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N.J.A.C. 7:26E  
TECHNICAL REQUIREMENTS FOR SITE REMEDIATION

Statutory authority  
N.J.S.A. 13:1D et seq., 13:1E et seq., 13:1K-6 et seq., 58:10-23.11a et seq., 58:10A-1 et seq.,  
58:10A-21 et seq., and 58:10B-1 et seq.

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May 7, 2012

For the regulatory history and effective dates see the Administrative Code

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## SUBCHAPTER 1. GENERAL INFORMATION

### 7:26E-1.1 Scope

(a) This chapter establishes the technical requirements to remediate a contaminated site and ensure that the remediation is protective of public health and safety and of the environment.

(b) The remediation performed pursuant to this chapter does not relieve any person from:

1. Complying with more stringent requirements or provisions imposed by any other Federal, State or local applicable statutes or regulations; or
2. Obtaining any and all permits required by Federal, State, or local statute or regulation, except as expressly provided herein.

(c) The person responsible for conducting the remediation shall conduct any additional remediation the Department determines is necessary to protect public health and safety and the environment from contamination.

### 7:26E-1.2 Liberal construction

These rules, being necessary to promote the public health and welfare, and to protect the environment, shall be liberally construed in order to permit the Commissioner and the Department to effectuate the purposes of N.J.S.A. 13:1D-1 et seq., 13:1E-1 et seq., 13:1K-6 et seq., 13:1K-15 et seq., 58:10-23.11a et seq., 58:10A-1 et seq., 58:10A-21 et seq., 58:10B-1 et seq., and 58:10C-1 et seq.

### 7:26E-1.3 Applicability

These rules apply to any person to whom the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C, apply.

### 7:26E-1.4 Severability

If any section, subsection, provision, clause or portion of these regulations is adjudged invalid or unconstitutional by a court of competent jurisdiction, the remainder of these regulations shall not be affected thereby.

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7:26E-1.5 General remediation requirements

(a) The person responsible for conducting the remediation shall conduct remediation pursuant to this chapter and N.J.A.C. 7:26C-1.2;

(b) Any person conducting remediation pursuant to this chapter shall apply, pursuant to N.J.A.C. 7:26C-1.2(a)3, any available and appropriate technical guidance concerning site remediation as issued by the Department, or shall provide a written rationale and justification for any deviation from guidance. The Department's technical guidance can be found on the Department's website at [www.nj.gov/dep/srp/srra/guidance](http://www.nj.gov/dep/srp/srra/guidance).

(c) The person responsible for conducting the remediation of a site shall remediate:

1. To comply with the Remediation Standards, N.J.A.C. 7:26D; or

2. To comply with the standards or criteria developed by the Department under N.J.S.A. 58:10B-12a for that site prior to June 2, 2008, provided:

i. A remedial action workplan or a remedial action report containing standards or criteria developed for the site under N.J.S.A. 58:10B-12a was submitted to the Department before December 2, 2008;

ii. The remedial action workplan or a remedial action report meets the requirements of N.J.A.C. 7:26E-5.5 or N.J.A.C. 7:26E-5.7, respectively, and is approved as written by a licensed site remediation professional; and

iii. The standards or criteria developed by the Department under N.J.S.A. 58:10B-12a for the site are not greater by an order of magnitude, than the remediation standards otherwise applicable under N.J.A.C. 7:26D.

(d) All work being conducted at a site pursuant to this chapter shall be documented and included in reports which contain the information required pursuant to the reporting sections of N.J.A.C. 7:26E-1 through 5.

(e) The person responsible for conducting the remediation has a continuing obligation to ensure that the Department receives all complete, accurate and relevant information regarding remediation performed pursuant to this chapter.

(f) The person responsible for conducting the remediation shall provide site specific information and documents related to remediation at a site when, and in the manner, requested by the Department.

(g) All borings and wells must be installed and decommissioned pursuant to the Well Construction and Maintenance; Sealing of Abandoned Wells rules, N.J.A.C. 7:9D.

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(h) The person responsible for conducting the remediation may return excavated soil from drill cuttings or test pit excavations to the original location provided that:

- i. Drill cuttings are returned in accordance with the Well Construction and Maintenance; Sealing of Abandoned Wells rules, N.J.A.C. 7:9D;
- ii. Neither free product nor residual product is present;
- iii. The contamination present is addressed as part of the remediation of the area of concern in compliance with this chapter; and
- iv. The replacement of the soil does not pose any additional threat to public health, safety, or the environment.

(i) The person responsible for conducting the remediation who is conducting remediation in the Pinelands shall do so consistent with the provisions of the Pinelands Protection Act, N.J.S.A. 13:18A-1 et seq. and any rules promulgated pursuant thereto, and with section 502 of the National Parks and Recreation Act of 1978, 16 U.S.C. § 4711, and shall:

1. Submit to the New Jersey Pinelands Commission copies of all final reports or workplans for preliminary assessments, site investigations, remedial investigations and remedial actions submitted to the Department pursuant to this chapter at the same time the document is submitted to the Department;
2. Submit, for approval, a completed New Jersey Pinelands Commission application for development with a copy of the remedial action workplan or remedial design and construction documents to the New Jersey Pinelands Commission prior to implementing a remedial action;
3. Not commence any construction activity until the New Jersey Pinelands Commission approves the remediation in writing; and
4. Send the information required pursuant to this subsection to the New Jersey Pinelands Commission at the following address:

New Jersey Pinelands Commission  
P.O. Box 359  
15 Springfield Road  
New Lisbon, NJ 08064

#### 7:26E-1.6 General reporting requirements

(a) The person responsible for conducting the remediation shall:

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1. Submit all documents, forms, spreadsheets and worksheets required in this chapter to the Department pursuant to N.J.A.C. 7:26C-1.6. All forms and spreadsheets are available on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms). Except as specifically noted within this chapter, the forms, spreadsheets, and worksheets required by this section require information identifying the site, the responsible entity and the licensed site remediation professional, the certifications of the licensed site remediation professional and responsible entity submitting the data, and a summary of key data and conclusions, as applicable, associated with the technical information or document(s) with which they are required to be submitted;

2. Certify, and have the licensed site remediation professional certify, pursuant to N.J.A.C. 7:26C-1.5, all forms and documents prepared to pursuant to this chapter;

3. Submit a completed case inventory document worksheet available on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms) at the front of each remedial phase workplan and report required by this chapter, except for a preliminary assessment report where no areas of concern were identified;

4. Submit a quality assurance project plan prepared pursuant to N.J.A.C. 7:26E-2.2 with each remedial phase workplan and report required by this chapter, except for a preliminary assessment report and remedial action report;

5. Except where a final remediation document for unrestricted use is filed with the Department within one year after the earliest applicable trigger to remediate listed in N.J.A.C. 7:26C-2.2, submit all sampling data electronically in a summary table using the format outlined in the Site Remediation Program's "Electronic Data Interchange Manual," available at [www.nj.gov/dep/srp/hazsite/docs/](http://www.nj.gov/dep/srp/hazsite/docs/), in effect as of the date the document is submitted and include:

i. The following locational information:

(1) Horizontal data points reported in New Jersey state plane coordinates using the North American Datum of 1983 (NAD 1983), in accordance with the Department's Geographic Mapping and Digital Data Standards found in Appendix A of the General Practice and Procedure rules at N.J.A.C. 7:1D Appendix A, using units of U.S. survey feet; and

(2) Locational information collected in latitude and longitude converted to New Jersey state plane coordinates. Conversion programs are available at [www.nj.gov/dep/srp/hazsite/help/software/](http://www.nj.gov/dep/srp/hazsite/help/software/);

ii. All vertical data points reported as depth below ground surface, and in mean sea level using the North American Vertical Datum of 1988 (NAVD 1988) in accordance with the Department's Geographic Mapping and Digital Data Standards found in Appendix A of the General Practice and Procedure rules at N.J.A.C. 7:1D Appendix A.

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iii. A metadata file for each submission of electronic data that contain locational information in accordance with the Department's Geographic Mapping and Digital Data Standards found in Appendix A of the General Practice and Procedure rules at N.J.A.C. 7:1D Appendix A; and

6. Submit a geographic information system (GIS) compatible site plan that includes the site boundaries and the location of all areas of concern as polygons. For assistance see [www.nj.gov/dep/srp/guidance/techgis/](http://www.nj.gov/dep/srp/guidance/techgis/).

