



## Bid Proposal

# North Providence Landfill Groundwater & Methane Gas Monitoring

TO: Town of North Providence Office of the Purchasing Agent 2000 Smith Street, North Providence, R. I. 02911

The undersigned having familiarized ourselves with the general layout of the Town, and the State and local conditions effecting the cost of the work, and with the documents effecting everything required to be performed, and to provide and furnish all labor, equipment, and transportation service necessary to perform and complete in a work like manner, all the work and services required to comply with the herein before requirements and with the/provisions of the pertinent ordinances of said Town and to the requirements of the General Laws of the State of Rhode Island and Federal Regulations, at the following bid prices:

Bids will be received at the Office of the Purchasing Agent, 2000 Smith Street, North Providence, Rhode Island, ground floor, until 11:00 A.M on February 21, 2024.

Bids will be opened on Wednesday February 21, 2024 at 11:00 a.m. in the Assembly Room (Ground Level) of the North Providence Town Hall 2000 Smith Street North Providence, RI 02911.

Bids must be sealed and plainly marked on the outside of the envelope what is being bid upon.

The Purchasing Board reserves the right to reject any and all bids, to waive any informalities in the bids received and to accept the bid deemed most favorable to the interest of the Town.

## INFORMATION FOR BIDDERS

### 1. **Receipt and Opening of Proposals:**

Sealed proposals (bids) will be accepted in the office of the Purchasing Agent, Town Hall, 2000 Smith Street, North Providence, R. I. until the time indicated in the Invitation for Bids, for the services designated in the Specifications and will then be publicly opened and read. No bids received thereafter will be considered.

### 2. **Form of Bid:**

Proposals must be submitted on and in accordance with the bid proposal form included hereto, blank places must be filled in as noted, no change shall be made in the phraseology or in the item or items mentioned therein, must contain the name and proper address of the bidding firm, and must be signed by a responsible member of the firm with his signature and official title. Proposals which are not complete, or contain any omissions, erasures, alterations, addition or contain irregularities of any kind, may be rejected as informal.

### 3. **Submission of Bids:**

(a) Envelopes containing bids must be sealed and addressed to the office of the Purchasing Agent, and must be marked with the name and address of bidder, date and hour of bid opening, and name of item in bid call.

(b) The Purchasing Agent will decide when the specified time has arrived to open bids, and no bid received thereafter will be considered.

(c) Any bidder may withdraw his bid by written request at any time prior to the advertised time for opening. Facsimile bids, amendments, or withdrawals will not be accepted.

(d) No bid may be withdrawn for a period of ninety (90) days from the date and time of opening.

(e) Negligence on the part of the bidder in preparing the bid confers no rights for the withdrawal of the bid after it has been opened.

(f) Proposals received prior to the time of opening will be securely kept, unopened. No responsibility will be attached to an officer or person for the premature opening of a proposal not properly addressed and identified.

(g) Two (2) copies of all documentation submitted and (1) Flash Drive.

### 4. **Acceptance or Rejection of Bid Proposal:**

The Town reserves the right to award the bid by item and further reserves the right to reject any and all proposals or parts thereof, to waive any informality in the proposals received and to accept the proposal, or parts thereof, which it deems to be most favorable to the best interest of the Town.

5. **Qualifications of Bidder:**

The Town may make such investigations as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Town all such information and data for this purpose as the Town may request. The Town reserves the right to reject any bid if the evidence submitted by, or investigation of such bidder fails to satisfy the Town that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

6. **Commencement of Contract:**

The successful bidder shall commence as stated here in. Testing from Spring and fall of 2024. The Town reserves the right to re-new contract for a second, third, fourth, and fifth year.

7. **Bid Prices:**

Bidders shall state the proposed bid prices in the manner as designated in the Bid Proposal. In the event there is a discrepancy between the price written in words and in figures, the prices written in words shall govern.

8. **Indemnification:**

The Contractor shall hold harmless, defend, and indemnify the Town and its officers, agents, and employees against all claims, demands, actions, and suits (including all attorney fees and costs) brought against any of them arising from the Contractor's work or any subcontractor's work under the contract.

