New Jersey Department of Environmental Protection
Site Remediation Program

REMEDIAL ACTION PERMITS FOR GROUND WATER GUIDANCE

This guidance is developed to assist the Licensed Site Remediation Professional in determining when and if a Remedial Action Permit is needed. This guidance is not intended to supersede any rule or regulation.

I. Ground Water

During a site investigation, it is documented that ground water contaminants exceed the New Jersey Ground Water Quality standards http://www.nj.gov/dep/standards/groundwater.pdf (N.J.A.C. 7:9C). The next step would be to identify and remove the source material and perform a remedial investigation to delineate the site and off-site contaminants. The remediating party would work with their LSRP to determine the appropriate remedial action such as removal of all contaminants and remediate the site to an unrestricted level. The Department wants to encourage the remediating party to establish a Classification Exception Area as early as possible, generally at the conclusion of the remedial investigation. The remediating party is required to submit the information to establish the CEA along with the Remedial Action Workplan (RAWP). For information concerning how to establish a CEA see section V of this document.

After the conclusion of the remedial investigation, the person responsible for the remediation will begin to evaluate their remedial options with their LSRP. The LSRP may recommend several treatment technologies to reduce the ground water contaminant mass such as injecting oxygen releasing chemicals, air sparging, active pump and treatment of the contaminated ground water. Many of these activities will require permits from the Department not related to a remedial action ground water permit. It is the responsibility of the person responsible for conducting the remediation to obtain the necessary permits, the LSRP can advise as to when and where a permit needs to be obtained.

II. When to apply for the permit

The ground water remedial action permit can be applied towards the end of the remedial action and if any of the following conditions are met.

1. Ground Water Remedial Action Permit for Natural Attenuation –
   a. Eight (8) consecutive quarterly rounds of ground water samples must be collected. A decreasing trend in the contaminant levels must be established before any application is submitted to the Department.
   b. Source material has been removed, treated or contained.

2. Any other Ground Water Remedial Action Permit – This category includes active ground water systems used to remove contaminant mass, maintain hydraulic control of ground water contaminant In order to qualify for this permit the person responsible for the remediation must meet the following conditions.
   a. Design and construct the system, and;
   b. Obtain the necessary permits for the system (air permit, NJPDES).
   c. Operate the system to demonstrate that it is operational and functional meeting the goals of the remediation. This process will usually take approximately one-year.
   d. Source material has been removed, treated or contained.
   e. Calculate and establish financial assurance for the operation and maintenance of the system for the period that the system is operating.

If an engineering control is used, the person responsible for the remediation will need to establish financial assurance for the engineering control. The financial assurance must be for the duration of the engineering control is in place. If it is determined that the control will be all ways be required, this equates to a 30-year period that financial assurance will be required.

III. Remedial Action Ground Water Permits

Ground Water Natural Attenuation - (Passive System)

The LSRP should have or should plan as part of the Remedial Action, to begin sampling the monitoring wells to establish a decreasing trend in concentration levels. In many instances, this sampling begins in the RI phase and continues into the RA phase. In order to qualify for a natural attenuation ground water permit, eight (8) consecutive quarterly rounds of ground water samples must be collected. A decreasing trend in the contaminant levels must be established before any application is submitted to the Department.

Ground Water Active Remediation - (Active System)

The LSRP will need to obtain the necessary permits (air, NJPDES etc…) that are needed to construct and design the system. A Remedial Action permit will be issued by the Department once the active system has been determined to be operational and functional for a minimum of one year. Once the system has been operational and functional, the LSRP and permittee(s) will establish financial assurance and prepare and submit a remedial action ground water permit for an active system.

IV. Permit Actions

Initial Permit

The person responsible for the remediation will apply for the initial permit when the conditions in II above are achieved.

Permit Modifications

The person responsible for the remediation will be required to obtain a permit modification should any of the following conditions occur. The following are considered major modification and will require a modification to the remedial action ground water permit.