(b) The person responsible for conducting the remediation shall include, in each remedial phase workplan and report, the following information:

1. The physical setting of the site that includes a general description of soils, geology, hydrology, hydrogeology, and topography of the site and surroundings;

2. A description of any significant events or seasonal variations that may have influenced sampling procedures or analytical results;

3. A description of the results and implications of field measurements or area-specific changes in sampling protocol due to field conditions;

4. A list of:

i. All variances from the requirements of this chapter submitted pursuant to N.J.A.C. 7:26E-1.7; and

ii. All rationales submitted for deviations from any technical guidance pursuant to N.J.A.C. 7:26C-1.2(a)3;

5. The applicable regulatory timeframe, including:

i. Regulatory citation of the regulatory timeframe; and

ii. Calendar date of the regulatory timeframe;

6. A summary table(s), organized by area of concern, of all sampling results, including sample location, medium, sample depth, field and laboratory identification numbers, analytical results, and comparison to remediation standards, and the following:

i. Identification of each contaminant concentration exceeding a remediation standard;

ii. Identification of each sample with a method detection limit or a practical quantitation level that exceeds a remediation standard, along with an explanation in the table key; and



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iii. A report of all soils and solids sample results in milligrams per kilogram on a dry weight basis, aqueous sample results in micrograms per liter, and air results in micrograms per cubic meter;

7. For soil borings, test pits and monitoring wells:

i. Stratigraphic logs, which include soil/rock physical descriptions and field instrument readings detected during drilling for each soil boring, test pit and monitoring well;

ii. State permit numbers and as-built specifications, if applicable; and

iii. Monitoring well certification forms A (the well construction as built certification) and B (the well location certification) available on the Department's website at [www.nj.gov/dep/srp/regs/guidance.htm](http://www.nj.gov/dep/srp/regs/guidance.htm). Form A requests such information as well owner and permit information, site identification information, and a summary of specific well construction information, and Form B requests such information as well location and elevation information and a land surveyor's certification.;

8. Maps and figures, with map scale and orientation, including:

i. Site location, land use, receptor evaluation, and area of concern maps;

ii. Sample location map(s), that include the following:

(1) Field identification numbers for all samples;

(2) Sample locations, sample depths and contaminant concentrations plotted on the map; and

(3) If data for more than 25 samples are presented for an area of concern, soil, ground water and sediment contaminant isopleth maps and cross section diagram(s), including the horizontal and vertical distribution of contaminants in each media, with sample point location numbers and contaminant concentrations; and

iii. Ground water elevation contour maps showing the location of all monitoring wells, piezometers, or other ground water sampling points, for each set of static ground water level measurements for each aquifer;

9. A discussion of the usability of laboratory analytical data; and

10. A description of the significance of information generated in the library search of tentatively identified compounds and unknown compounds.

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#### 7:26E-1.7 Variance from the technical requirements

(a) Except as provided in (b) below, the person responsible for conducting the remediation may vary from the technical requirements in N.J.A.C. 7:26E-1 through 5 provided that person submits the following technical information, and a variance form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), prior to varying from any technical requirement:

1. The regulatory citation for the technical requirement;
2. A description of how the proposed variance deviates from the cited regulatory requirement; and
3. The rationale for varying from the cited technical requirement that includes supporting information as necessary to document that the requested variance will:
  - i. Provide results that are verifiable and reproducible;
  - ii. Achieve the objectives of the cited technical requirement; and
  - iii. Further the attainment of the purpose of the specific remedial phase.

(b) The person responsible for conducting the remediation shall not vary from any of the following applicable requirements:

1. A regulatory timeframe, site-specific expedited timeframe, or mandatory timeframe;
2. A requirement to obtain or comply with a permit;
3. A requirement to submit a document;
4. A requirement to comply with a remediation standard;
5. A requirement to comply with a quality assurance laboratory requirement; or
6. A requirement to obtain the Department's prior approval.

#### 7:26E-1.8 Definitions

The following words and terms, when used in this chapter, shall have the following meanings unless context clearly indicates otherwise:

"Alkane" means any hydrocarbons that contain only carbon-hydrogen and carbon-carbon single bonds.

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"Alternative fill" means material to be used in a remedial action that contains contaminants in excess of the most stringent soil remediation standards, site-specific alternative standards, or site-specific interim standards and does not contain free liquids. This also includes any material that contains contaminants in excess of criteria or action levels for contaminants without standards available on the Department's website at [www.nj.gov/dep/srp](http://www.nj.gov/dep/srp). Alternative fill can be soil or non-soil.

"Aquifer" means "aquifer" as defined in the Ground Water Quality Standards, N.J.A.C. 7:9C-1.4.

"Area of concern" means any existing or former distinct location or environmental medium where any hazardous substance, hazardous waste, or pollutant is known or suspected to have been discharged, generated, manufactured, refined, transported, stored, handled, treated, or disposed, or where any hazardous substance, hazardous waste, or pollutant has or may have migrated, including, but not limited to, each current and former:

1. Storage tank and appurtenance, including, without limitation each:
  - i. Above ground or underground storage tank and silo;
  - ii. Rail car;
  - iii. Piping, above and below ground pumping station, sump and pit; and
  - iv. Loading and unloading area;
2. Storage and staging area, including each:
  - i. Storage pad and area;
  - ii. Surface impoundment and lagoon;
  - iii. Dumpster; and
  - iv. Chemical storage cabinet or closet;
3. Drainage system and area, including, without limitation each:
  - i. Building floor drain and piping, sump and pit, including each trench and piping from each sink that potentially receives process waste;
  - ii. Roof leader (when process operations vent to roof);
  - iii. Drainage swale and culvert;
  - iv. Storm sewer collection system;

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- v. Storm water detention pond and fire pond;
  - vi. Surface water body;
  - vii. Leach field; and
  - viii. Dry well and sump;
4. Discharge and disposal area, including, without limitation each:
- i. Area of a discharge pursuant to N.J.A.C. 7:1E;
  - ii. Waste pile as defined by N.J.A.C. 7:26;
  - iii. Waste water treatment, collection and disposal system, including, without limitation, each, septic system, seepage pit and dry well;
  - iv. Landfill;
  - v. Landfarm;
  - vi. Sprayfield;
  - vii. Incinerator; and
  - viii. Historic fill material area or any other fill area;
5. Other areas of concern, including, without limitation each:
- i. Electrical transformer and capacitor;
  - ii. Hazardous substance storage or handling area;
  - iii. Waste treatment area;
  - iv. Discolored area or spill area;
  - v. Open area away from production operations;
  - vi. Area with stressed vegetation;
  - vii. Other discharge area;
  - viii. Underground piping including industrial process sewer;

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- ix. Compressor vent discharge;
  - x. Non contact cooling water discharge;
  - xi. Area that may have received floodwater or stormwater runoff from any area of concern; and
  - xii. Any area suspected of containing contaminants;
6. Environmental medium, including:
- i. Ground water;
  - ii. Surface water;
  - iii. Sediment;
  - iv. Soil, including soil vapor pore spaces; and
  - v. Air.

"Building" means a permanent enclosed construction on land, having a roof, door(s) and usually window(s) that is or can be occupied by humans, and is utilized for activities such as residential, commercial, retail, or industrial activities.

"Change in use" means a change in the existing use at an area of concern to a school, child care center or residence. Change in use also applies if a school, child care center or residence moves from an upper floor to the lowest level floor in the building.

"Child care center" means any facility as defined as such at N.J.S.A. 30:5B-1 et seq.

"Clean fill" means material to be used in a remedial action that meets all soil remediation standards, site-specific alternative standards, or site-specific interim standards, does not contain extraneous debris or solid waste, and does not contain free liquids. This also includes any material that meets all criteria or action levels for contaminants without standards, available on the Department's website at [www.nj.gov/dep/srp](http://www.nj.gov/dep/srp). This material can be soil or non-soil.

"Commissioner" means the Commissioner of the Department of Environmental Protection, or his or her authorized representative.

"Containment" means actions to limit or prevent discharges or the spread of contamination.

"Contaminated site" means all portions of environmental media and any location where contamination is emanating, or which has emanated there from, that contain one or more contaminants at a concentration above any remediation standard or screening criterion.

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"Contamination" or "contaminant" means any discharged hazardous substance as defined pursuant to N.J.S.A. 58:10-23.11b, hazardous waste as defined pursuant to N.J.S.A. 13:1E-38, or pollutant as defined pursuant to N.J.S.A. 58:10A-3.

"Contract laboratory program" or "CLP" means a program of chemical analytical services developed by the EPA to support the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by Superfund Amendments and Reauthorization Act of 1986 (CERCLA), 42 U.S.C. §§ 9601 et seq.

"Currently known extent" or "CKE" means the aerial extent of ground water in which concentrations of one or more contaminants exceed any applicable ground water remediation standard.

"Day" means calendar day.

"Deed notice" means a document defined as such pursuant to the Administrative Requirements for the Remediation of Contaminated Sites, at N.J.A.C. 7:26C-1.3.

"Department" means the New Jersey Department of Environmental Protection.

"Discharge" means any intentional or unintentional action or omission resulting in the releasing, spilling, leaking, pumping, pouring, emitting, emptying or dumping of a hazardous substance, hazardous waste or pollutant into the waters or onto the lands of the State, or into waters outside the jurisdiction of the State when damage may result to the lands, waters, or natural resources within the jurisdiction of the State.