9. **Insurance:**

The Contractor shall carry the following insurance at his own expense:

(a) **General:** All insurance for this contract shall be written by company (or companies) acceptable to the Town and all policies or certificates shall be submitted to the Town for examination prior to commencement of operations by the Contractor. In the event any policy or certificate, the amount of the insurance, or the company writing same are not satisfactory to the Town, the Contractor shall secure other policies or certificates in form and amount and with a company satisfactory to the Town. The Contractor shall not permit policies to be changed, cancelled, or to lapse and all policies shall include a clause to the effect that the policy shall not be subject to cancellation or a reduction in the limits of liability or amounts of insurance until notice has been sent by certified mail to the Town stating when, (not less than thirty (30) days thereafter) such cancellation or reduction shall be effective. All certificates of insurance shall be delivered to the Town contain true transcripts from the policy or policies, authenticated by the proper officer of the insurer evidencing in particular those insured, the extent of the

insurance, the location and operations to which the insurance applies, the expiration date and the above-mentioned notice of cancellation clause and including the Town as an additional insured as to the operations involved.

If any part of the contract is sublet, similar insurance shall be provided by or in behalf of the subcontractors to cover their operations. The Contractor shall be charged with the responsibility for insurance protection for all his subcontract operations and should the contractor's policy not cover each and every subcontractor, certificates of insurance acceptable to the Town covering each and every subcontractor shall be filed with said Town prior to the commencement of subcontract operations.

(b) Workers' Compensation Insurance: The Contractor shall obtain workers, compensation insurance coverage for all of its workers, employees and subcontractors either as a carrier-insured employer or a self-insured employer, as provided by State of Rhode Island Statutes. The Contractor shall maintain worker's compensation insurance coverage for the duration of the contract.

In the event the Contractor's worker' compensation insurance coverage expires during the term of the contract, the Contractor shall renew said insurance, either as a carrier-insured employer or a self-insured employer, before its expiration, and the Contractor shall provide the Town with further certification of workers' compensation insurance as renewals of said insurance occur.

(c) Comprehensive General Liability and Property Damage Insurance including Contractual Liability: The Contractor shall maintain general liability and property damage insurance that protects the Contractor and the Town and its officers, agents, and employees from any and all claims, demands, actions, and suits for damage to property or personal injury, including death, arising from the Contractor's work under the contract.

- |  |              |
|--|--------------|
| (1) Bodily injury including accidental death-each person   | \$1,000,000. |
| (2) Bodily injury including accidental death-each occurrence                                       | \$1,000,000. |
| (3) Property Damage - each occurrence  | \$1,000,000. |
| (4) Property Damage - aggregate during any twelve (12) months period                               | \$1,000,000. |
| (5) Comprehensive Contractor's Protective Liability, same coverage as in paragraphs (i - 5) above. |              |

(d) Comprehensive Automobile Liability: covering all vehicles used by the Contractor in the course of the work including owned, non-owned and hired.

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|--|--------------|
| (1) Bodily injury including accidental death-each person     | \$1,000,000. |
| (2) Bodily injury including accidental death-each occurrence | \$1,000,000. |
| (3) Property Damage - each occurrence                        | \$1,000,000. |

10. **Wages and Labor:**

The Contractor shall comply with the applicable provisions of Title 37, Chapter 13, as amended, General Laws of Rhode Island (1977 Reenactment).

11. **Safety and Health Regulations:**

All work contemplated is to be governed, at all times, by applicable provisions of Federal, State of Rhode Island and Town laws, regulations, and ordinances.

12. **Foreign Corporations:**

Attention of bidders is hereby directed to excerpts from Chapters 1 to 6 of Title 7 of the General Laws of Rhode Island, 1956, as amended, relative to the conditions precedent, etc. to carrying on business within this State for foreign corporations.

13. **Bid Evaluation:**

This is an evaluated bid. Bids will be evaluated on the following criteria using a weighted scale:

Experience in Field	10%
Previous Performance	10%
Bid Amount	50%
Credentials/Qualifications	10%
Ability to Perform Described Services	20%

STATEMENT NO. 1:

STATEMENT OF INSURANCE

The undersigned, will write and furnish to the Town of North Providence, Rhode Island, Contractor's Comprehensive General Liability and Property Damage Insurance, including Owner's Protective, in the amount of not less than \$1,000,000.00 and Automobile Liability, Comprehensive Form, Bodily Injury and Property Damaged Combined, in the amount of not less than \$1,000,000.00.

