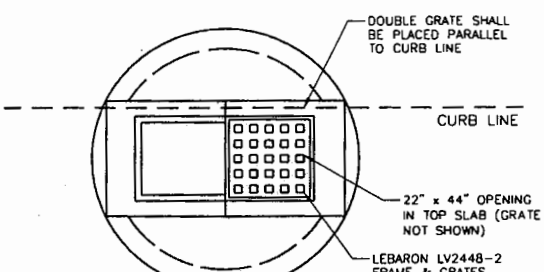


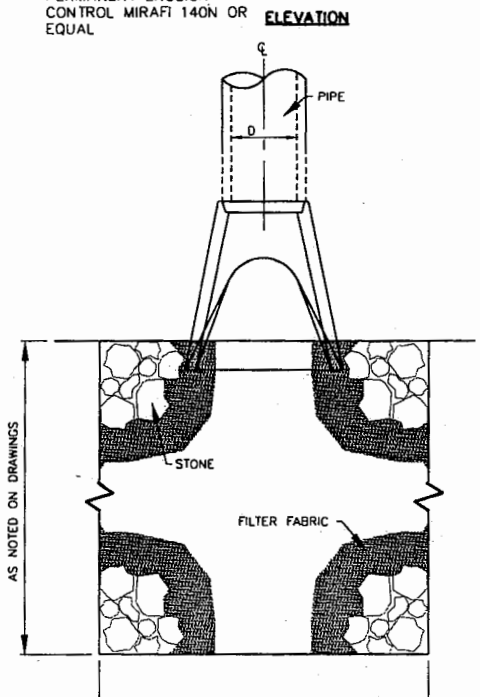
PIPE BURSTING PIT AND DMH CONNECTION DETAIL

NOT TO SCALE



ELEVATION

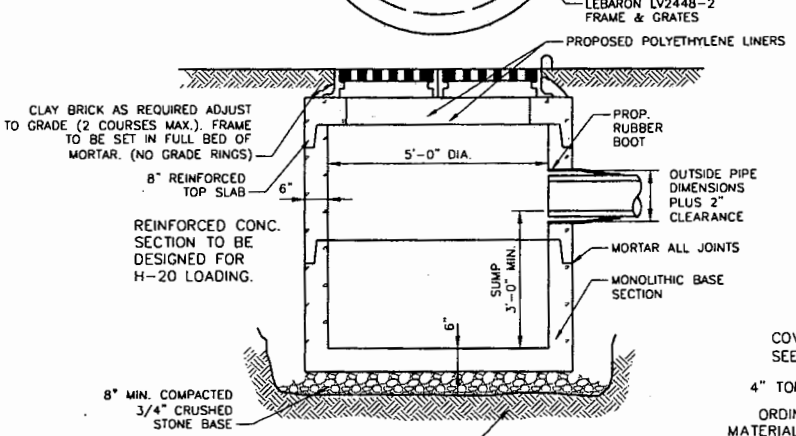




PLAN

END SECTION WITH STONE APRON

NOT TO SCALE



DOUBLE GRATE CATCH BASIN

NOT TO SCALE

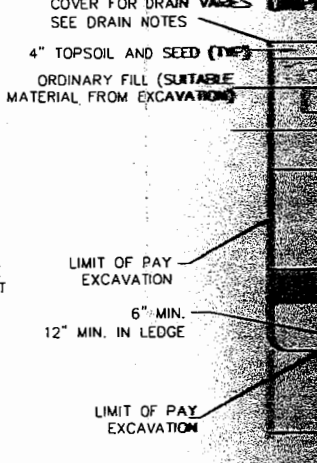
NOTES:

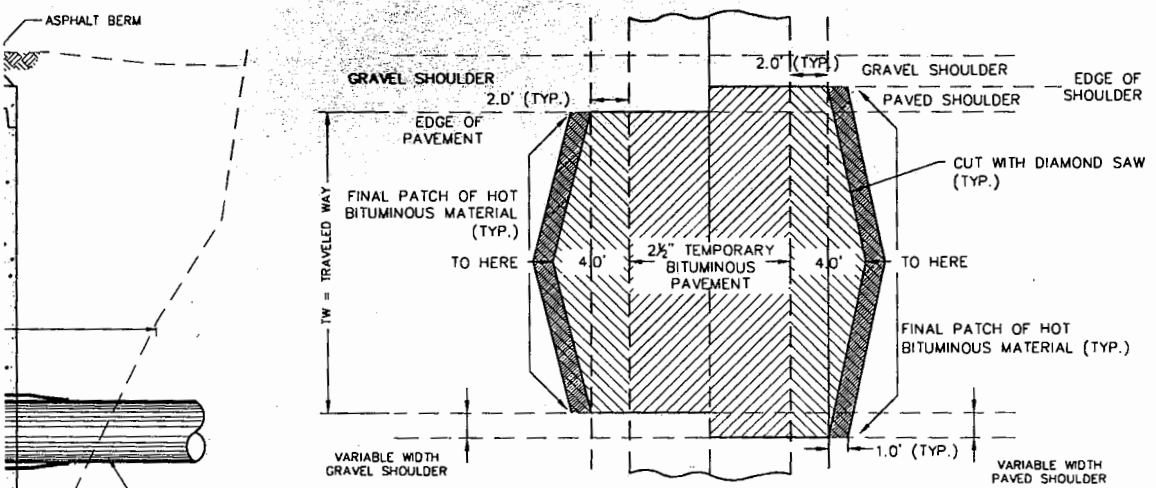
1. ALL CONCRETE STRUCTURES INCLUDING FRAMES AND COVERS SHALL BE H-20 LOADING.

   CONE SECTIONS SHALL BE ECCENTRIC. WHERE PIPE CORE WOULD OTHERWISE ENTER INTO THE CONE SECTION A FLAT TOP ECCENTRIC LID MAY BE USED.