"Discrete area discharge" means a discharge that only results in less than or equal to 300 cubic yards of contaminated soil. Historic fill is not a discrete area discharge.

"Ecological screening criteria" means the criteria used in an ecological evaluation to screen contaminants in surface water, sediment, and soil. The ecological screening criteria are available on the Department's website at [www.nj.gov/dep/srp/guidance/ecoscreening](http://www.nj.gov/dep/srp/guidance/ecoscreening).

"Effective water solubility" means the theoretical aqueous solubility of an organic constituent in ground water that is in chemical equilibrium with a separate phase mixed product (product containing several organic chemicals). The effective water solubility of a particular organic chemical can be estimated by multiplying its mole fraction in the product mixture by its pure phase solubility.

"Engineered response action" means an engineered system that is designed and implemented to reduce the risk of human exposure to contamination from an IEC to or below acceptable standards.

"Engineering control" means any physical mechanism to contain or stabilize contamination or ensure the effectiveness of a remedial action. An engineering control may include, without limitation a cap, cover, building, dike, trench, leachate collection system, fence, physical access

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control, and ground water containment system including, without limitation, a slurry wall and a ground water pumping system.

"Environmental medium" means any component such as soil, air, sediment, ground water, or surface water.

"Environmentally sensitive natural resource" means an area defined at N.J.A.C. 7:1E-1.8(a), or an area or resource that is protected or managed pursuant to the Pinelands Protection Act, N.J.S.A. 13:18A-1 et seq., and the Pinelands Comprehensive Management Plan, N.J.A.C. 7:50.

"EPA" means the United States Environmental Protection Agency.

"Explosive condition" means an atmosphere with a concentration of flammable vapors at or above 10 percent of the lower explosive limit.

"Final remediation document" means any document defined as such pursuant to the Administrative Requirements for the Remediation of Contaminated Sites, at N.J.A.C. 7:26C-6.

"Free liquid" means a liquid as determined by the paint filter liquids test (SW-846 Method 9095B) or an equivalent method.

"Free product" means a separate phase material, present at a concentration greater than a contaminant's residual saturation point, as determined pursuant to the methodologies described in N.J.A.C. 7:26E-2.1(a)14. This definition applies to solids, liquids, and semi-solids.

"Full laboratory data deliverables" means those laboratory data deliverables listed in Appendix A, Section I, of this chapter.

"Geotextile fabric" means a permeable fabric made of woven or non-woven (needle punch or heat bonded) polyester or polypropylene which, when used in association with soil, has the ability to separate, filter, reinforce, protect, or drain.

"Ground water" means any water defined as such pursuant to the Ground Water Quality Standards, N.J.A.C. 7:9C-1.4.

"Ground water classification exception area" or "ground water CEA" means any such area defined by the Ground Water Quality Standards, N.J.A.C. 7:9C-1.6.

"Hazardous waste" means any solid waste as defined in the Solid Waste Regulations, N.J.A.C. 7:26-1.4, that is further defined as a hazardous waste pursuant to the Hazardous Waste Regulations, N.J.A.C. 7:26G.

"Historic fill material" means non-indigenous material, deposited to raise the topographic elevation of the site, which was contaminated prior to emplacement, and is in no way connected with the operations at the location of emplacement and which includes, without limitation, construction debris, dredge spoils, incinerator residue, demolition debris, fly ash, or non-

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hazardous solid waste. Historic fill material does not include any material that is substantially chromate chemical production waste or any other chemical production waste or waste from processing of metal or mineral ores, residues, slag or tailings. In addition, historic fill material does not include a municipal solid waste landfill site.

"Immediate environmental concern" or "IEC" means a condition where any of the following types of contamination, or any of the following conditions related to a discharge, are found:

1. Contamination in a well used for potable purposes at a concentration above any Class II ground water quality standard pursuant to N.J.A.C. 7:9C – Appendix Table 1;
2. Contamination in indoor air at a level greater than the Department's vapor intrusion rapid action level as found at [http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig\\_tables.pdf](http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig_tables.pdf);
3. Contamination that has migrated into an occupied or confined space producing a toxic or harmful atmosphere resulting in an unacceptable human health exposure, or producing an oxygen-deficient atmosphere, or resulting in demonstrated physical damage to essential underground services;
4. Contamination in surface soil such that dermal contact, ingestion, or inhalation of the contamination could result in an acute human health exposure; or
5. Any other condition that poses an immediate threat to the environment or to the public health and safety.

For the purpose of this definition, an “unacceptable human health exposure” is based on an evaluation of site specific conditions and the toxicity of the contaminant present. An oxygen-deficient atmosphere is defined as any atmosphere containing oxygen at a concentration below 19.5% at sea level and an acute health exposure means that an adverse human health impact could result from an exposure of less than 2 weeks to a contaminant. The potential for exposure is based on site-specific conditions, and therefore, the person responsible for conducting the remediation shall evaluate the reasonable likelihood of exposure.

"Industrial establishment" means any establishment defined as such pursuant to the Industrial Site Recovery Act rule, N.J.A.C. 7:26B-1.4.

"Injury" means any adverse change or impact of a discharge on a natural resource or impairment of a natural resource service, whether direct or indirect, long term or short term, and that includes the partial or complete destruction or loss of the natural resource or any of its value.

"Institutional control" means a mechanism used to provide notice of residual contamination and therefore, the need to limit human activities at or near a contaminated site in order to ensure the effectiveness of the remedial action over time. Institutional controls may include, without



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limitation, structure, land, and natural resource use restrictions, well restriction areas, ground water classification exception areas, deed notices, and declarations of environmental restrictions.

"Interim response action" means an interim action implemented prior to the engineered response action with the goal of reducing the risk from contamination to humans to or below acceptable standards.

"Landfill" means a sanitary landfill as defined pursuant to the Solid Waste Rules at N.J.A.C. 7:26-1.4.

"Licensed site remediation professional" or "LSRP" means a person defined as such pursuant to the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-1.3.

"Light non-aqueous phase liquid" or "LNAPL" means a separate and immiscible phase liquid when in contact with water or air, can exist as a continuous phase (mobile) or a discontinuous mass (immobile) and is less dense than water at ambient temperature.

"Limited restricted use remedial action" means any remedial action that requires the continued use of institutional controls but does not require the use of an engineering control in order to meet the established health risk or environmental standards.

"Loose fill surface" means a playground surfacing material as defined in the U.S. Consumer Product Safety Commission's Handbook for Public Playground Safety (Pub. No. 325 dated 2008; as amended and/or supplemented), incorporated herein by reference.

"Method detection limit" or "MDL" means the minimum concentration of a substance that can be measured and reported with a 99 percent confidence that the analyte concentration is greater than zero and is determined from the analysis of a sample in a given matrix containing the analyte.

"Natural resources" means all land, fish, shellfish, wildlife, biota, air, waters and other such resources owned, managed, held in trust or otherwise controlled by the State.

"New construction" means the construction of a building or other site improvement including an addition to an existing building that will extend the footprint of the building.

"Non-targeted compound" means a compound detected in a sample using a specific analytical method that is not a targeted compound, a surrogate compound, a system monitoring compound, a deuterated monitoring compound or an internal standard compound.

"Person" means a person defined as such pursuant to the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-1.3.

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"Person responsible for conducting the remediation" means any person defined as such pursuant to the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-1.3.

"Pinelands" means the Pinelands National Reserve and the Pinelands Area as defined by the Comprehensive Management Plan, N.J.A.C. 7:50.

"Pollutant" means any substance defined as such pursuant to the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.

"Potable water" means any water defined as such by the Safe Drinking Water Act rules, N.J.A.C. 7:10-1.3.

"Practical quantitation level" or "PQL" means the lowest quantitation level of a given analyte that can be reliably achieved among laboratories within the specified limits of precision and accuracy of a given analytical method during routine laboratory operating conditions.

"Preliminary assessment" means the first phase in the process of identifying areas of concern and determining whether contaminants are or were present at a site or have migrated or are migrating from a site, and shall include the initial search for and evaluation of, existing site specific operational and environmental information, both current and historic, to determine if further investigation concerning the documented, alleged, suspected or latent discharge of any contaminant is required.

"Property boundary" means the boundaries of the municipal tax block and lot upon which an area of concern is located.

"Quality assurance" means the total integrated program for assuring the reliability of monitoring and measurement data, which includes a system for integrating the quality planning, quality assessment and quality improvement efforts to meet data end-use requirements.

"Quality assurance project plan" or "QAPP" means a document that presents in specific terms the policies, organization, objectives, functional activities and specific quality assurance/quality control activities involved with the acquisition of environmental information designed to achieve the data quality goals or objectives of a specific project or operation.