Name Of Insurance Company: \_\_\_\_\_

Number & Street: \_\_\_\_\_

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

Signature Of Company Official: \_\_\_\_\_

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

Phone No.:

Statement No. 2:

The Bidder Shall State The Names Of All Subcontractors That He Proposes To Use

Proposed Subcontractor: (If None, Write "None")

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

Number & Street: \_\_\_\_\_

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

Type Of Equipment/Service Provided: \_\_\_\_\_

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This Is To Certify That The Name/S Of The Above-Mentioned Subcontractors Are Submitted With Full Knowledge And Consent Of The Respective Parties.

Bidder: \_\_\_\_\_

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

STATEMENT NO. 3:

THE BIDDER SHALL STATE SIMILAR CONTRACTS PERFORMED

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

Service Performed: \_\_\_\_\_

Length of Contract: From: \_\_\_\_\_ to \_\_\_\_\_  
(Month & Year) (Month & Year)

Name, position, address and telephone number of Official who supervised work:

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

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

Service Performed: \_\_\_\_\_

Length of Contract: From: \_\_\_\_\_ to \_\_\_\_\_  
(Month & Year) (Month & Year)

Name, position, address and telephone number of Official who supervised work:

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

BIDDER: \_\_\_\_\_

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

## **SCOPE**

The Town of North Providence hereby requests bid proposal/qualification packages from Rhode Island testing firms for field sampling, laboratory testing, statistical analysis and documentation reporting for Groundwater and Methane Gas Monitoring at the closed North Providence Landfill located on Smithfield Road in North Providence.

The selected firm will be granted a contract to provide sampling, testing and reporting services in accordance with the requirements of the "Approved" Groundwater and Methane Gas Monitoring Plan for the North Providence Landfill. The contract for services will be for a period of three (3) years from date of award. Following this time Period, new qualification/proposal packages will be solicited by the Town.

The selected firm must be appropriately licensed to provide the indicated services in Rhode Island. First test sampling will commence the month following award of contract to the selected firm. For award, the selected firm will be required to demonstrate financial security and it will have to provide copies of insurance coverages to the Town as indicated in the project document package.

The proposal bid is to be based upon costs per sample test series, i.e., first round water quality monitoring, 10 wells with one test sample (all required tests) per sample. Second samples, delivery of second samples to RIDEM designated laboratory and report costs including required statistical/analysis will be considered incidental to sample acquisition and test costs.

The Town of North Providence reserves the right to reject any and all proposals if it deems doing so would be in its best interest.

The Rhode Island Department of Environmental Management approval of the North Providence Landfill Groundwater and Methane Gas Monitoring Plan included the requirement that "Methane gas monitoring must be conducted within the structures of the facility". These structures include the existing Animal Shelter Building and a Communication Equipment Building currently under construction. The Town will be installing appropriate monitoring equipment within these structures within the near future.

The firm engaged to monitor methane gas levels at the landfill will be required to also monitor the devices within these structures and to document gas levels and to include this information in the required reporting per the approved monitoring plan. The firm performing monitoring will have to coordinate access to these structures with a designated North Providence Official for monitoring activity.



The successful bidder will be required to enter and maintain all test results both historic and future, electronically using software compatible with Landfill Monitoring.

Said data will be submitted and updated along with the software's latest version for Town's periodic review and records.

A copy of test results and baselines is available for viewing by appointment.

The Landfill closure date was April 1995

#### Current Existing Test Facilities

Sample Water Wells: 10

Observation Vents: 7 and 3 out buildings

## STATEMENT OF BIDDER'S QUALIFICATIONS

The following shall accompany the bid and is required as evidence of the bidder's qualifications to perform the work, as bid upon, in accordance with the specifications. This statement must be notarized. All questions must be answered. Additional data may be submitted on separate attached sheets.