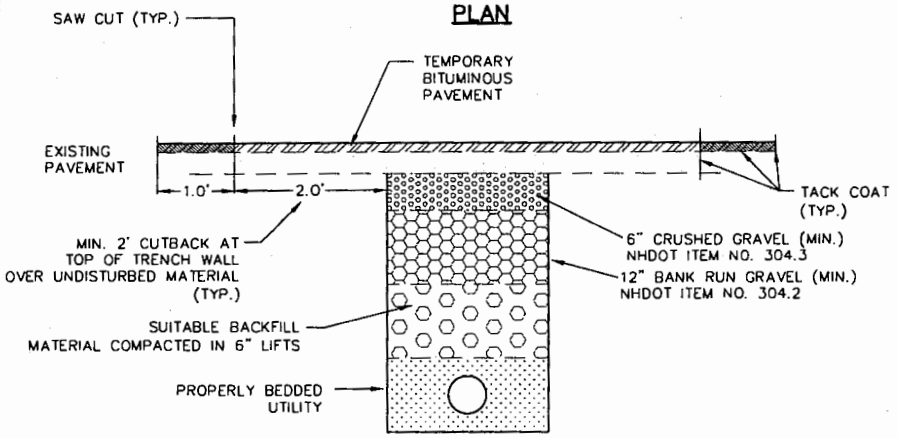
% OF PASSING BY WEIGHT	STONE SIZES C1 C2 C3 D = BLANKET THICKNESS 12" 18" 24"
100%	8" 12" 18"
85%	7" 11" 16"
50%	5" 8" 12"
15%	2" 3" 4"

NOTE: ALL STONE TO BE SIZE "C1" EXCEPT WHERE NOTED.





PLAN



ELEVATION
PAVEMENT PATCH DETAIL
NOT TO SCALE

SHALL
RALLEL

RB LINE

" OPENING
LAB (GRATE
MN)

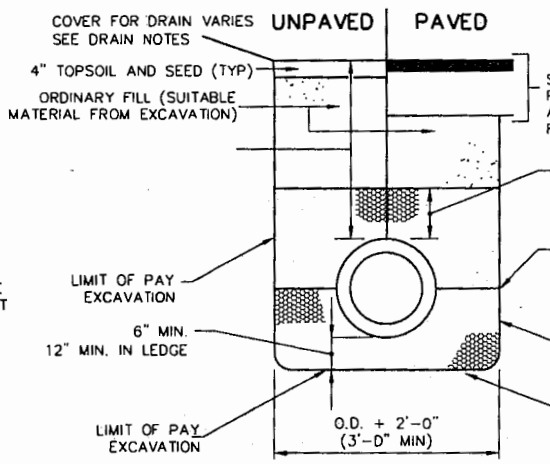
148-2
TES

ETHYLENE LINERS

UTSIDE PIPE
MENSIONS
LUS 2"
LEARANCE

LL JOINTS

C BASE



CORE
FLAT

TYPICAL DRAIN PIPE TRENCH
NOT TO SCALE

PIPE TRENCH NOTES:

1. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER SIX INCHES IN THE LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE TOWN OF WOLFEBORO ENGINEERING DEPARTMENT, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED USING WALK BEHIND HAND OPERATED PLATE COMPACTORS. THE USE OF MACHINE MOUNTED PLATE COMPACTORS IS NOT ALLOWED UNDER THIS PROJECT.
2. BACKFILL OF THE TRENCHES SHALL BE COMPACTED TO TO 95% MAX. DRY DENSITY UNDER ALL PAVED AREAS AND 92% MAX. DRY DENSITY OF THE MODIFIED PROCTOR UNDER OTHER AREAS.
3. PLASTIC DRAIN PIPE (HDPE) SHALL BE HDPE DR17.

Star

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Fax. 603.669.7636
www.stantec.com

Consultants

Legend

Notes

ISSUED FOR PERMIT
AUGUST 2014

Revision

Issued

File Name: 12947-C-DETAILS.dwg
Dwn. Chkd.

Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS
LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
CONSTRUCTION DETAILS

Project No. 195112947
Scale AS NOTED
Drawing No. DET2
Sheet 4 of 4

US Army Corps
of Engineers ®
New England District

Minimum Notice: Permittee must sign and return notification within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

Permit Number: NAE-2014-02310

Project Manager Richard Kristoff

Name of Permittee: City of Portsmouth

Permit Issuance Date: December 10, 2014

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

****
* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Permits and Enforcement Branch C *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *
****

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

_____ _____
Signature of Permittee Date

_____ _____
Printed Name Date of Work Completion

(____) _____ (____) _____
Telephone Telephone

Easement

KNOW ALL MEN BY THESE PRESENTS:

That the Margo Construction Co., Inc., a corporation duly established under the laws of the State of New Hampshire, and having a place of business at Portsmouth, County of Rockingham and State of New Hampshire for and in consideration of One ($1.00) Dollar and other valuable considerations paid, grant to Carlton J. McNeil and Phyllis E. McNeil, both of Portsmouth, in the County of Rockingham and State of New Hampshire, as joint tenants and not as tenants in common, to them the survivor of them, his or her heirs forever,

A certain lot or parcel of land with the buildings thereon situate in Portsmouth, County of Rockingham and State of New Hampshire on the Easterly side of Cutts Street, the same being lot #27 as shown on a plan of Bersum Gardens for Margo Construction Co., Inc., dated October, 1955, John W. Durgin, C. E. and recorded in the Rockingham County Registry of Deeds, Plat 67, Page 14, and more particularly described as follows:

Beginning at the Southwesterly corner of said lot #27 at an iron stake at Leslie Drive, a public way as shown on said plan at the Southeasterly corner of lot #26, thence running North 6° 43' West by said lot #26, 190 feet more or less to a creek as shown on said plan, thence running Southeasterly by said creek a distance of 170 feet more or less to the Northwesterly corner of lot #28, thence turning and running South 26° 28' West by said lot #28, 143 feet more or less to an iron stake at said Leslie Drive, thence turning and running North 63°32' West by said Leslie Drive, 26.57 feet, and thence continuing on a curve to the left of said Leslie Drive, said curve having a radius of 75 feet, a distance of 43.43 feet to the point of beginning.