"Quality control" means the application of procedures for attaining prescribed standards of performance in the monitoring and measurement process.

"Receptor" means a human or a natural resource.

"Reduced laboratory data deliverables" means the laboratory data deliverables listed in Appendix A, Section II.

"Remedial action" means those actions taken at a contaminated site as may be required by the Department, including, without limitation, removal, treatment measures, containment,

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transportation, securing, or other engineering or institutional controls, whether to an unrestricted use or otherwise, designed to ensure that any contaminant is remediated in compliance with the applicable remediation standards. A remedial action continues as long as an engineering control or an institutional control is needed to protect the public health and safety and the environment, and until all unrestricted use remediation standards are met.

"Remedial investigation" means a process to determine the nature and extent of a discharge of a contaminant at a site or a discharge of a contaminant that has migrated or is migrating from the site and the problems presented by a discharge, and may include data collected, site characterization, sampling, monitoring, and the gathering of any other sufficient and relevant information necessary to determine the necessity for remedial action.

"Remedial phase" means a distinct component of the remediation process. Such components include, without limitation, the preliminary assessment, site investigation, remedial investigation, and remedial action.

"Remediation" or "remediate" means all necessary actions to investigate and cleanup or respond to any known, suspected, or threatened discharge, including, as necessary, the preliminary assessment, site investigation, remedial investigation and remedial action; provided, however, that "remediation" or "remediate" shall not include the payment of compensation for damage to, or loss of, natural resources.

"Remediation costs" means costs defined as such pursuant to the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-1.3.

"Remediation standards" means the standards defined as such pursuant to the Remediation Standards rules, N.J.A.C. 7:26D.

"Reporting limit" means, for a compound analyzed by a particular method, the sample equivalent concentration (i.e., based on sample specific preparation and analysis factors) associated with the lowest concentration standard used in the calibration of the method.

"Residential type I" means any area not a residential type II.

"Residential type II" means an area under the control or authority of an entity or person, other than the occupant, who has the legal authority to preclude anyone from disturbing an engineering control.

"Residual product" means a separate phase material present in concentrations below a contaminant's residual saturation point, retained in soil or geologic matrix pore spaces or fractures by capillary forces, as determined pursuant to the methodologies described in N.J.A.C. 7:26E-2.1(a)14. This definition applies to solids, liquids, and semi-solids.

"Residual saturation point" means the saturation point below which non-aqueous phase liquid becomes discontinuous and is immobilized by capillary forces, and fluid drainage will not occur.

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"Restricted use remedial action" means any remedial action that requires the continued use of engineering and institutional controls in order to meet the established health risk or environmental standards.

"School" means 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.

"Semivolatile organic compound" means a compound amenable to analysis by the extraction of the sample with an organic solvent.

"Site investigation" means the collection and evaluation of data adequate to determine whether or not discharged contaminants exist at a site or have migrated or are migrating from the site at levels of excess of the applicable remediation standards. A site investigation shall be developed based upon the information collected pursuant to the preliminary assessment.

"Soil" means the unconsolidated mineral and organic matter on the surface of the earth that has been subjected to and influenced by geologic, biologic, and other environmental factors.

"Soil gas" means vapors or gases present in unsaturated pore spaces of subsurface material.

"Surface water" means water defined as surface water pursuant to the Surface Water Quality Regulations, N.J.A.C. 7:9B.

"Surface Water Quality Standards" means the standards at N.J.A.C. 7:9B.

"Target analyte list" or "TAL" means the list of inorganic compounds/elements designated for analysis as contained in the version of the EPA Contract Laboratory Program Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration in effect as of the date on which the laboratory is performing the analysis, incorporated herein by reference. For the purpose of this chapter, a Target Analyte List scan means the analysis of a sample for Target Analyte List compounds/elements.

"Target compound list plus 30" or "TCL + 30" means the list of organic compounds designated for analysis (TCL) as contained in the version of the EPA "Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration" in effect as of the date on which the laboratory is performing the analysis, and up to 30 non-targeted organic compounds (plus 30) as detected by gas chromatography/mass spectroscopy (GC/MS) analysis incorporated herein by reference. For the purposes of this chapter, a Target Compound List + 30 scan means the analysis of a sample for Target Compound List compounds and up to 15 non-targeted volatile organic compounds and up to 15 non-targeted semivolatile organic compounds using GC/MS analytical methods. Non-targeted compound criteria shall be pursuant to the version of the EPA "Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration" in effect as of the date on which the laboratory is performing the analysis.

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"Targeted compound" means a hazardous substance, hazardous waste, or pollutant for which a specific analytical method is designed and/or used to detect that potential contaminant both qualitatively and quantitatively.

"Technical guidance" means the various guidelines that the Department publishes, after stakeholder input, that reflect the generally accepted technical practices necessary to meet the statutory and regulatory requirements applicable to the remediation of a contaminated site.

"Tentatively identified compound" or "TIC" means a non-targeted compound detected in a sample using a GC/MS analytical method which has been tentatively identified using a mass spectral library search. Alkane compounds attributed to a petroleum product will be summed and reported as total alkanes. For purposes of TIC identification, the total alkanes are treated as one compound. An estimated concentration of the TIC is also determined.

"Underground storage tank" or "UST" means a regulated underground storage tank as defined pursuant to the Underground Storage Tank rules, N.J.A.C. 7:14B-1.6.

"Unitary material" means a playground surfacing material as defined in the U.S. Consumer Product Safety Commission's Handbook for Public Playground Safety (Pub. No. 325 dated 2008; as amended and/or supplemented).

"Unknown compound" means a non-targeted compound that cannot be tentatively identified. Based on the analytical method used, the estimated concentration of the unknown compound may be determined.

"Unrestricted use remedial action" means any remedial action that does not require the continued use of either engineering or institutional controls to meet the established health risk or environmental standards.

"Vapor concern" means a condition where contamination in indoor air exists at a level greater than the Department's vapor intrusion indoor air screening level but less than or equal to the Department's vapor intrusion rapid action level. Vapor intrusion indoor air screening levels and vapor intrusion rapid action levels may be found at:  
[http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig\\_tables.pdf](http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig_tables.pdf)

"Vapor intrusion" means the migration of volatile chemicals from the subsurface into overlying buildings through subsurface soils or preferential pathways (such as underground utilities).

"Visible contamination boundary marker" means a demarcation that consists of a synthetic, durable material that can be easily seen when uncovered while digging.

"Volatile organic compound" means a compound amenable to (but not exclusively by) analysis using a purge and trap technique.

"Widespread contamination" means contamination that is not a discrete area discharge.

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#### 7:26E-1.9 Green and sustainable practices

The Department encourages the use of green and sustainable practices during the remediation of contaminated sites.

#### 7:26E-1.10 Control of ongoing sources and implementation of interim remedial measures

(a) As a first priority, the person responsible for conducting the remediation shall:

1. Have a continuing responsibility to identify the need for any interim remedial measure necessary to remove, contain, or stabilize a source of contamination to prevent contaminant migration and to protect the public health and safety and the environment; and

2. Include in each remedial phase report a description of each interim remedial measure implemented and each interim remedial measure that is planned.

(b) Whenever LNAPL is measured greater than 0.01 feet in a collection point (e.g., sump, monitoring well, surface water, excavation), the person responsible for conducting the remediation shall, within 60 days after LNAPL is discovered:

1. Report the presence of LNAPL to the Department on a form available on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms). Information to be supplied by filling out the form includes:

i. Site identification information;

ii. A summary of the information describing the type of LNAPL observed and how the LNAPL was discovered;

iii. The name of the responsible entity and a certification statement; and

iv. The name of the licensed site remediation professional and a certification statement;

2. Initiate LNAPL recovery to the extent practicable, and report the status of the actions taken within this timeframe on a form available on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms). Information to be supplied by filling out the form includes:

i. Site identification information;

ii. A summary of the information describing the type of LNAPL observed, how the LNAPL was discovered, and initial recovery efforts;

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iii. The name of the responsible entity and a certification statement; and

iv. The name of the licensed site remediation professional and a certification statement.

(c) Within one year after LNAPL is discovered pursuant to (b) above, the person responsible for conducting the remediation shall:

1. Complete the delineation of the LNAPL;

2. Initiate implementation of an LNAPL interim remedial measure to prevent LNAPL migration, reduce LNAPL contaminant mass to the extent practicable and initiate monitoring of the interim remedial measure; and

3. Document the actions taken pursuant to this section and submit to the Department an LNAPL interim remedial measure report with a form available on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms).