1. Any changes to the size and extent of the CEA requiring the CEA to be enlarged or duration extended. Reductions in the CEA plume size are expected and are not considered a permit modification.
2. Any change in land use that will impact the engineering control. Examples are construction of a building, installation of potable wells within the influence of the pumping area.
3. Any increases in contaminant concentrations demonstrated by two consecutive rounds of effluent monitoring.
4. Documented impacts to nearby receptors.

The following activities are considered minor modifications, and do not require a modification to the remedial action soil permit. For activities that will not require permit modification the permittee will provide notice of the activity in the biennial certification.

1. Temporary shutdown of the system to change treatment units, modification of the treatment system that results in a shutdown of less than 48 hours. These should be noted in the biennial certification.
2. Reductions in the CEA plume size are expected and are not considered a permit modification.

Permit Transfers

The person responsible for the remediation will always be a co-permittee; their name and address will remain on the permit for the life of the engineering and institutional control. Property owners who are not the person responsible for the remediation must notify the Department of any changes in ownership. The new property owner must sign on as a co-permittee before the former owner is removed from the permit. Any financial assurance that was established as the former property owner will not be released until a new form is established and in place.

Permit Termination

The ground water quality standards have been achieved and demonstrated through two consecutive rounds of ground water sampling. The permittee and LSRP would submit the ground water monitoring data with a complete permit termination form and fee to the Department. The Department would terminate the permit.

V. Classification Exception Area (CEA)

For guidance concerning CEA's, the reader should review the information is at http://www.nj.gov/dep/srp/guidance/cea/ceaguid2.doc . Revision or changes to this document will be found at the web address above.

VI. Establishing Monitoring & Reporting Schedules in Remedial Action Permits

Ground Water Natural Attenuation

The LSRP should have or should plan as part of the Remedial Action, to begin sampling the monitoring wells to establish a decreasing trend in concentration levels. In many instances, this sampling begins in the RI phase and continues into the RA phase. In order to qualify for a natural attenuation ground water permit, eight (8) consecutive quarterly rounds of ground water samples must be collected. A decreasing trend in the contaminant levels must be established before any application is submitted to the Department.

Ground Water Active Remediation

The LSRP will need to obtain the necessary permits (air, NJPDES, etc…) that are needed to construct and design the system. A Remedial Action permit will be issued by the Department once the active system has been determined to be operational and functional for one year. Once the system has been operational and functional, the LSRP and permittee(s) will prepare and submit a remedial action ground water permit for an active system.

Vapor Intrusion

The presence of volatile chemicals in contaminated soil or ground water offers the potential for chemical vapors to migrate through subsurface soils and/or preferential pathways (such as underground utilities) thereby impacting the indoor air quality of area buildings. Vapor intrusion refers to this migration of volatile chemicals from the subsurface into overlying buildings. The Vapor Intrusion information linked from this page represents specific guidance developed by the Department to assist in the investigation of the vapor intrusion pathway at contaminated sites (see http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig_main.pdf).

N.J.A.C. 7:26E-4.4(h)3viii specifies that the occurrence of ground water contamination above the applicable remediation standards must include evaluation of subsurface utilities, basements or other structures to determine whether vapor hazards as a result of the ground water contamination may exist for receptors associated with the utility or structure." The Technical Requirement for Site Remediation at N.J.A.C. 7:26E- 6.3(d)7 also stipulates that the submission of a proposal for natural ground water remediation must demonstrate that "contaminant levels in ground water do not present a vapor risk to any receptors."

The LSRP as part of the remedial investigation has delineated the ground water contaminant plume. This would also include evaluation of vapors into underground utilities and buildings.
As part of the monitoring of the plume, the LSRP will determine if monitoring of structures is required as well as the frequency of monitoring. This information will be included as part of the remedial action ground water permit.

Permit Monitoring

The LSRP and permittee(s) are responsible for the design and implementation of a permit monitoring and reporting schedule to be included with the permit application. The physical sampling of the monitoring wells does not have to be performed by the LSRP. The LSRP will be responsible for the design, implementation and certification of the monitoring plan as well as the sampling methodology, laboratory methods and results of the analysis.