Reserving to the Grantor, its successors and assigns, the right to maintain a sewer line across the Westerly bound of said lot, and the right to go upon said lot for the purpose of maintaining, repairing or replacing any sewer line contained therein.

Subject to the protective covenants recorded by said corporation on July 7, 1955 and recorded in Rockingham Registry of Deeds in Book 1360, Page 298.

Being part of the premises conveyed by Harry Winebaum to Margo Construction Co., Inc. by deed dated November 28, 1955 and recorded in Rockingham County Registry of Deeds, Book 1378, Page 82.

IN WITNESS WHEREOF, the said Margo Construction Co., Inc. has set its hand and affixed its corporate seal by Leo B. Margolian, its Treasurer duly authorized, this 3rd day of January, 1957.

Witness:

MARGO CONSTRUCTION CO., INC.

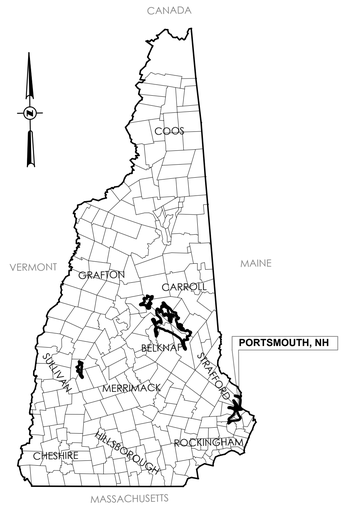
By Leo B. Margolian
Treasurer

STATE OF NEW HAMPSHIRE

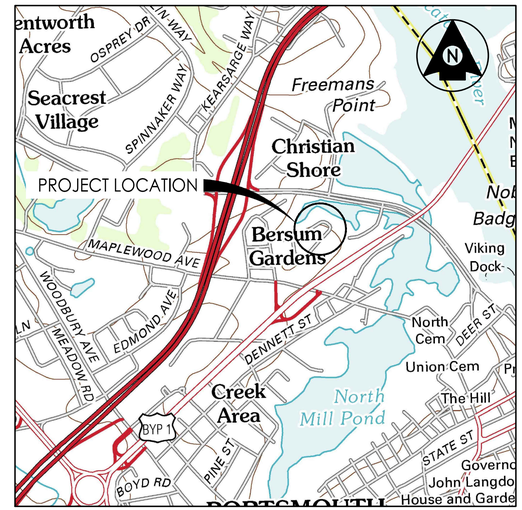
County of Rockingham

On this the 3rd day of January, 1957, before me, Samuel Levy, the undersigned officer, personally appeared Leo B.

Stantec



LOCATION MAP



VICINITY MAP
1"=1000'

CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS
LESLIE DRIVE DRAINAGE IMPROVEMENTS

DECEMBER 2014

Project Number: 195112947

INDEX OF SHEETS

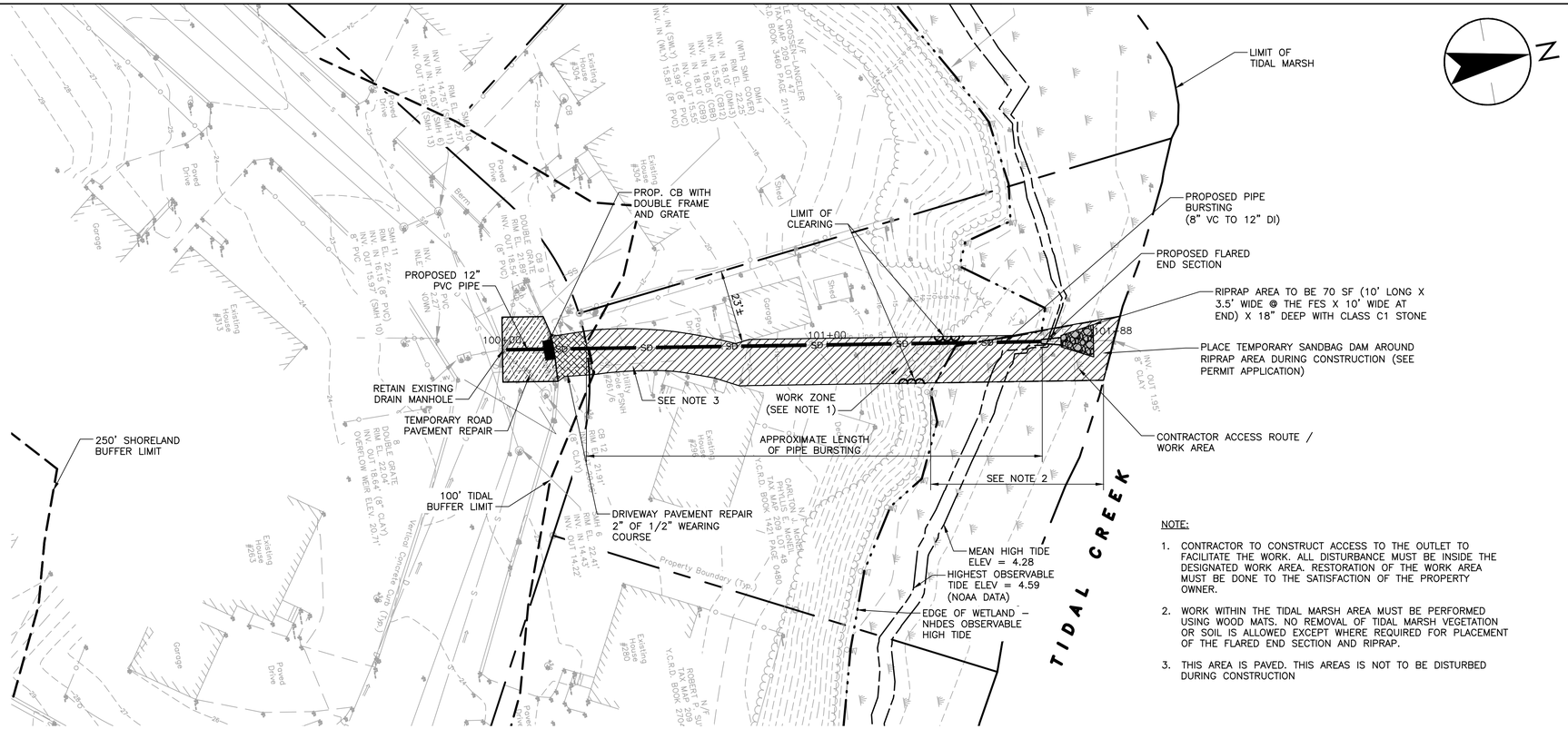
SHEET NO.	TITLE
	COVER SHEET
2	GENERAL PLANS AND PROFILE
3 - 4	CONSTRUCTION DETAILS

Set No.