#### 7:26E-1.11 Immediate environmental concern requirements

(a) The person responsible for conducting the remediation shall, upon the identification of any immediate environmental concern (IEC):

1. Immediately call the Department's hotline at 1-877 WARNDEP or 1-877-927-6337 and immediately notify the case manager if one is assigned;

2. Address the IEC impacts as follows:

i. Within five days after identifying a potable water IEC:

(1) Provide an interim response action to address any potable well impacted by contamination from the site that exceeds any Class II ground water quality standard; and

(2) Provide a copy and explanation of the analytical results from the potable well to the property owner, occupant (if applicable), and designated local health department;

ii. Within 14 days after identifying a vapor intrusion IEC:

(1) Provide an interim response action to address any building subject to the vapor intrusion that exceeds the Department's rapid action level (RAL) available on the Department's website at [www.nj.gov/dep/srp/srra/guidance](http://www.nj.gov/dep/srp/srra/guidance); and

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- (2) Provide a copy and explanation of the vapor intrusion analytical results to the property owner, occupant (if applicable), and designated local health department;
- iii. Within five days after identifying a direct contact IEC:
  - (1) Provide an interim response action to address any human exposure to the contamination from the site via direct contact; and
  - (2) Provide a copy and explanation of the direct contact analytical results to the property owner, occupant (if applicable), and designated local health department;
3. Within 14 days after identifying an IEC, submit the following to the Department:
  - i. A completed form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms). Information to be supplied by filling out the form includes:
    - (1) Site identification information;
    - (2) A summary of the information describing the type of IEC reported, the contaminant source, and the type of submittal being made;
    - (3) The name of the responsible entity and a certification statement; and
    - (4) The name of the licensed site remediation professional and a certification statement;
  - ii. A completed spreadsheet, found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), which contains all test results and actions taken to remediate the IEC. Information to be supplied by filling out the form includes:
    - (1) Site identification information;
    - (2) Property location and ownership information;
    - (3) Analytical results;
    - (4) A summary of the immediate response actions; and
    - (5) The name of the licensed site remediation professional and license number;
  - iii. A map indicating the location of the site, the locations of the impacted receptors, and sample locations; and
  - iv. A copy of the documentation required by (a)2i(2), (a)2ii(2) or (a)2iii(2) above;



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4. Within 14 days after receipt of the IEC analytical data from the laboratory, submit all IEC analytical results to the Department with full laboratory data deliverables with the form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);

5. Provide routine updates to the Department on the progress of addressing the IEC on a schedule set by the Department's IEC case manager;

6. Within 60 days after identifying any IEC:

i. For a potable water IEC:

(1) Implement an engineered response action by providing water treatment or an alternative water supply to address the contamination in wells with contaminant concentrations exceeding any Class II ground water quality standard. If water treatment is the selected engineered response action, a post installation sample is required and results must be reported to the property owner, occupant (if applicable), and designated local health department. The engineered response action must provide potable water to the entire building that the impacted potable well serves; and

(2) Identify and sample all potable wells, pursuant to N.J.A.C. 7:26E-1.14, within a 500 foot radius of the impacted potable well when the ground water flow direction is not known and within 500 feet side gradient and down gradient and 250 feet up gradient of the impacted well when the ground water flow direction is known. If additional impacted potable wells are identified, continue to identify and sample all potable wells pursuant to this subparagraph.

ii. For a vapor intrusion IEC:

(1) Implement an engineered response action by installing a vapor remedial action system for each building where the indoor air results exceed the Department's rapid action level. Post-installation sampling is required and the results must be reported to the property owner, occupant (if applicable), and designated local health department; and

(2) Identify and sample all buildings within 100 feet of the impacted building, identify any additional buildings whose air may be impacted and conduct additional vapor intrusion investigations pursuant to N.J.A.C. 7:26E-1.15.

iii. For a direct contact IEC implement an engineered response action that prevents physical human contact with contaminants;

7. Within 120 days after identifying any IEC, submit to the Department an IEC engineered response action report that includes the following:

i. An updated form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);

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ii. A description of all remediation performed in response to the IEC, detailing the interim response actions and engineered response actions that have been completed, including the date that each action is conducted pursuant to (a)6 above;

iii. A summary of all analytical data related to the IEC and the engineered response action;

iv. All maps and figures related to the IEC and the engineered response action;

v. An updated spreadsheet found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms); and

vi. A GIS compatible map of the currently known extent of ground water contamination, the vapor intrusion area, or the direct contact area, as applicable;

8. Within one year after identifying any IEC, identify all contaminant source areas contributing to the IEC, initiate control of all IEC contaminant source areas, and submit to the Department an IEC source control report that includes the following:

i. An updated form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);

ii. A detailed description of the all contaminant source areas identified, results of the updated receptor evaluation, the engineered response action taken at the receptor(s), and actions being implemented to remediate the IEC contaminant source;

iii. An updated spreadsheet found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);

iv. All maps and figures related to the IEC;

v. A GIS compatible map of the currently known extent of ground water contamination, the vapor intrusion area, or the direct contact area, as applicable;

vi. A data usability determination;

vii. A monitoring plan for any engineered response action; and

viii. A monitoring plan for the wells or buildings located near the wells or buildings that are impacted by the IEC;

9. Until the Department issues a remedial action permit that includes the IEC, provide annual monitoring and maintenance reports to the Department that detail the monitoring of contaminated properties and receptors and monitoring conducted for wells and buildings that are located near the wells and buildings that are impacted by the IEC.

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7:26E-1.12 Receptor evaluation - general and reporting requirements

(a) Except as provided in (b) below, the person responsible for conducting the remediation shall conduct a receptor evaluation pursuant to the requirements of this section through N.J.A.C. 7:26E-1.16 and submit a receptor evaluation pursuant to this section.

(b) The person responsible for conducting the remediation who completes an unrestricted use remedial action is not required to conduct a receptor evaluation, except as pursuant to N.J.A.C. 7:26E-1.16, when a final remediation document is filed with the Department within one year after the earliest applicable requirement to remediate, listed at N.J.A.C. 7:26C-2.2.

(c) The person responsible for conducting the remediation shall submit an initial receptor evaluation for a contaminated site, on a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), one year after the earliest applicable requirement to remediate listed at N.J.A.C. 7:26C-2.2. The person responsible for conducting the remediation shall include in the initial receptor evaluation the information that is known by that person at the time the report is submitted. Information to be supplied by filling out the form includes:

1. Site identification information;
2. A description of the known contamination;
3. A summary of the on-site and surrounding property use and the receptor evaluation;
4. The name of the responsible entity and a certification statement; and
5. The name of the licensed site remediation professional and a certification statement.

(d) The person responsible for conducting the remediation shall update the receptor evaluation when:

1. The known concentration or extent of contamination in any medium increases;
2. A new area of concern is identified;
3. A new receptor is identified; or
4. A new exposure pathway is identified.

(e) The person responsible for conducting the remediation shall submit an updated receptor evaluation on a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms) with the following documents, as applicable:

1. An IEC source control report, pursuant to N.J.A.C. 7:26E-1.11(a)8;

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2. A remedial investigation report, pursuant to N.J.A.C. 7:26E-4.9; and
3. A remedial action report, pursuant to N.J.A.C. 7:26E-5.7.

(f) The person responsible for conducting the remediation shall also send a copy of each receptor evaluation to the following according to the regulatory timeframes in this section:

1. The clerk of each municipality in which the site is located; and
2. The designated local health department.

#### 7:26E-1.13 Receptor evaluation - land use

(a) The person responsible for conducting the remediation shall conduct a receptor evaluation of land use that includes:

1. The identification of all current land uses at the site and of each property located within 200 feet of the property boundary;
2. The address of each residence, school, child care center, park, playground or other recreation area that is identified at the site and within 200 feet of the property boundary;
3. A map that shows the location of the site, the land use at the site and each property within 200 feet of the property boundary pursuant to (a) above, and the location of each residence, school, child care center, park, playground or other recreation area land use that is identified pursuant to (a)1 above; and
4. The identification and description of any proposed changes of land use at the site and of each property located within 200 feet of the property boundary that the municipality has approved, with a map depicting the location of the change in relation to the areas being remediated.