Monitoring Schedule

The LSRP will determine based upon their professional judgment what frequency wells and receptors should be monitored. In addition, the LSRP and person responsible for the remediation can determine the monitoring parameters, frequency and schedule. The LSRP should include vapor intrusion for any structures where the ground water contaminant levels warrant additional investigation in accordance with the vapor intrusion guidance document http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig_main.pdf).

The Department recommends the following.

Monitoring Schedule	Situation
Monthly	Potable wells are within 500' of the plume. Active systems & Natural Attenuation
Quarterly	Potable wells are within 1,000' of the plume. Receptors within 200' of the plume. Natural Attenuation
Semi Annual	Area is on city/municipal water, No receptors within 500' of plume. Natural Attenuation.
Annual	No Receptors within 1,000' of the plume. Natural Attenuation
Biennial	No Receptors within 2,000' of the plume. Natural Attenuation. At a minimum, all permits will be required to monitor on a biennial basis.

Reporting Schedule

The LSRP will determine based upon their professional judgment when the monitoring information will be submitted to the Department. At a minimum, all permits shall report on a biennial basis to the Department as to the protectiveness of the engineering and institutional controls.

Reporting Schedule	Situation
Quarterly	Potable wells are within 1,000' of the plume. Receptors within 200' of the plume. Active & Natural Attenuation
Semi Annual	Area is on city/municipal water, No receptors within 500' of plume.
Annual	No Receptors within 1,000' of the plume. Natural Attenuation
Biennial	No Receptors within 2,000' of the plume. Natural Attenuation. At a minimum, all permits will be required to monitor and report on a biennial basis.

Identification of Sample Locations

As part of the permit application, the LSRP will identify monitoring locations (wells, addresses of receptors) that will be sampled based on the monitoring schedule and reporting frequency. In addition, the analytical parameters that will each monitoring location will be sampled for. There is an excel spreadsheet set-up to assist in the preparation of Ground Water Monitoring Plan (Attachment A).

VII. Financial Assurance

Financial Assurance is required whenever a Remedial Action Permit has an Engineering Control. An Engineering Control is defined in N.J.A.C. 7:26E-1.8. "Engineering controls" means any physical mechanism to contain or stabilize contamination or ensure the effectiveness of a remedial action. Engineering controls may include, without limitation, caps, covers, dikes, trenches, leachate collection systems, signs, fences, physical access controls, and ground water containment systems including, without limitation slurry walls and ground water pumping systems.

The following forms are acceptable as financial assurance

Financial Assurance for Engineering Controls

Remediation Trust Funding Sources	Acceptable as Financial Assurance for an Engineering Control?
1. A remediation trust fund agreement in accordance with N.J.A.C. 7:26C-5.4	Yes
2. An environmental insurance policy in accordance with N.J.A.C. 7:26C-5.5	Yes
3. A line of credit agreement in accordance with N.J.A.C. 7:26C-5.6	Yes
4. A letter of credit in accordance with N.J.A.C. 7:26C-5.7	Yes
5. A self-guarantee in accordance with N.J.A.C. 7:26C-5.7	No

Calculating Financial Assurance

The LSRP will determine the amount of funds needed to maintain the engineering control as long as the control is needed, up to 30 years. The calculation is based on the yearly cost of maintaining the system including labor, power, sampling parameters, permit costs based on present value. That value is multiplied out over the duration that the engineering control will be in place up to 30 years. See attachment C for calculating the amount of financial assurance.

Commercially available software systems that can be used to calculated financial assurance

- Cost Pro
- RACER (Remedial Action Cost Engineering and Requirements)
- Other commercially available engineering cost projection software that can develop cost projections for the maintenance of an engineering control.

The LSRP can develop independently the amount of financial assurance required by providing all costs related to the monitoring and maintenance of the engineering control for its lifetime. The LSRP will need to provide a list and how the costs were derived as part of the cost estimated for financial assurance.