ORIGINAL SHEET - ARCH D

EXISTING LEGEND

- EXISTING BOUND
- EXISTING SURVEY POINT
- EXISTING CATCH BASIN (SQUARE)
- EXISTING CATCH BASIN (ROUND)
- EXISTING DRAIN MANHOLE (DMH)
- EXISTING ELECTRICAL MANHOLE
- EXISTING GUY POLE
- EXISTING HYDRANT
- EXISTING IRON PIN
- EXISTING NATURAL GAS MANHOLE
- EXISTING SEWER MANHOLE (SMH)
- EXISTING SINGLE POLE SIGN
- EXISTING DOUBLE POLE SIGN
- EXISTING FLOOD LIGHT
- EXISTING LIGHT POST
- EXISTING MAILBOX
- EXISTING DRAINAGE FLOW
- EXISTING WETLAND
- EXISTING UTILITY POLE
- EXISTING WATER SHUTOFF
- EXISTING GATE VALVE
- EXISTING WELL
- 100 EXISTING MAJOR CONTOUR
- 98 EXISTING MINOR CONTOUR
- EXISTING DITCH/SWALE
- EXISTING EDGE OF WATER
- EXISTING WETLAND BOUNDARY
- EXISTING EASEMENT
- EXISTING PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- G EXISTING FUEL GAS
- GAS EXISTING NATURAL GAS
- OHE EXISTING OVERHEAD POWER
- UGE EXISTING UNDERGROUND POWER
- S EXISTING SANITARY SEWER
- SD EXISTING STORM DRAIN
- W EXISTING WATER MAIN
- T EXISTING OVERHEAD TELEPHONE
- X X X EXISTING FENCE
- EXISTING CHAINLINK FENCE
- EXISTING WOODEN FENCE
- EXISTING RETAINING WALL
- EXISTING HAYBALES
- EXISTING STONE WALL
- HIGHEST OBSERVABLE TIDE LINE
- MEAN HIGH TIDE LINE

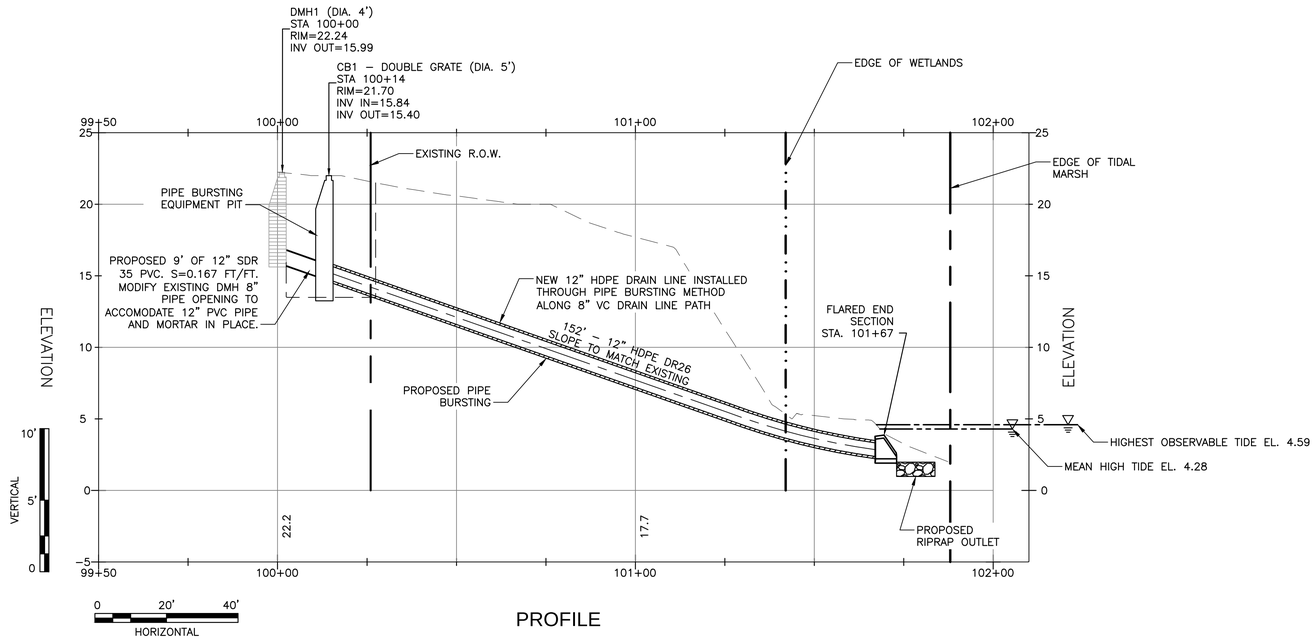


PLAN VIEW

0 20' 40'

NOTE:

1. CONTRACTOR TO CONSTRUCT ACCESS TO THE OUTLET TO FACILITATE THE WORK. ALL DISTURBANCE MUST BE INSIDE THE DESIGNATED WORK AREA. RESTORATION OF THE WORK AREA MUST BE DONE TO THE SATISFACTION OF THE PROPERTY OWNER.
2. WORK WITHIN THE TIDAL MARSH AREA MUST BE PERFORMED USING WOOD MATS. NO REMOVAL OF TIDAL MARSH VEGETATION OR SOIL IS ALLOWED EXCEPT WHERE REQUIRED FOR PLACEMENT OF THE FLARED END SECTION AND RIPRAP.
3. THIS AREA IS PAVED. THIS AREAS IS NOT TO BE DISTURBED DURING CONSTRUCTION