1. Name of Bidder: \_\_\_\_\_
2. Permanent Main Office Address: \_\_\_\_\_  
\_\_\_\_\_
3. Official Mailing Address, This Contract: \_\_\_\_\_  
\_\_\_\_\_
4. When Organized: \_\_\_\_\_
5. Where Incorporated, If a Corporation: \_\_\_\_\_
6. Years Contracting Under Present Name: \_\_\_\_\_
7. List contracts on hand, and those completed similar in nature to this project:  
\_\_\_\_\_  
\_\_\_\_\_

Owner/Engineer:	Work Performed (Description); Contract Date; Contractor of Work; Amount Complete; Subcontractor
_____	_____
_____	_____
_____	_____

8. List any work the firm has failed to complete, state where and why.  
\_\_\_\_\_  
\_\_\_\_\_
9. If you have ever defaulted on any contract, state where and why.  
\_\_\_\_\_  
\_\_\_\_\_

10. Copy of Testing Laboratory Certification attached:

Yes \_\_\_\_\_ No \_\_\_\_\_

11. Designation of principal who will be in charge of the services being provided:

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

12. Resumes and qualifications of principal in charge and of key staff who will be responsible for project management, sampling, testing, statistical analysis and report preparation:

Included as attachment

13. Evidence of standard insurances including general liability, automobile liability, Workman's Compensation and employees liability, professional liability and excess liability.

Statement summary attached

\_\_\_\_\_  
(Name of Bidder)

By: \_\_\_\_\_  
(Signature and title of authorized representative)

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

City and State: \_\_\_\_\_

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

NOTARIZED:

Signed before me on this      day of      2024

(Notary Public)      Seal

My commission expires: \_\_\_\_\_

## BID PROPOSAL

Bid (Proposal of \_\_\_\_\_ (hereinafter called (Name of Proposer - "BIDDER") a corporation, organized and existing under the laws of the State of \_\_\_\_\_, or a Partnership or individual doing business as (hereinafter called the "Owner"), to the Town of North Providence.

The BIDDER, in compliance with your Advertisement for the Bid Proposals/Qualifications for the provision of Groundwater and Methane Gas Monitoring services of the closed North Providence Landfill in the Town of North Providence, Rhode Island, having examined the project Request for Proposal/Qualifications packages, the site Groundwater and Methane Gas Monitoring Plan and the Site and being familiar with all the regulations and conditions pertaining to the required monitoring activity, hereby proposes to furnish all labor, materials, supplies, supervision and anything else required or necessary to provide the required sampling, testing and reporting services for a period of two (2) years in accordance with the prices stated in the Bid Form. The unit bid prices cover all costs for providing sampling, testing and reporting relative to the required Groundwater and Methane Gas Monitoring Plan at the closed North Providence Landfill.

The BIDDER agrees to retain the proposal bid costs for a period of ninety (90) calendar days to allow the Town of North Providence to review qualifications and to select the lowest reasonable and complete bid package. Initial testing services will commence within seven (7) calendar days in the first month following award of this bid.

Bidder: \_\_\_\_\_

BID FORM

FOR YEAR ONE SERVICES

- 1 Groundwater Detection 20 Samples & Tests w/Report (10 wells @ 2 test cycles)  
Bid amount per well \$ \_\_\_\_\_ X 10 wells X 2 (test per year) = \_\_\_\_\_ Total item 1
- 2 Groundwater Assessment 10 Monitoring Samples & Tests w/Reports - if Required (10 wells per test cycle) \_\_\_\_\_
- 3 Methane Gas Wells, 40 Samples & Tests w/Report (7 wells within 3 structures @ 6 test cycles)  
Bid amount per well and Structure \$ \_\_\_\_\_ X 10 locations X 4 (tests per year) = \_\_\_\_\_ Total Item 3

Total of Item 1 plus Item 3: \_\_\_\_\_ Year One Bid

FOR YEAR TWO SERVICES

- 4 Groundwater Detection 20 Samples & Tests w/Report (10 wells @ 2 test cycles)  
Bid amount per well \$ \_\_\_\_\_ X 10 wells X 2 (test per year) = \_\_\_\_\_ Total item 1
- 5 Groundwater Assessment 10 Monitoring Samples & Tests w/Reports - if Required (10 wells per test cycle) \_\_\_\_\_
- 6 Methane Gas Wells, 40 Samples & Tests w/Report (7 wells within 3 structures @ 6 test cycles)  
Bid amount per well and Structure \$ \_\_\_\_\_ X 10 locations X 4 (tests per year) = \_\_\_\_\_ Total Item 3