Homeowner and Condominium associations with engineering controls

The Department recognizes that homeowner and condominium association's annual budget includes common elements related to the engineering control(s). In these situations, the Association needs to provide the Department as part of the Biennial Certification, the budgeted amounts for the common elements related to the engineering control.

Exemptions for establishing financial assurance for engineering controls

7:26C-7.7(b) identifies those persons who do not have an obligation to establish financial assurance.

(b) The following persons are not required comply with this section:

1. A government entity;
2. A person who is not otherwise liable for cleanup and removal costs pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11, who purchased a contaminated site prior to May 7, 2009, and is remediating, or has remediated, the contaminated site pursuant to N.J.S.A. 58:10-23.11g.d;
3. A person who undertakes remediation at that person's primary or secondary residence;
4. The owner or operator of a child care center licensed pursuant to N.J.S.A.30: 5B-1 et seq. who performs remediation at the licensed child care center.

[i] "Common elements" means all portions of the common interest real property other than the units and any other interests in real estate for the benefit of unit owners which are subject to the master deed.

5. The owner or operator of a child care center licensed pursuant to N.J.S.A.30: 5B-1 et seq. who performs remediation at the licensed child care center;
6. The person responsible for performing remediation at a public school or private school as defined in N.J.S.A. 18A: 1-1, or a charter school established pursuant to N.J.S.A. 18A: 36A-1 et seq.; and
7. The owner or operator of a small business who is responsible for performing a remediation at his or her business property.

   N.J.A.C. 7:26C-1.3 provides the definition of a small business. “Small business” means a business entity that does not acquire property for development or redevelopment, and that, during the prior three tax years, employed not more than 50 full-time employees or the equivalent thereof, and qualifies as a small business concern within the meaning of the federal "Small Business Act," 15 U.S.C. section 631 et seq.

VIII. Who has the obligation to be the permittee?

The following persons must comply with the Remedial Action Permit issued by the Department:

N.J.A.C. 7:26C-7.2 identifies those persons who must comply with a Remedial Action Permit issued by the Department. The following persons are required by statute to become permittees should a remedial action permit be required.

- Each owner and operator of an underground storage tank facility – who is liable for the remediation pursuant to the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21 et seq.
- Each owner and operator of an industrial establishment who is liable for the remediation pursuant to the Industrial Site Remediation Act, N.J.S.A. 13:1K-6 et seq.
- Any person in any way responsible, pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq.
- Any person who is remediating a site,
- Persons due to their position as owners, operators, or tenants of the property that is being, or has been remediation, including the following.

  i. Each owner of the property, where the discharge occurred, at the time of implementation of the remedial action that includes an engineering or institutional control or operation and maintenance requirements for the remedial action; and
  ii. Each subsequent owner, operator and tenant of the property of the discharge during that person’s ownership or operation.

- If there is more than one person responsible for compliance with a remedial action permit pursuant to (a) above, each such person, as a co-permittee, is jointly and severally liable for:

  1. Compliance with the conditions of a remedial action permits pursuant to this subchapter;
  2. Payments of all remedial action permit fees pursuant to N.J.A.C. 7:26C-4;
  3. Payment of penalties for violations of a remedial action permit pursuant to N.J.A.C. 7:26C-9; and
  4. Maintenance of financial assurance for engineering controls pursuant to N.J.A.C. 7:26C-7.8.

IX. Remedial Action Ground Water Permit Fees

Remedial Action Permit Fees

Activity	Fee
Active System Permit Application	$1,565
Active System Permit Modification	$1,250
Active System Permit Termination	$1,375
Active System Change in Ownership/Transfer of Permit	$470
Active System Annual Permit Fee	$205
Natural Attenuation Permit Application	$1,250
Natural Attenuation Permit Modification	$940
Natural Attenuation Permit Termination	$965
Natural Attenuation Change in Ownership/Transfer of Permit *	$415
Natural Attenuation Annual Permit Fee	$205

* Note: Annual permit fees will start one year after the initial permit fee is paid.

1. How will the Department apply the Remedial Action Permit fees?

   Response: A remediating party applies for a Ground Water Remedial Action Permit after January 15, 2010. The permittee completes the permit application and submits the initial permit fee. At the end of the first year and every year after, the permittee(s) will pay an annual permit fee.