PROFILE

Stantec

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Fax. 603.669.7636
www.stantec.com

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Legend

Notes

Revision	By	Appd.	YY.MM.DD
1 FOR BIDDING	RL	RL	14.12.03

Issued

File Name: 12947-C-PDR.dwg	Dwn.	Chkd.	Dsgn.
	TJA	RL	TJA
			14.12.08 YY.MM.DD

Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
LESLIE DRIVE
PROPOSED PLAN AND PROFILE

Project No.	Scale	
195112947	AS NOTED	
Drawing No.	Sheet	Revision
PDR1	2 of 4	0

ORIGINAL SHEET - ARCH D

GENERAL NOTES AND SPECIFICATIONS FOR EROSION CONTROL

1. The contractor is responsible for water control during all phases of construction. No work shall be permitted in flowing water. Streams shall be temporarily dammed by use of sand bags or other suitable means. The diversion shall be accomplished by temporary culverts or by pumping. All diverted water shall be discharged to stone fill or other suitable energy dissipater surrounded by silt fence.

2. This plan is to be used as a guideline only. Additional silt fence, stone check dams, or other measures may be dictated by field conditions.

3. The Contractor is responsible for complying with all local, state, and federal regulations.

4. Temporary Stabilization:

All disturbed areas shall have temporary or permanent stabilization within 14 days of initial disturbance. After this time any disturbance shall be stabilized by the end of the day, with the following exceptions:

(1) Stabilization is not required if work is to continue in the area in the next 24 hours and there is no precipitation forecast for the next 24 hours.

(2) Stabilization is not required if the work is in a self–contained excavation with a depth of 2 feet or more.

Temporary Stabilization Measures:

(1) Hay or straw mulch with a thickness of at least 2 inches.

(2) Soil tracking with tracked equipment. Should be limited to small areas with slopes less than 100 feet long (less than 50 feet with slopes steeper than 3:1)

(3) A combination of the above.

(4) Erosion Control matting.

5. Materials

A. Mulch material: Select mulch material for erosion control that will best meet the site conditions from the following.

(1) Hay or straw – Shall be dry, free of mold and weed seeds. Hay or straw can be used on disturbed areas that will not be reworked for 7 to 30 days.

(2) Wood Chips – Shall be dry, free of soil and other foreign material.

(3) Rolled Erosion Control Products (RECP) – Shall be dry, and shall be made of straw or hay, coconut and related fibers, wood excelsior, jute, polypropylene, nylon, or an approved combination of different materials.

B. Mulch Anchoring: When mulch must be held in place, the following mulch anchoring material shall be used:

(1) Mulch Netting (Paper, twine, plastic, or plastic and wood fiber).

C. Fertilizer: Complete fertilizer 10–20–20 (Standard Product) – Class A
10–10–10 (Standard Product) – Class B

D. Lime: Ground limestone containing not less than 95% total carbonates (calcium or magnesium).

E. Temporary Seed Mixture: When it is impractical to establish permanent protective vegetation on disturbed earth by October 15, use "Conservation Mix" or the following seed mixture. Disturbed areas that will not be reworked for 30 days or more shall also receive temporary seed and mulch.

Kind of Seed:	% By Weight
Annual Ryegrass	50
Perennial Ryegrass	50

Apply seed mixture at 50 pounds per acre.

F. Permanent Seed Mixture: (Not for Wetland Restoration):

(1) For Class A (Lawn) restoration of growth: Shall normally be used on loam areas. This seed shall conform to the following and shall be furnished on a pure live seed (PLS) basis.

Class A

Kind of Seed:	PLS Per Acre, LBS
Red Fescue (Creeping)	21
Kentucky Bluegrass	21
	21
	21
Perrenial Ryegrass (Manhattann)	21
Total	84

(2) For Class B (Field) restoration of growth: Shall normally be used for all slope work. This seed shall conform to the table below unless amended by the engineer to suit special local conditions encountered. This seed shall be furnished on a pure live seed (PLS) basis.

Class B

Kind of Seed:	PLS Per Acre, LBS
Tall Fescue (ALTA or K–31)	20
Perennial Ryegrass (Manhattan)	15
Red Fescue (Creeping)	5
Red Clover	5
Birdsfoot Trefoil (Empire variety Preferred)	5
Total	50

6. Seeding and Mulching:

A. All areas shall be seeded and mulched within 48 hours of final grading.

B. Soil samples may be sent to the county extension service for analysis to determine the proper seed mixture and fertilizer requirements.

C. The following procedures shall be followed for temporary seeding:

(1) Apply lime at a rate of 75 to 100 pounds per 1000 square feet. Incorporate into top two inches of soil.

(2) Apply fertilizer at a rate of 30 pounds per 1000 square feet. Mix thoroughly into the top two inches of soil.

(3) Apply seed mixture at a rate of 50 pounds per acre and additional 3–4 lbs. per 1000 square feet for sloped areas of 45% and greater evenly in two intersecting directions. Rake lightly.

(4) Apply mulch material within 24 hours after seeding in accordance with the following:

(A) Hay or Straw: Application rate – 75 to 100 pounds per 1000 square feet. Spread by hand or with machine. Anchor on slopes and where subject to blowing or slipping.

(B) Wood Chips – Application rate – Two to six inches deep. Use for tree and shrub planting.

(5) Anchor mulch on all slopes exceeding 5% and other areas as required using the following method:

(A) Mulch Netting: Spread over loose mulch and pin to the soil in accordance with the manufacturer's instructions.

D. When temporary seeding cannot be accomplished to have established or visible growth by October 15, the disturbed areas shall be covered with 6 inches of mulch and anchored or erosion control blankets for the duration of the winter.

7. Maintenance of Erosion Control Structures:

A. Stone check dams shall be replaced when they become clogged with soil particles or as directed by the owner/representative.