Total of Item 4 plus Item 6: \_\_\_\_\_ Year Two Bid

FOR YEAR THREE SERVICES

- 7 Groundwater Detection 20 Samples & Tests w/Report (10 wells @ 2 test cycles)  
Bid amount per well \$ \_\_\_\_\_ X 10 wells X 2 (test per year) = \_\_\_\_\_ Total item 1
- 8 Groundwater Assessment 10 Monitoring Samples & Tests w/Reports - if Required (10 wells per test cycle) \_\_\_\_\_
- 9 Methane Gas Wells, 40 Samples & Tests w/Report (7 wells within 3 structures @ 6 test cycles)  
Bid amount per well and Structure \$ \_\_\_\_\_ X 10 locations X 4 (tests per year) = \_\_\_\_\_ Total Item 3

Total of Item 7 plus Item 9: \_\_\_\_\_ Year Three Bid

Total testing for three years, totals of years one, two and three: \_\_\_\_\_

Attached is a synopsis of the:

NORTH PROVIDENCE SANITARY LANDFILL  
POST CLOSURE  
GROUND WATER AND METHANE GAS MONITIRING PLAN

Prepared for the  
THE TOWN OF NORTH PROVIDENCE

Revised January 1995

WATERMAN ENGINEERING COMPANY  
450 North Broadway  
East Providence, Rhode Island 02914

The actual plan is available for viewing at  
North Providence Office of the Purchasing Agent

## Introduction

This plan has been prepared to monitor the North Providence Sanitary Landfill post closure conditions of ground water and methane gas discharge. This plan outlines proposed monitoring activity. If monitoring results indicate the potential of any problem conditions, appropriate more frequent monitoring will be undertaken as required.

## Ground Water Monitoring Plan

The basis of the North Providence Landfill Groundwater Monitoring Plan are the Landfill regulations published in the Federal Register, Volume 56 No. 156, on Wednesday, October 9, 1991.

The Groundwater Monitoring Plan consists of three steps. The first step involves the establishment of site groundwater monitoring wells. Ten (10) new wells are being established at the North Providence Landfill as part of cap closure construction activity. The well locations are indicated on the project closure plan entitled "Closure Plan - North Providence Landfill" dated October 1991 with revisions through 20 January 1994, developed by Waterman Engineering Company. The new wells surround the licensed landfill perimeter and will thus provide groundwater data both up and down gradient from the landfill.

The first step further entails Detection Sampling for the 47 volatile organic compounds and 15 metals listed in Appendix I of this plan. Base line samples of each new monitoring well will be taken at a minimum of fifteen (15) but no more than 30 calendar days following installation of the monitoring well. A minimum of four (4) samples will be taken from each well to establish base and/or background levels. Samples will be taken, handled and documented as indicated in Appendix III of this plan.

Following base line sampling, at minimum for 30 calendar days thereafter, the first sampling of the wells will be undertaken. Thereafter, semi-annual detection sampling of all wells, for the constituents listed in Appendix I will be undertaken within the first seven (7) calendar days of the month.

If, based upon statistical analysis procedures, a determination is made that for one or more constituents listed in Appendix I, a significant increase has occurred over background levels, the following will be done:

- 1) Within 14 days, a notice will be placed in the Landfill operating records indicating which constituents have significantly increased from background levels. This placement with the landfill operating records will include appropriated DEM notification of the findings and action.
- 2) Within 90 days, Step 2, an Assessment Monitoring program will be implemented.

Step 2, the Assessment Monitoring Program will involve sampling and analysis of the groundwater for all the constituents listed in Appendix II of this plan. A minimum of one sample from each down gradient well will be collected and sampled. The first Assessment Monitoring sampling will be completed within 90 days of the triggering of the Assessment Monitoring Program. Subsequent Assessment Monitoring will take place annually within the first seven calendar days of the month of initial Assessment Monitoring.