   Every two years, the permittee(s) is required to complete and submit a Ground Water Remedial Action Protectiveness/Biennial Certification Form at no cost.

2. What happens if I do not pay the fee(s)?

   Response: The Permittee(s) would be subject to the assessment of penalties which would include the fee plus 20% of the outstanding amount; $1000 minimum.

VI. Permits and Final Remediation Documents

Remedial Action Permits and Response Action Outcome

Action	Post – 1/15/10
Contamination has been remediated and a remedial action permit containing engineering and/or institutional controls has been issued by the Department	LSRP will issue a RAO once the remedial action permit is in place.
Ground Water contamination is above the Ground Water Quality Standards. Decreasing trend demonstrated.	Person responsible for the remediation applies and receives a remedial action Ground Water Permit, LSRP issues an RAO.
Ground Water contamination is above the Ground Water Quality Standards. Technical Impracticability is determined.	Person responsible for the remediation applies and receives a Remedial Action Ground Water Permit, LSRP issues an RAO once the system is demonstrated to the Department that it is functional and operational.
Ground Water contamination is above the Ground Water Quality Standards. RP installs a slurry wall with an active capture system	Person responsible for the remediation applies and receives a Remedial Action Ground Water Permit, LSRP issues an RAO once the system is demonstrated to the Department that it is functional and operational

ATTACHMENTS

ATTACHMENT A

Ground Water Monitoring Plan for Ground Water Remedial Action Permit (version 1.0; January 15, 2010)
CASE NAME: _____ **PROGRAM INTEREST (PI) ID# :** _____ **SPREADSHEET SUBMISSION DATE:** _____

Wells to Be Sampled	Type of Well	Easting	Northing	Sampling Schedule	Reporting Schedule	Parameters for Each Well	CASRN

ATTACHMENT B

Classification Exception Area/Well Restriction Area

Permit Fact Sheet Form

Case Information

Case ID:
Case Number:
Preferred ID (PI Number):
Case Name:

CEA Component Information

1) **Contaminant(s):** This CEA/WRA applies only to the contaminants above the applicable numeric values established by Ground Water Quality Standards (GWQS), N.J.A.C. 7:9C, listed in the table below. List below the maximum value in the most recent sampling event for all contaminants included in the CEA using any well or sampling point used to establish the CEA.

Contaminant	*Concentration (1)*	*GWQS (2)*	*SWQS(3)*	*GWSL(4)*

Notes: (1) Maximum concentration in Micrograms Per Liter
(2) New Jersey Ground Water Quality Standards, N.J.A.C. 7:9C
(3) Surface Water Quality Standards, N.J.A.C. 7:9B - Applicable only where contaminants in the CEA may discharge to a surface water body.
(4) Ground Water Screening Levels from most current NJDEP Vapor Intrusion Guidance

☐ **Exhibit A: Monitor Well/Sampling Point Data –** Per N.J.A.C 7:26E-8.3(b) submit a copy of a table that includes the most recent 24 months of ground water sampling.

2) CEA Boundaries:

Lot(s) and Block(s) included in the areal extent of the Classification Exception Area:
Year of tax map used:

Block(s)	***Lot(s)***	***Check if off-site***
		☐
		☐
		☐
		☐

☐ **Exhibit B: Site Location Maps -** USGS Quadrangle Map and Tax Lot and Block Map (N.J.A.C. 7:26E-8.3(b)3i and ii)

☐ **Exhibit C: Site Map(s) and Cross Section -** Including actual/predicted contaminant isopleths, ground water flow direction, CEA boundary, monitor well/sampling point/boring locations/IDs, area(s) of concern. N.J.A.C 7:26E-8.3(b)3iii through v.