B. When the sediment accumulation reaches a depth of 12 inches behind the silt fence, it shall be disposed of.

C. Repair all damages caused by soil erosion or construction equipment at or before the end of each working day.

D. Stone stabilized construction entrances shall be inspected to ensure tracking of sediments onto public right–of–ways or streets is not occurring. Maintenance may include periodic top dressing with additional aggregate to ensure a minimum thickness of eight inches.

E. All measures shall be removed within 30 days of stabilization.

8. Wetland Restoration

A. Replace wetland soil from stock pile to a minimum depth of 8 inches or equal to original depth.

B. Grade areas to match preconstruction grades

C. Apply "New England Wetmix" seed or equal in accordance with the manufacturers application rates.

9. Winter Erosion Control

A. All erosion control features such as silt fence must be in place prior to the ground freezing.

B. All disturbed areas of the site shall be seeded and mulched from October 15 to May 1 regardless of whether final grading has been finished. Work may continue through this period if the following winter erosion controls are implemented.

(1) Oat seeds shall be substituted for any other temporary annual grass seeds.

(2) All exposed earth shall be mulched with 6 inches of hay or straw. Slopes over 5% shall have an additional covering of staked jute mat or its equivalent.

C. The following maintenance items should be performed specifically for the various erosion control devices:

(1) Diversion Dike:

(A) Minimum inspection frequency – Weekly.

(B) Remove any flow blockage caused by ice or sediment.

(2) Mulch:

(A) Minimum inspection frequency – Daily.

(B) Replace mulch on any area where original mulch cover has been lost.

(3) Silt Fence:

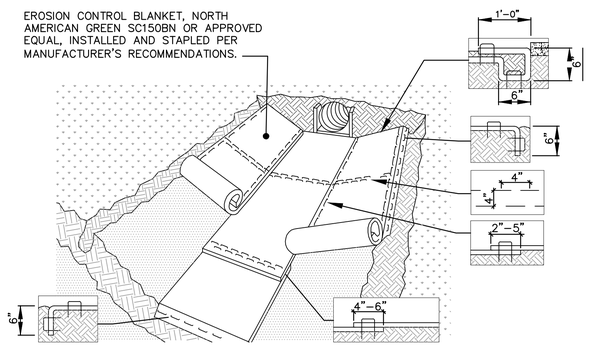
(A) Minimum inspection frequency – Weekly.

(B) Clean and remove any collected sediment before predicted thaws or rainy periods.

(4) Stone Check Dam:

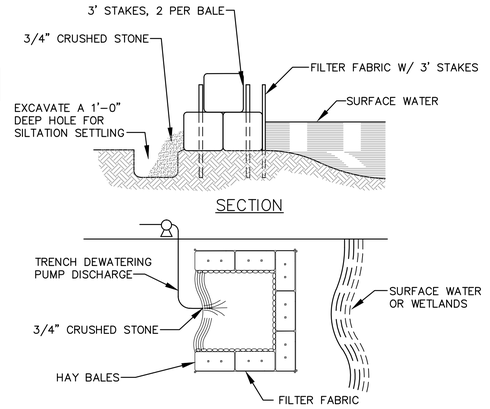
(A) Minimum inspection frequency – Weekly.

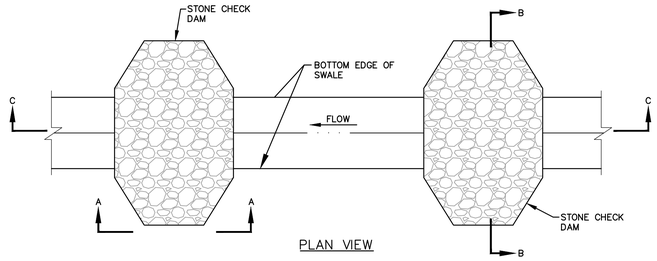
(B) Remove and replace clogged stone.

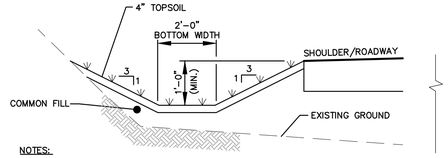


NOTES:

1. TO BE USED ON SLOPES 3 HORIZONTAL TO 1 VERTICAL OR STEEPER.
2. PREPARE SOIL INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED PRIOR TO INSTALLING BLANKET

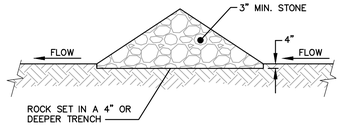






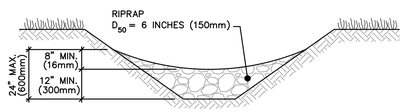
NOTES:

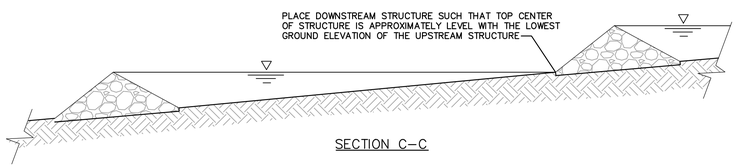
1. GRASS LINED SWALES ARE TO BE USED EVERYWHERE UNLESS INDICATED OTHERWISE.
2. IF LONGITUTINAL SLOPE IS GREATER THAN 2% , TEMPORARY STONE CHECK DAMS ARE NEEDED TO REDUCE STORMWATER VELOCITY AND PREVENT SOIL EROSION WITHIN THE SWALE.
3. SWALE TO BE SEEDED WITH A GRASS SPECIES NATIVE TO THE AREA THAT TOLERATES WET/DRY CONDITIONS.