#### 7:26E-1.14 Receptor evaluation - ground water

(a) The person responsible for conducting the remediation shall conduct a receptor evaluation of ground water when any contaminant is detected in ground water in excess of any Class II ground water quality standard, as follows:

1. Within 90 days after ground water contamination is detected, conduct a well search to identify wells that may be impacted by contamination from the site as follows:
  - i. Conduct a file search of all available Department, county and local records and identify all wells located within one-half mile of each point of ground water

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contamination, and all irrigation, industrial wells, and wells with water allocation permits located within one mile of each point of ground water contamination;

ii. If there are any potable or irrigation wells within one-half mile of each point of ground water contamination, conduct a door-to-door survey to determine the existence of any unpermitted potable or irrigation wells within a 500 foot radius of each known point of ground water contamination when the ground water flow direction is not known and within 250 feet up gradient, 500 feet side gradient and 500 feet down gradient and of each known point of ground water contamination when the ground water flow direction is known;

iii. For each well, other than a monitoring well, located pursuant to (a)1i or ii above, identify the type (potable, irrigation, industrial, etc.), status (i.e., active, inactive, properly decommissioned pursuant to N.J.A.C. 7:9D), and the construction of each well;

iv. Generate a map of all well locations, except monitoring wells, borings, and other non-pumping wells, and document well information on a spreadsheet available on the Department's web site at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);

v. Document all sources used in conducting the well search, including the names of any agency that was unable to provide the information requested; and

vi. For each point of ground water contamination, determine if the ground water contamination is located within a well head protection area, available on the Department's website at [www.state.nj.us/dep/njgs/geodata](http://www.state.nj.us/dep/njgs/geodata);

2. Within 120 days after ground water contamination is detected at the site above any Class II ground water quality standard, the person responsible for conducting the remediation shall:

i. Notify the Department, on a form and spreadsheet found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), at the time that the person contacts property owners or tenants for the purpose of gaining access to conduct sampling, but no later than seven days prior to the scheduled sampling date to conduct potable well sampling. Information to be supplied by filling out the form and spreadsheet includes:

(1) Site identification information;

(2) A description of the planned sampling activities, including sampling location and date(s) sampling was conducted;

(3) The name of the responsible entity and a certification statement; and

(4) The name of the licensed site remediation professional and a certification statement;

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ii. Sample each potable well identified by the well search that is located within 500 feet of any point of ground water contamination if ground water flow direction is not known, or if ground water flow direction is known, limit sampling to wells 250 feet up gradient, 500 feet side gradient and 500 feet down gradient from any point of ground water contamination;

iii. Sample each irrigation well that may be utilized for potable purposes and is identified within 500 feet of any point of ground water contamination if ground water flow direction is not known, or if ground water flow direction is known, limit sampling to wells 250 feet up gradient, 500 feet side gradient and 500 feet down gradient from any point of ground water contamination identified by the well search when there are concerns about exposure or when information about the characteristics of the plume is needed; and

iv. When ground water contamination is located within a Tier I well head protection area, sample each community and non-community supply well within the Tier 1 well head protection area, unless pre-treatment analytical results for the chemicals of concern in ground water are available from sampling completed within the last three months; and

3. Every two years after the first trigger for a well search pursuant to (a)1 above, update the well search pursuant to (a)1i, to identify if new wells have been installed.

(b) If any contaminant is identified in excess of any Class II ground water quality standard pursuant to N.J.A.C. 7:26D-2.2(a)1 in any potable or irrigation well that may be utilized for potable purposes, then the person responsible for conducting the remediation shall conduct all actions pursuant to N.J.A.C. 7:26E-1.11, according to the schedule therein.

(c) If no contaminant is detected in any potable well sample in excess of any Class II ground water quality standard, then the person responsible for conducting the remediation shall, within 30 days after receipt of the analytical results from the laboratory:

1. Submit all analytical results to the Department with full laboratory data deliverables and a form and spreadsheet found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);

2. Provide a copy and explanation of all ground water analytical results to each property owner, occupant (if applicable), and designated local health department of the analytical results; and

3. Provide the Department with a copy of the documentation required by (c)2, above. The documentation shall be submitted pursuant to N.J.A.C. 7:26E-1.6(a).

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7:26E-1.15 Receptor evaluation - vapor intrusion

(a) The person responsible for conducting the remediation shall conduct a receptor evaluation of the vapor intrusion pathway pursuant to this section when any of the following conditions exist:

1. A volatile organic ground water contaminant is identified at a concentration greater than the vapor intrusion ground water screening level available on the Department's website at [www.nj.gov/dep/srp/srra/guidance](http://www.nj.gov/dep/srp/srra/guidance):

- i. Within 30 feet of a building and it is petroleum hydrocarbon based ; or
  - ii. Within 100 feet of a building and it is not petroleum hydrocarbon based;
2. Free product is identified:
- i. Within 100 feet of a building and it is not petroleum hydrocarbon based; or
  - ii. Within 30 feet of a building and it is petroleum hydrocarbon based; or

3. When any of the following conditions is identified:

i. Soil gas or indoor air contamination is detected at concentrations that exceed the soil gas or indoor air screening levels available on the Department's website at [www.nj.gov/dep/srp/srra/guidance](http://www.nj.gov/dep/srp/srra/guidance);

ii. A wet basement or sump in a building contains free product or ground water containing any volatile contaminant;

iii. Methane generating conditions are present that may cause an oxygen deficient environment or explosion; or

iv. Any other information that indicates that human health and safety may be impacted via the vapor intrusion pathway.

(b) Within 60 days after determining the need to conduct a receptor evaluation of the vapor intrusion pathway pursuant to (a) above, the person responsible for conducting the remediation shall:

1. Identify all buildings and subsurface utilities located within the vapor intrusion investigation trigger distances where a receptor evaluation of the vapor intrusion pathway is required pursuant to (a) above;

2. Determine the specific use and construction for each building identified, including whether each building has a basement, crawl space, or is constructed on a slab, and the approximate square footage of each building footprint;

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3. Determine the specific use, depth of the invert, diameter, and construction specifications of all subsurface utilities identified;
4. Identify whether a landfill is located on or adjacent to the site and whether methane generating conditions are present;
5. Determine the flow direction of the shallow ground water pursuant to N.J.A.C. 7:26E-4.3; and
6. Determine, pursuant to N.J.A.C. 7:26E-2.1(a)14, whether free product is present at each ground water sampling location.

(c) Within 150 days after determining the need to conduct a vapor intrusion investigation pursuant to paragraph (a) above, the person responsible for conducting the remediation shall:

1. Notify the Department on a form and spreadsheet found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms) at the time that person contacts property owners and occupants for the purpose of gaining access to conduct sampling, but no later than seven days prior to the scheduled sampling date to conduct a vapor intrusion investigation. Information to be supplied by filling out the form and spreadsheet includes:

- i. Site identification information;
  - ii. A description, location and date of the planned sampling activities;
  - iii. The name of the responsible entity and a certification statement; and
  - iv. The name of the licensed site remediation professional and a certification statement;
2. Conduct a vapor intrusion investigation by collecting an appropriate number of samples in appropriate locations;
  3. Evaluate the results of the vapor intrusion investigation by assessing the multiple lines of evidence, including a comparison of the analytical results to the Department's screening levels; and
  4. Determine if the vapor intrusion pathway is complete for each building being investigated.

(d) Except as provided in (e), (f), and (g) below, within 30 days after receipt of the analytical data concerning vapor intrusion sampling conducted pursuant to (c) above, the person responsible for conducting the remediation shall:



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1. Submit all vapor intrusion analytical results with maps and figures related to the vapor intrusion sampling to the Department with full laboratory data deliverables and a form and spreadsheet found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);

2. Provide a copy and explanation of the vapor intrusion analytical results to the property owner, occupant (if applicable), and designated local health department where a vapor intrusion investigation was conducted; and

3. Provide the Department with a copy of the explanation of the vapor intrusion analytical results submitted pursuant to (d)1, above.

(e) When any indoor air results are greater than the Department's vapor intrusion indoor air screening levels, but less than or equal to the Department's vapor intrusion rapid action level (i.e., a vapor concern), and are determined to be related to a discharge, the person responsible for conducting the remediation shall:

1. Within 14 days after receipt of the analytical results:

i. Submit notification of the exceedance of the vapor intrusion indoor air screening levels on a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);

ii. Submit all vapor intrusion analytical results with maps and figures related to the vapor intrusion sampling to the Department with full laboratory data deliverables and a form and spreadsheet found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms); and

iv. Provide a copy and explanation of the vapor intrusion analytical results to the property owner, occupant (if applicable), and designated local health department where a vapor intrusion investigation was conducted, and provide the Department with a copy of the explanation of the vapor intrusion analytical results submitted pursuant to (e)1ii, above.

2. Within 60 days after receipt of the analytical data, submit a plan to the Department to address the exposure with a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), which includes a schedule for, and a description of:

i. The actions proposed; and

ii. A monitoring plan to evaluate the effectiveness of the proposed action;

3. Within 120 days after receipt of the analytical data, implement the plan; and

4. Within 180 days after receipt of the analytical data, submit a vapor intrusion response action report to the Department, with a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), which includes:

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i. A description of all actions that have been completed, including the date that each action that was conducted;

ii. A summary of all analytical data related to the vapor intrusion investigation and response;

iii. All maps and figures related to the vapor intrusion investigation and response; and

iv. A GIS compatible map of the currently known extent of ground water contamination or a map of the vapor intrusion area;

5. Provide routine updates on the progress of the case as requested by the Department's case manager;

6. Identify and sample all buildings within 100 feet of the impacted building, identify any additional buildings at risk and conduct additional vapor intrusion investigations pursuant to this section.