Insert NAICS responsible for area(s) of concern, if known: _____

Narrative description of proposed CEA:

Affected Geologic Formation/Unit Ground Water Classification

Vertical Depth of CEA (ft bgs and msl) Horizontal Extent of CEA (acres or square ft)

☐ **Exhibit D: Vertical Contaminant Data -** A table, for the most recent 24 months of data, for each sampling point used to establish the CEA, or the subset of wells indicated in N.J.A.C 7:26E-8.3(b)3iii, iv and v, that includes the following:

Depth (in feet bgs and msl elevation) to:

Water Table Bottom of Plume(5) Top of Plume/Thickness of Clean Water Lens(6)

Notes: (5) Approximate maximum depth of contamination based on data included in Remedial Investigation Report (RIR);
(6) Required only if plume is known to be below the water table based on vertical profiling or monitor well data in RIR.

☐ **Exhibit E: Fate and Transport Description and Model Documentation –** Must contain all information required pursuant to N.J.A.C. 7:26E-8.3(b)2 and applicable guidance.

3) Projected Term of CEA: Based on modeling/calculations in Exhibit E
Proposed Duration in Years

Current and Projected Ground Water Use Documentation

☐ **Exhibit F: Well Search Results** – Include most recent well search per N.J.A.C. 7:26E-1.17.

Check each item where, pursuant to N.J.A.C. 7:26E-8.3(b)4, written documentation was obtained regarding future ground water use for a 25-year planning horizon based on:

- ☐ Municipal master plans
- ☐ Zoning plans
- ☐ Local water purveyor plans and planning data pertaining to the existence of water lines and proposed future installation of water lines
- ☐ Local planning officials
- ☐ County and local boards of health
- ☐ Local and/or county ordinances restricting installation of potable wells

Well Restriction Information

For Class II-A ground water and pursuant to the GWQS at N.J.A.C. 7:9C-1.6(d), where ground water quality data indicate contaminants exceed the values listed in the Primary Drinking Water Regulations, the Department shall restrict, or require the restriction of, potable ground water uses within any CEA. Therefore, the CEA established for this site is also a well Restriction Area, the extent of which coincides with the boundaries of the CEA.

Well Restrictions set within the boundaries of the CEA:

- ☐ Double Case Wells:
- ☐ Sample Potable Wells:.
- ☐ Evaluate Production Wells:
- ☐ Other

Public Notice Requirements

Notify Department that letters were sent per N.J.A.C. 7:26E-8.3(b)5 (check all applicable categories):

- ☐ Municipal and county clerk(s)
- ☐ Local, county or regional health department(s)
- ☐ Designated County Environmental Health Act agency (if applicable)
- ☐ County Planning Board
- ☐ Pinelands Commission (if applicable)
- ☐ Owners of real property overlying CEA foot print and any adjacent owners per N.J.A.C. 7:26E-1.4(j)2

☐ **Exhibit G: List of Names and Addresses -** Include all persons notified pursuant to N.J.A.C. 7:26E-8.3(b)5 based on the proposed CEA extent.

ATTACHMENT C

Calculating Financial Assurance

The following excel document can provide the permittee with the necessary information to determine how much financial assurance will be needed based upon present worth. The document can be applied for engineering controls for soils as well as for groundwater.

Commercially available software systems that can be used to calculated financial assurance.

- Cost Pro
- RACER (Remedial Action Cost Engineering and Requirements)
- Other commercially available engineering cost projection software that can develop cost projections for the maintenance of an engineering control.

The LSRP can develop independently the amount of financial assurance required by viding all costs related to the monitoring and maintenance of the engineering control for its lifetime. The LSRP will need provide a list and how the costs were derived as part of the cost estimated for financial assurance.

Instructions to use the Financial Assurance Calculator (optional)

The permittee should only fill in the yellow boxes (quantity and unit costs) that apply to their engineering control. The work sheet will include capital costs associated with the design and construction of the engineering control as well as annual operation and maintenance costs for the duration of the engineering control (30-years). The permittee working with their LSRP can also develop costs for engineering controls that will be in place for a shorter time merely by modifying the life span of the engineering control.

If some of the categories identified do not apply the design and construction of an engineering control, the permittee should enter 0 for quantity and 0 for unit costs in the yellow boxes. To access the following work sheet, the applicant should double click on the work sheet.