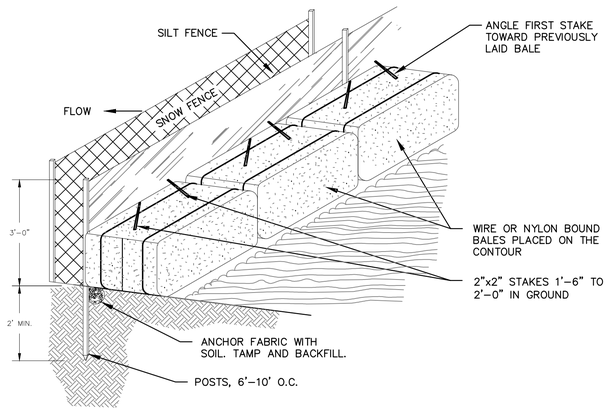


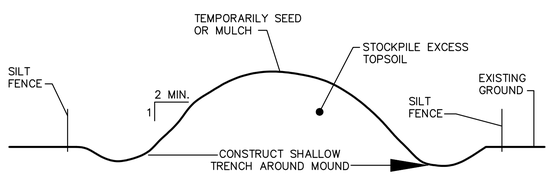
DITCH GRADE (G)	CHECK DAM SPACING(S)
0.02 FT/FT (M/M)	67 FT (20.5 M)
0.03 FT/FT (M/M)	44.5 FT (13.6 M)
0.04 FT/FT (M/M)	33.4 FT (10.2 M)
0.05 FT/FT (M/M)	26.7 FT (8.2 M)
0.06 FT/FT (M/M)	22.3 FT (6.8 M)

DO NOT USE CHECK DAMS BELOW 2% OR ABOVE 6% DITCH GRADES









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Notes

Revision	By	Appd.	YY.MM.DD
1 FOR BIDDING	RL	RL	14.12.03

Issued	By	Appd.	YY.MM.DD
File Name: 12947–C–DETAILS.dwg	Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal

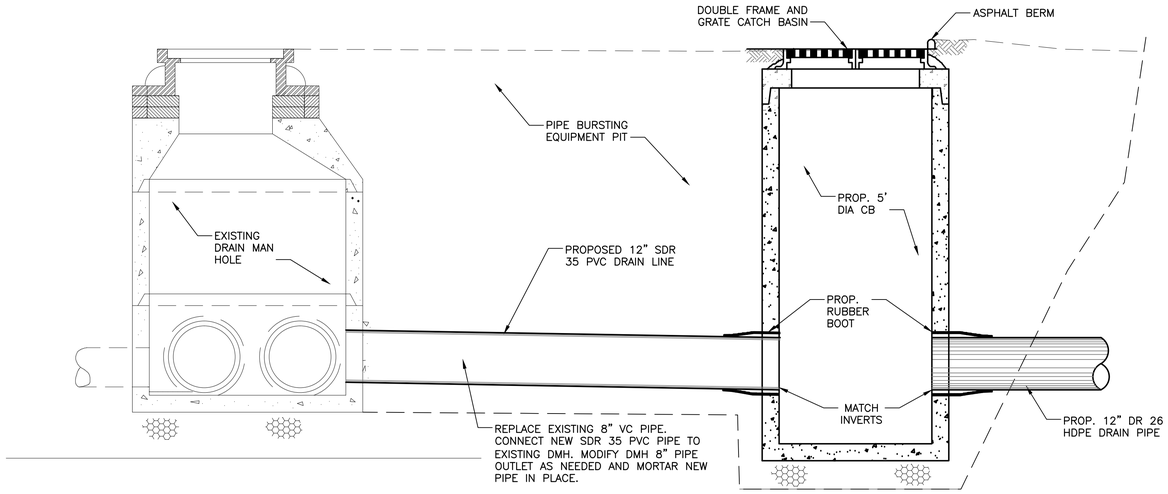
Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
CONSTRUCTION DETAILS

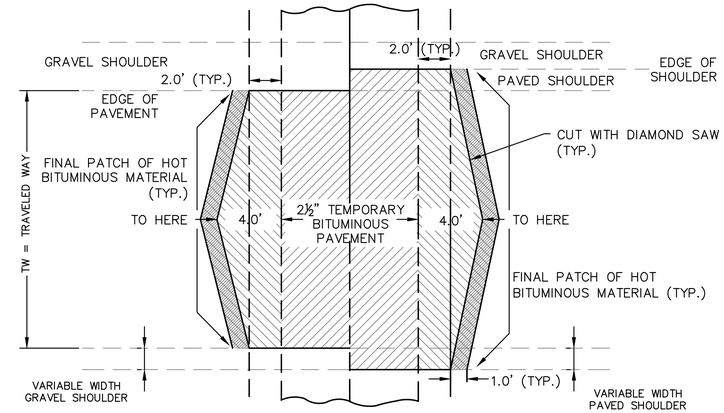
Project No.	Scale	
195112947	AS NOTED	
Drawing No.	Sheet	Revision
DET1	3 of 4	0

ORIGINAL SHEET - ARCH D

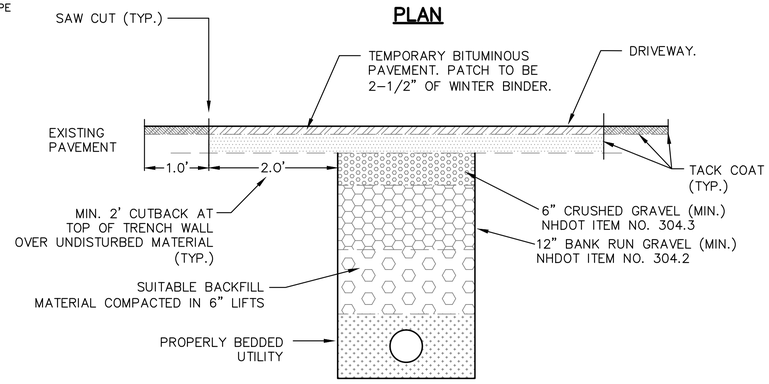


PIPE BURSTING PIT AND DMH CONNECTION DETAIL

NOT TO SCALE



PLAN



ELEVATION
PAVEMENT PATCH DETAIL

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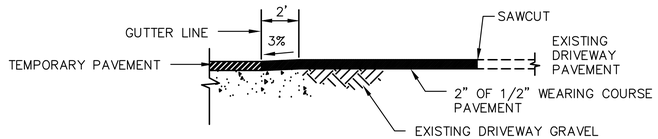