(f) When any indoor air results are greater than the Department's vapor intrusion rapid action level, the person responsible for conducting the remediation shall:

1. Immediately notify the Department of an immediate environmental concern; and

2. Conduct all actions required pursuant to N.J.A.C. 7:26E-1.11;

(g) When any indoor air results are greater than the Department of Health and Senior Services notification levels for indoor air available on the Department's website at [www.nj.gov/dep/srp/srra/guidance](http://www.nj.gov/dep/srp/srra/guidance), the person responsible for conducting the remediation shall:

1. Immediately notify the Department of the immediate environmental concern;

2. Immediately notify the New Jersey Department of Health and Senior Services, Consumer and Environmental Health Services, Indoor Environments Program at 609-826-4950; and

3. Conduct all actions required pursuant to N.J.A.C. 7:26E-1.11.

(h) Within 14 days of receipt of the analytical results, the person responsible for conducting the remediation shall submit on a CD in Adobe Portable Document Format (PDF), all indoor and ambient air analytical results, including all maps and figures related to the indoor air sampling, and a sample location spreadsheet to the New Jersey Department of Health and Senior Services, Consumer, Environmental and Occupational Health Service, PO Box 360, Trenton, NJ 08625-0360.

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(i) If the person responsible for conducting the remediation identifies potentially explosive conditions in a building or subsurface utility, the person responsible for conducting remediation shall immediately:

1. Call 911 and report potentially explosive conditions to the local emergency response agency;
2. Notify the Department of the emergency condition at 1-877-WARNDEP or 1-877-972-6337; and
3. Notify the New Jersey Department of Health and Senior Services, Consumer and Environmental Health Services, Indoor Environments Program at 609-826-4950.

#### 7:26E-1.16 Receptor evaluation - ecological

(a) The person responsible for conducting the remediation shall conduct an ecological receptor evaluation as follows:

1. Determine if any environmentally sensitive natural resource, other than ground water:
  - i. Are present on the site or area of concern;
  - ii. Are adjacent to the site or area of concern; or
  - iii. May be, have been, or are impacted by contamination from the site or area of concern; and
2. Determine if any contaminant concentration is present at the site or area of concern that exceeds any ecological screening criterion or any aquatic surface water quality standard.

(b) If an environmentally sensitive natural resource is identified pursuant to (a)1 above and contaminant concentrations are present at the site or area of concern that exceed any ecological screening criterion or any aquatic surface water quality standard, then the person responsible for conducting the remediation shall conduct a remedial investigation of ecological receptors pursuant to N.J.A.C. 7:26E-4.8.

(c) If no environmentally sensitive natural resource is identified pursuant to (a)1 above, or if no contaminant concentration at the site or area of concern exceeds any ecological screening criterion or any aquatic surface water quality standard, then a remedial investigation of ecological receptors is not required.

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## SUBCHAPTER 2. QUALITY ASSURANCE FOR SAMPLING AND LABORATORY ANALYSIS

### 7:26E-2.1 Quality assurance requirements

(a) The person responsible for conducting the remediation shall ensure that all sampling and laboratory analysis are conducted as follows:

1. Laboratories or companies involved in any laboratory or field activity that provide data of known quality must have all applicable certifications for the specific parameters or categories for which certification exists pursuant to the Regulations Governing the Certification of Laboratories and Environmental Measures, N.J.A.C. 7:18;
2. For the analysis of samples for parameters or categories of parameters for which certification is not available pursuant to N.J.A.C. 7:18, the person responsible for conducting the remediation shall ensure that the selected laboratory is capable of performing the analysis and meeting the data quality objectives specified in the site specific QAPP prepared pursuant to N.J.A.C. 7:26E-2.2. At such time as certification for the affected parameters or categories of parameters is codified in N.J.A.C. 7:18, the procedures in N.J.A.C. 7:18 shall be followed;
3. Derive the reporting limit for an organic compound analyzed by a particular method from the lowest concentration standard used in the calibration of the method as adjusted by sample specific preparation and analysis factors (for example, sample dilutions and percent solids) and derive the reporting limit for an inorganic compound analyzed by a particular method from the lowest level check standard.
4. Use the analytical method(s) that have analytical sensitivity sufficient to accurately measure concentrations to meet the data quality objectives detailed in the site-specific QAPP;
5. Perform sample matrix cleanup methods, where necessary, to reach the analytical sensitivity specified in the site specific QAPP;
6. Analyze all samples for petroleum products using the Department's Extractable Petroleum Hydrocarbon Methodology, "Analysis of Extractable Petroleum Hydrocarbon Compounds (EPH) in Aqueous and Soil/Sediment/Sludge Matrices" dated October, 2008 Revision 3 August 2010 which can be found on the Department's website at [www.nj.gov/dep/srp/guidance/srra/eph\\_method.pdf](http://www.nj.gov/dep/srp/guidance/srra/eph_method.pdf) as amended and/or supplemented.
7. Use canister-based collection techniques for the analysis of air samples when analyzed by NJDEP Method LLTO-15, incorporated herein by reference, which can be found at on the Department's website at [www.nj.gov/dep/srp/guidance/vaporintrusion/newmethod2007/llto15.pdf](http://www.nj.gov/dep/srp/guidance/vaporintrusion/newmethod2007/llto15.pdf) or USEPA Method TO-15 found on the USEPA's website at [www.epa.gov/ttn/amtic/airtox.html](http://www.epa.gov/ttn/amtic/airtox.html), as amended and/or supplemented;

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8. Collect non-aqueous samples to be analyzed for volatile organics using the following procedures:

i. USEPA Method 5035A found on the USEPA's website at [www.epa.gov/sam/method22.htm](http://www.epa.gov/sam/method22.htm), incorporated herein by reference, as amended and/or supplemented; or

ii. Alternative procedures specified in a site specific QAPP;

9. Analyze all potable water samples as follows:

i. For organic contaminants, use the version of USEPA 500 series methods in effect on the date of analysis, incorporated herein by reference; and

ii. For inorganic contaminants, use the version of USEPA 200 series methods in effect on the date of analysis, incorporated herein by reference. As an alternative, lead may be analyzed by the Standard Methods for the Examination of Water and Wastewater version of Method 3113B in effect on the date of analysis;

10. When non-aqueous samples are taken for hexavalent chromium analysis:

i. Measure the pH and Eh of each sample and quality control sample, with the pH and Eh data included and plotted in the full data deliverables using the graph in USEPA SW-846 Method 3060A incorporated herein by reference, as amended and supplemented; and

ii. Use a site sample for the quality control analyses so the reduction/oxidation effects of the site matrix can be properly evaluated using USEPA SW-846 Method 3060A;

11. If conventional analytical methods are not available or not suitable for a contaminant, then analysis of indicator parameters may be acceptable if accompanied by a technical rationale provided in the applicable phase report that is submitted to the Department (for example, pH may be used as an indicator parameter for acid or base discharges);

12. Follow all quality assurance/quality control procedures specified in the site specific QAPP;

13. Report, in the applicable remediation phase report submitted to the Department, all solid sample analysis results, including without limitation, soils and sediments, on a dry weight basis, except for those results required by the method to be otherwise reported;

14. Determine if either free product or residual product is present in any environmental media using direct observation, enhanced field observation methods, field instrumentation measurements, or laboratory analytical data;

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i. For contaminants that are in their pure phase and are at standard state conditions (20 degrees Celsius to 25 degrees Celsius and one atmosphere pressure), and that have densities greater than water, free or residual product shall be considered to be present if the contaminant is detected in ground water at concentrations equal to or greater than one percent of the water solubility of the contaminant if ground water contains only that organic contaminant; or

ii. If a mixture of such contaminants is present, then the effective water solubility of the contaminant shall be estimated for this determination; and

15. Laboratory data deliverables, as listed in Appendix A, shall be as follows unless otherwise specifically required pursuant to a NJPDES permit:

i. Full laboratory data deliverables shall be submitted for all potable water, vapor intrusion (sub-slab, indoor and ambient), polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans sample analyses, and all hexavalent chromium soil sample analyses;

ii. Reduced laboratory data deliverables shall be submitted for all other analyses; and

iii. Upon request by the Department, the person responsible for conducting the remediation shall submit additional analytical information.

(b) Field screening methods are limited as follows:

1. Field screening methods for all sampling matrices (soil, water, air, interior surfaces) shall only be used under the following conditions:

i. For contaminant delineation if contaminant identity is known or if there is reasonable certainty that a specific contaminant may be present (for example, benzene, toluene, ethyl benzene, xylene in the case of sampling for a gasoline release); or

ii. To bias sample location to the location of greatest suspected contamination; and

2. Field screening methods shall not be used to verify contaminant identity or clean zones. However, where 10 or more samples are required for initial characterization sampling at an area of concern, field screening methods may be used to document that up to 50 percent of sampling points within the area of concern are not contaminated.