Calculating Financial Assurance

		Quantity	Unit	Unit Cost	Item Cost
I.	**Institutional Controls**		lump		$ -
II.	**Site Preparation**				
	Mobilization/Setup		lump		$ -
	Erosion and Sediment Controls		lump		$ -
	Subtotal				$ -
III	**Demolition**				
	Demolition and Crushing/Grading Debris		lump		$ -
	Relocating and Grading of Sediments/Soil		cy		$ -
	Subtotal				$ -
IV	**Engineer Cover System**				
	Sub-base layer (6" General Fill)		cy		$ -
	Geosynthetic Clay Liner		sf		$ -
	60 mil HDPE Liner		sf		$ -
	Geonet Drainage Layer		sf		$ -
	Protective Geotextile		sf		$ -
	18" General Clean Fill		cy		$ -
	6" Topsoil		cy		$ -
	Mulching/Seeding		,000 f		-
	Subtotal				$ -
V.	**Construction**				
	Direct Construction Total (DCT)				$ -
	Indirect Construction (20% of DCT)				$ -
	Construction Total				$ -
VI.	**Predesign Investigation (Total)**				
	Supplemental Ground Water Investigation				
	Building Survey				
	Soil/Sediment Characterization				

ATTACHMENT D

Guidance Documents

1. Guidance for the Submission and Use of Data in GIS compatible formats
The "Guidance for the Submission and Use of Data In GIS Compatible Formats Pursuant to "Technical Requirements for Site Remediation" (TECHGIS2)" is available on the Site Remediation Web page at:
http://www.nj.gov/dep/srp/guidance/techgis/

2. Field Sampling Procedures Manual
http://www.nj.gov/dep/srp/guidance/fspm/

The August 2005 edition of NJDEP's Field Sampling Procedures Manual replaces the 1992 edition as the most current technical guidance associated with procedures and equipment utilized for the collection of environmental samples. It also represents the first edition published on the World Wide Web, which brings the benefit of improved access to information for the public and regulated community.
The primary intent of the manual has always been to promote accuracy and consistency when environmental samples are collected and prepared for chemical analysis by public and private entities. The validity of analytical data is directly dependent upon the integrity of the field procedures employed to obtain a sample. The methods and procedures described herein are intended for use by those State of New Jersey regulatory agencies that require chemical, physical and certain biological analysis of samples for remedial evaluation and monitoring purposes. Since these methods are applicable to such a wide variety of regulatory programs throughout the Department, any site and/or regulatory specific questions/ issues regarding a particular sampling technique must be discussed with the applicable program personnel prior to going out into the field.

3. Vapor Intrusion Guidance
http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig.htm

The NJDEP has finalized the Vapor Intrusion Guidance (October 2005) document to provide assistance in the evaluation of contaminated sites. The document has been modified after consideration of the latest state of the science and comments received on the draft document after it was placed on the web site for external review in June 2005.

The document consists of a phased approach to investigate the vapor intrusion (VI) pathway that follows the basic provisions of the USEPA Draft Vapor Intrusion Guidance, while incorporating New Jersey specific factors/policies, when appropriate. The guidance includes a discussion of the VI pathway, VI screening levels to be used in the evaluation of a site, sampling and analytical requirements, site-specific screening options, remedial options, monitoring and maintenance requirements, community outreach, and a methodology to evaluate background air concentrations.

4. Low- flow purging and sampling guidance
http://www.nj.gov/dep/srp/guidance/lowflow/

The procedures in this guidance document are specific to Low-Flow Purging and Sampling (LFPS) of monitor wells in New Jersey.

5. Field Analysis Manual
http://www.nj.gov/dep/srp/guidance/fam/

This manual will provide technical guidance on how to comply with the department's Technical Requirements for Site Remediation (N.J.A.C. 7:26E) with regard to field analysis and will promote greater consistency and enhance the department's ability to evaluate sample results. The procedures and quality assurance/quality control requirements have been placed into one document so that it is clear to those individuals performing field analysis what is expected of them. The manual includes method summaries, advantages and disadvantages, detectable compounds and quality assurance/quality control requirements. Each project contains variables that must be factored into a final field analysis plan, but use of this manual will provide a level of confidence when presenting the field analysis portion of a project plan for the department's review.