In the Assessment Monitoring process, if any constituent (See Appendix II) is detected in the down gradient wells, a minimum of four (4) samples from each well, background and down gradient, must be collected and analyzed to establish background levels for the constituents. Sample results will be placed within the landfill operating records. This placement will include appropriate DEM notification of the findings and actions.

Within 90 days and semi-annually thereafter, i.e., the detection of constituents (See Appendix II), all wells will be resampled for the constituents listed in Appendix I and for those constituents in Appendix II with results reported in landfill operating records and also reported to DEM.

If concentrations of all Appendix II constituents test to be at or below background values using statistical procedures indicated elsewhere in this plan, for two (2) consecutive sampling events, the State DEM will be appropriately advised and normal Detection Monitoring will be resumed.

In the event that the concentration of any Appendix II constituents are above background values, but all concentrations are below the groundwater protection standards indicated in the Federal Register, Vol. 56, No. 196, Paragraph 258.55 subparagraphs (h) or (i), groundwater assessment monitoring will be continued in accordance with the above described schedule. Should one or more of the Appendix II constituents be detected at statistically significant levels above the groundwater protection standard under the previously referenced Federal Register described standards, within fourteen days of this determination the information will be placed in the landfill operating records and the DEM will be appropriately notified. In addition...

1. Additional monitoring wells will be installed and sampled to characterize the nature and extent of the release.
2. At least one additional monitoring well will be installed at the facility boundary in the direction of contamination migration and sampled.
3. Owners of property and tenants on property affected by the migration of contaminants outside the landfill boundary will be appropriately notified.
4. The owner will commence an initiation of an assessment of corrective measure within 90 days.



The initiation of an assessment of corrective measures is the commencement of Step 3 of the Groundwater Monitoring Plan. Under this step:

1. Groundwater will continue to be monitored in accordance with the Assessment Monitoring Program.
2. The corrective measures assessment will be completed in a reasonable period of time. The assessment will include an analysis of the effectiveness of potential corrective measures. The corrective measures will strive to meet all the requirements and objectives of the remedy as described in the Federal Register, Vol. 56, No 196, October 9, 1991, Paragraph 258.57.

At a minimum, the corrective measures assessment will include:

- (a) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residential contamination.
- (b) The time frame to begin and to complete the remedy.
- (c) The cost of remedy implementations.
- (d) Permit, environmental and/or public health requirements that may substantially affect implementation of the remedy (i.e.).
- (e) A public meeting to present and to discuss potential remedies prior to the selection of a specific remedy.

Following the above, a corrective remedy will be selected by the owner and it will be submitted to DEM for approval within fourteen (14) days of its selection. With DEM approval and assuming funding is available the corrective remedy will be implemented.

#### Methane Gas Monitoring Plan

The North Providence Landfill closure includes twelve (12) methane gas vent pipes to allow the release of accumulated methane gas from the cap area. To monitor the surrounding area for methane gas levels, seven (7) methane gas observation wells will be installed as part of the closure construction. These observation wells are located around the perimeter of the landfill.

As part of the landfill closure, the methane gas observation wells will be monitored for the level of methane gas by a Rhode Island Certified Testing Laboratory or individual. Monitoring will utilize the latest equipment and procedures acceptable to the Rhode Island Department of Environmental Management (Division of Air Quality and Hazardous Waste).

The Landfill Monitoring Plan requires that for a period of two (2) years following the substantial completion of landfill closure construction, the seven (7) methane gas observation wells will be monitored bimonthly. For years, three (3) thru thirty (30), the observation wells are to be monitored on a quarterly basis. Monitoring will be done during the first seven (7) calendar days of the monitoring period, see Appendix IV.

Within three (3) calendar days of gas monitoring, a summary of results from all methane gas observation well sited will be submitted to the Town of North Providence (Director of Public Works) for review and inclusion into the Landfill Operating records. A copy of the monitoring results will be submitted directly to the Rhode Island Department of Environmental Management (Division of Air Quality and Hazardous Materials).

Based upon the regulations of the Rhode Island Department of Environmental Management in effect at the time of Closure of the North Providence Landfill, observed methane gas levels cannot exceed 25% of the lower explosive limit (LEL)\* for methane. Should the monitoring firm or individual detect any methane concentrations at observation wells with concentrations in excess of **250-0** of the LEL limit, the Town of North Providence Director of Public Works is to be notified immediately.