DRIVEWAY PAVING DETAIL

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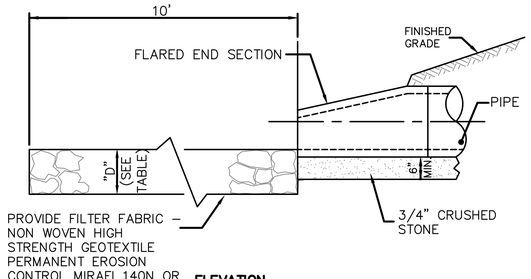
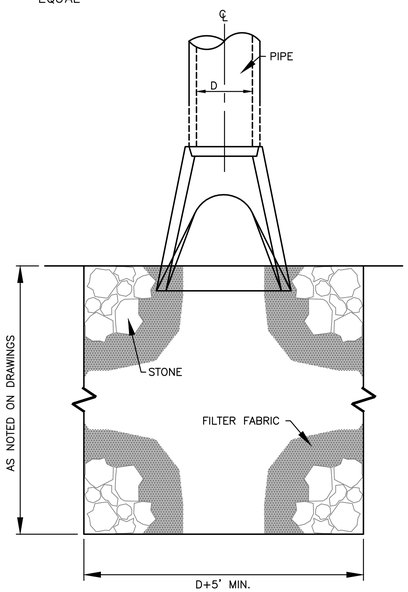


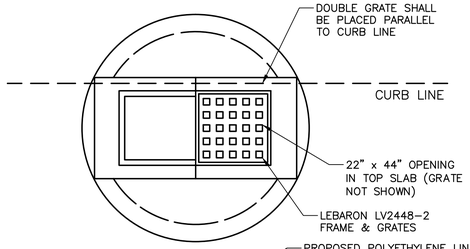
ELEVATION

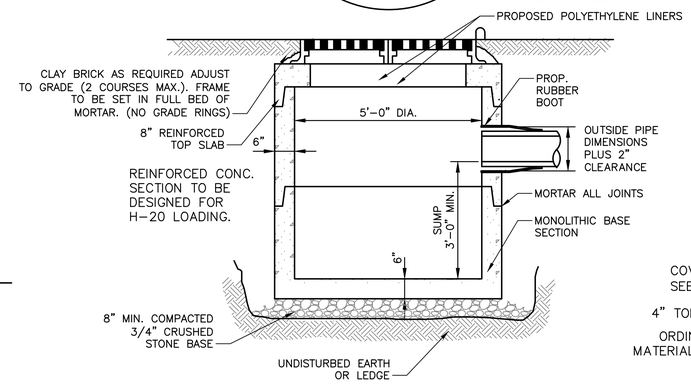


PLAN

END SECTION WITH STONE APRON

NOT TO SCALE





DOUBLE GRATE CATCH BASIN

NOT TO SCALE

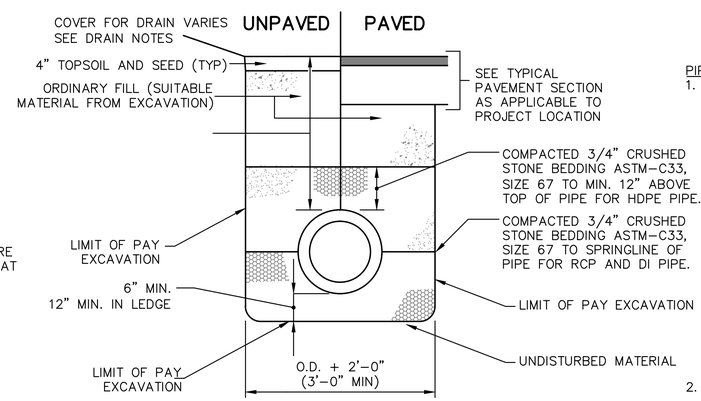
NOTES:

1. ALL CONCRETE STRUCTURES INCLUDING FRAMES AND COVERS SHALL BE H-20 LOADING.

   CONE SECTIONS SHALL BE ECCENTRIC. WHERE PIPE CORE WOULD OTHERWISE ENTER INTO THE CONE SECTION A FLAT TOP ECCENTRIC LID MAY BE USED.

% OF PASSING BY WEIGHT	STONE SIZES C1 C2 C3 — D = BLANKET THICKNESS 12" 18" 24"
100%	8" 12" 18"
85%	7" 11" 16"
50%	5" 8" 12"
15%	2" 3" 4"

NOTE: ALL STONE TO BE SIZE "C1" EXCEPT WHERE NOTED.



TYPICAL DRAIN PIPE TRENCH

NOT TO SCALE

PIPE TRENCH NOTES:

1. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL AND ALL ROCKS OVER SIX INCHES IN THE LARGEST DIMENSION, OR ANY MATERIAL WHICH, AS DETERMINED BY THE TOWN OF WOLFEBORO ENGINEERING DEPARTMENT, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. SUITABLE MATERIAL SHALL BE PLACED IN 12" LIFTS AND THOROUGHLY COMPACTED USING WALK BEHIND HAND OPERATED PLATE COMPACTORS. THE USE OF MACHINE MOUNTED PLATE COMPACTORS IS NOT ALLOWED UNDER THIS PROJECT.
2. BACKFILL OF THE TRENCHES SHALL BE COMPACTED TO TO 95% MAX. DRY DENSITY UNDER ALL PAVED AREAS AND 92% MAX. DRY DENSITY OF THE MODIFIED PROCTOR UNDER OTHER AREAS.
3. PLASTIC DRAIN PIPE (HDPE) SHALL BE HDPE DR17.

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1 FOR BIDDING	RL	RL	14.12.03
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Permit-Seal

Client/Project
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS

LESLIE DRIVE
DRAINAGE IMPROVEMENTS
PORTSMOUTH, NH

Title
CONSTRUCTION DETAILS

Project No.	Scale	
195112947	AS NOTED	
Drawing No.	Sheet	Revision
DET2	4 of 4	0