6. Remediation Standards
http://www.nj.gov/dep/srp/guidance/rs/

On June 2, 2008, the Department adopted new Remediation Standards rules at N.J.A.C. 7:26D. The soil remediation standards contained in those rules are effective on June 2, 2008. The ground water and surface water remediation were previously effective at N.J.A.C. 7:26E-1.13. The Remediation Standards rules and Basis and Background documents are available at http://www.nj.gov/dep/srp/regs/rs/.

7. NJDEP Environmental Standards
http://www.nj.gov/dep/standards/

This is an electronic compendium of standards for water and soil that are promulgated by the New Jersey Department of Environmental Protection. Included are Surface Water Quality Standards, N.J.A.C. 7:9B; Ground Water Quality Standards, N.J.A.C. 7:9C; Drinking Water Quality Standards, N.J.A.C. 7:10; and soil remediation standards from the Remediation Standards, N.J.A.C. 7:26D.
This compendium includes the standards and information about the basis for the standards contained in the above referenced rules. Please refer to the applicable rules for the official information about the standards currently in effect and how the Department administers them. Information on obtaining official versions of Department rules is available on the Department's Web site at http://www.state.nj.us/dep/legal/get_rule.htm.

8. Guidance Document for the Remediation of Contaminated Soils
http://www.nj.gov/dep/srp/regs/soilguide/

Although this Guidance Document for the Remediation of Contaminated Soils provides assistance in choosing an appropriate action at a specific site, the reader is reminded that the Technical Requirements N.J.A.C.7:26E is the complete and final technical authority for the remediation process. It includes an extensive, although not comprehensive, list of remedial actions that have proven track records or have been stated as being effective by USEPA for remediating soil impacted by particular contaminants. Non-inclusion of a specific type of remedial action in this guidance document does not preclude its use or indicate that it will not be effective for a particular contaminant or situation. It will, however, require justification on a technical basis. Natural attenuation will be considered on a case-by-case basis.

This guidance document describes four types of remedial actions: excavation, treatment, reuse, and capping. Each type is described in its own section but is not intended to provide extensive information on sampling or investigative procedures at a site. Refer to the Technical Requirements (see next section) and the NJDEP Field Sampling Procedures Manual http://www.nj.gov/dep/srp/guidance/fspm/.

9. Remedial Action Workplan Guidance
http://www.nj.gov/dep/srp/guidance/rawguide/

This guidance is provided to assist responsible parties who are required to prepare and submit a Remedial Action Workplan (RAW) to the New Jersey Department of Environmental Protection for the purpose of remediating a contaminated site. It is important to note that this guidance is not intended to replace or supersede the Technical Requirements for Site Remediation, N.J.A.C. 7:26E, rather, it has been developed to assist in the preparation of RAWs developed in accordance with these rules.

10. Disperse Ground Water Model for MTBE or TBA
http://www.nj.gov/dep/srp/dl/disperse.exe

Disperse.exe is a self-extracting archive file.
Disperse is an easy to use program which predicts the size and duration of an MTBE or TBA plume using a classic Advection/Dispersion equation. The program will quickly provide a conservative estimate using data normally collected during a remedial investigation. No computer or modeling expertise is required.

11. Alternative Ground Water Sampling Techniques Guide
http://www.nj.gov/dep/srp/guidance/agws/ (July 1994)

The Department's July 1994 Alternative Ground Water Sampling Techniques Guidance Document provides a compilation of six (6) alternative methods for the acquisition of ground water samples in lieu of monitoring well installation. This document should be used in conjunction with the NJDEP Field Sampling Procedures Manual, the Site Remediation Program Field Analysis Manual, and the Technical Requirements for Site Remediation (N.J.A.C. 7:26E) . See N.J.S.A.46:8D-1 et seq.