If a condition should arise whereby the levels of methane at the observation wells indicated concentrations in excess of 25% of the LEL limit, the Town of North Providence, acting through its Director of Public Works and/or other designated officials shall.

Immediately notify the Town Fire Chief and other designated public safety and emergency response officials of the potential problem.

With seven (7) calendar days of detection of excessive methane, appropriately document the levels of methane observed and the notifications made of the potential problem in landfill records and of the immediate measure undertaken to protect human health and property.

With sixty (60) calendar days of detection, the Town of North Providence will develop and implement a remediation plan to release and reduce the concentrations of methane gas. The plan shall describe the nature and extent of the methane gas problem and it shall provide information on the detail of corrective actions being taken.

A copy of the remediation plan will be placed in the landfill records and a copy will be submitted to the Rhode Island Department of Environmental Management (Division of Air Quality and Hazardous Waste).

\*For definition, the Lower Explosive Limit means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25 degrees C an atmospheric pressure.

### Monitoring Firm

The Town of North Providence does not have staff expertise to undertake ground water and methane gas sampling and testing. The Town proposes to engage qualified firms or individuals to provide this specialized service via its standard public selection and award process. Periodic review of selected firm or individual will occur when it is in the best interest to the Town of North Providence. Any firm or individual selected will have to meet the qualifications and experience expertise of the State of Rhode Island Department of Environmental Management for provision of the indicated services.

### Maintenance

The Town of North Providence Department of Public Works, either with staff or by contract, will be responsible for maintenance at the North Providence Landfill. Maintenance activity will include at least semi-annual site inspection with findings being documented in the official Landfill records. Maintenance activity will include, but not be limited to, control of cap vegetation, erosion repair if or as needed, methane gas vent pipe repair, ground water monitoring, well and methane gas monitoring, well repair, if required, and the maintenance of site security.

## APENDIX I

DETECTION MONITORING

SAMPLE CONSTITUENTS

## APPENDIX II

ASSESSMENT MONITORING

SAMPLE CONSTITUENTS

APPENDIX III  
GROUND WATER SAMPLING  
AND  
ANALYSIS PROCEDURES

## GROUNDWATER SAMPLING AND ANALYSIS PROCEDURES

Groundwater sampling, preservation, shipping and analysis procedures will conform to the latest industry standards and applicable federal guidelines in effect at the sampling time. Each sample will be identified with the following minimum information.

Project Title

Well Identification Number

Date of Sample

Sample Number

Name of Individual Taking Sample

Ground Elevation

Water Surface Elevations, prior to well purging

Water temperature, prior to purging and following purging

Rate and Direction of groundwater flow

In addition to the above, prior to taking a water sample, the well must be purged and the rate and direction of groundwater flow must be estimated and documented.

For each sampling, two (2) water samples will be taken. One sample will be analyzed by the owner's testing laboratory and the second sample set will be hand delivered to the designated Rhode Island Department of Health laboratory for independent conformation testing.

The engaged testing laboratory will provide a written report on all samples tested with fourteen (14) days of the completion of the prescribed testings. The report for each constituent will indicate the level of the constituent and the federal/state maximum allowed level. Further, the statistical significance of the sample and finding will be indicated. The statistical method used to evaluate the ground water monitoring data for each hazardous constituent will be one of the methods indicated in the Federal Register/Vol. 56, No. 196, October 91, 1991, Paragraph 258.53 subparagraphs (g) and (h). A separate statistical test shall be conducted for each hazardous constituent at each sample period.

The sampling report will be sent to the Town of North Providence (Director of Public Works) and the information will be placed in the Landfill Operating Records. A copy of the report will also be sent by the Testing Laboratory directly to the Rhode Island Department of Environmental Management (Division of Air and Hazardous Waste). Based upon the report data, the Town of North Providence, acting through the Director of Public Works or some other appropriately designated official, will implement Step 2, Assessment Monitoring and/or Step 3, Corrective Measures as may be required.

APENDIX IV

MONITORING METHANE GAS SCHEDULE

Years 1-3 - Quarterly \*\*

February, May, May, August, November

\*\* Samples taken within first seven (7) calendar days.