(c) The following requirements apply for selection of analytical parameters for all environmental media:

1. Samples for all environmental media shall be analyzed for:

i. The contaminants that may be present as determined during the preliminary assessment and/or from any other information obtained during the remediation; or

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ii. The Target Compound List plus TICs/Target Analyte List (TCL + TICs/TAL), hexavalent chromium, extractable petroleum hydrocarbons (EPH), and pH when contaminants are unknown or not well documented;

2. Initial potable water samples shall be analyzed for the compound list specified in the analytical method utilized plus TICs. All results are to be reported in the applicable remediation phase report submitted to the Department;

3. Initial vapor intrusion samples (sub-slab, indoor air, and ambient air) shall be analyzed for the compound list in Table A of the NJDEP Method LLTO-15, plus TICs. In addition, when vapor intrusion samples (sub-slab, indoor air or ambient air) are taken due to petroleum contamination other than all gasolines or light petroleum distillates, the samples shall be analyzed for naphthalene and 2-methyl naphthalene in addition to any other site specific contaminant that may be present. All results are to be reported; and

4. Based on sampling conducted pursuant to (c)1 through 3 above, the person responsible for conducting the remediation may, during future sampling events, sample for fewer contaminants than for which the person initially sampled. The person responsible for conducting the remediation shall include the technical rationale for the reduced list in the applicable remedial phase report submitted to the Department.

(d) The person responsible for conducting the remediation shall analyze samples for petroleum hydrocarbons contamination as follows:

1. For all petroleum storage and discharge areas, analyze all samples pursuant to the requirements in Table 2-1;

2. For contaminants, where Table 2-1 indicates that additional analytical parameters are required, conduct the additional analyses on sample(s) with the highest EPH concentration(s), with a minimum of one sample; and

3. For all matrices where sheen or odor indicates the potential presence of EPH from an unknown source, analyze all samples as unknown EPH pursuant to the requirements in Table 2-1.

(e) If tentatively identified compounds or unknown compounds are detected, the TIC or unknown compound shall be evaluated.

TABLE 2-1 ANALYTICAL REQUIREMENTS FOR PETROLEUM STORAGE AND DISCHARGE AREAS		
Petroleum Product	Soil/Sediment	Water

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TABLE 2-1 ANALYTICAL REQUIREMENTS FOR PETROLEUM STORAGE AND DISCHARGE AREAS		
Petroleum Product	Soil/Sediment	Water
Leaded Gasoline, Aviation Gasoline	VO+TICs <sup>1</sup> including 1,2-dibromoethane and 1,2-dichloroethane, Lead	VO+TICs <sup>1</sup> , including 1,2-dibromoethane and 1,2-dichloroethane
Unleaded Gasoline	VO+TICs <sup>2</sup> , Tertiary butyl alcohol	VO+TICs <sup>2</sup> , Tertiary butyl alcohol
Light Petroleum Distillates (Naphtha, Stoddard Solvent, Paint Thinner, etc.)	VO+TICs <sup>2</sup>	VO+TICs <sup>2</sup>
Kerosene, Jet Fuel	VO+TICs <sup>2</sup> , Naphthalene, 2-Methyl Naphthalene	VO+TICs <sup>2</sup> , SVO+TICs <sup>3</sup>
Fuel Oil No. 2, Diesel Fuel	EPH <sup>4</sup> . Analyze 25 percent of samples where EPH is detected over 1,000 mg/kg for 2-Methyl Naphthalene and Naphthalene <sup>8</sup>	VO+TICs <sup>2</sup> , SVO+TICs <sup>3</sup>
Fuel Oil Nos. 4 & 6, Hydraulic Oil, Cutting Oil, Lubricating Oil	EPH <sup>4</sup> . Analyze 25 percent of samples where EPH is detected over 100 mg/kg for PAH <sup>5,8</sup>	VO+TICs <sup>2</sup> , SVO+TICs <sup>3</sup>
Crude Oil	EPH <sup>4</sup> , VO+TICs <sup>2</sup> , SVO+TICs <sup>3</sup> , TAL Metals <sup>6</sup>	VO+TICs <sup>2</sup> , SVO+TICs <sup>3</sup> , TAL Metals <sup>6</sup> , Ammonia (Total)
Waste Oil, Unknown Petroleum Hydrocarbons	EPH <sup>4</sup> . Analyze 25 percent of samples where EPH is detected for VO+TICs <sup>2</sup> , SVO+TICs <sup>3</sup> , PCBs, TAL Metals <sup>6,8</sup>	VO+TICs <sup>2</sup> , SVO+TICs <sup>3</sup> , TAL Metals <sup>6</sup>



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TABLE 2-1 ANALYTICAL REQUIREMENTS FOR PETROLEUM STORAGE AND DISCHARGE AREAS		
Petroleum Product	Soil/Sediment	Water
Waste Vehicular Crankcase Oil	EPH <sup>4</sup> . Analyze 25 percent of the samples where EPH is detected for VO+TICs <sup>2</sup> , SVO+TICs <sup>3</sup> , PCBs, and Lead <sup>8</sup>	VO+TICs <sup>2</sup> , SVO+TICs <sup>3</sup> , Lead
Mineral Oil	EPH <sup>4</sup>	EPH <sup>4</sup>
Dielectric Fluid, Dielectric Mineral Oil, Transformer Oil	EPH <sup>4</sup> and PCBs. Analyze 25 percent of those samples where EPH is detected for PAH <sup>5,8</sup>	EPH <sup>4</sup> and PCBs
Manufactured Gas Plant (MGP) Sites	EPH <sup>4</sup> , VO+TICs <sup>2</sup> , PAH <sup>5</sup> , TAL Metals <sup>6</sup> , Cyanide, Phenolics <sup>7</sup>	EPH <sup>4</sup> , VO+TICs <sup>2</sup> , PAH <sup>5</sup> , TAL Metals <sup>6</sup> , Ammonia (Total), Cyanide, Phenolics <sup>7</sup>

#### Footnotes

1. EPA Target Compound List volatile organic compounds excluding 1,2-Dibromo-3-chloropropane and 1,4-Dioxane with a library search of the 15 highest TICs.

Tentatively Identified Compounds (TICs) for volatiles - Identify up to 15 organic compounds of greatest concentration which are not surrogates, internal standards, individual alkanes, or targeted compounds listed under TCL. Alkane concentrations attributed to the petroleum product contamination will be summed and reported as total alkanes. For purposes of TIC identification, the total alkanes are treated as one compound.

2. EPA Target Compound List volatile organic compounds excluding 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, and 1,4-Dioxane with a library search of the 15 highest TICs.

Tentatively Identified Compounds (TICs) for volatiles - Identify up to 15 organic compounds of greatest concentration which are not surrogates, internal standards, individual alkanes, or targeted compounds listed under TCL. Alkane concentrations attributed to the petroleum

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product contamination will be summed and reported as total alkanes. For purposes of TIC identification, the total alkanes are treated as one compound.

3. EPA Target Compound List semivolatile organic compounds excluding phenol and substituted phenols with a library search of the 15 highest TICs that are not alkanes unless otherwise specified by analytical protocol.

Tentatively Identified Compounds (TICs) for semivolatiles - Identify up to 15 organic compounds of greatest concentration which are not surrogates, internal standards, individual alkanes, or targeted compounds listed under TCL. Alkane concentrations attributed to the petroleum product contamination will be summed and reported as total alkanes. For purposes of TIC identification, the total alkanes are treated as one compound.

4. Extractable Petroleum Hydrocarbons.

5. EPA Target Compound List Polynuclear Aromatic Hydrocarbons.

6. EPA Target Analyte List (TAL) Metals.

7. EPA Target Compound List phenol and substituted phenols.

8. Conduct the additional analyses on sample(s) with the highest EPH concentration(s), with a minimum of one sample.

#### 7:26E-2.2 Quality assurance project plan

(a) The person responsible for conducting the remediation shall prepare and follow a quality assurance project plan for all sample and data collection.

(b) The person responsible for conducting the remediation shall include the following in a quality assurance project plan:

1. Problem definition;
2. Site specific project and data quality objectives;
3. Sample design and rationale, including where samples will be taken;
4. Names and contact information of the following project specific personnel:
  - i. Project manager;
  - ii. Quality assurance coordinator;
  - iii. Health and safety coordinator;

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- iv. Identification of laboratory(ies) that will be used for sample analyses including certification number(s); and
  - v. Laboratory contact;
5. A sample summary table containing (at a minimum) the following:
- i. Matrix type;
  - ii. Analytical parameters;
  - iii. Number of samples for each matrix;
  - iv. Frequency of sample collection;
  - v. Number and frequency of field/trip blanks; and
  - vi. Number and frequency of duplicate samples;
6. A detailed description of sampling methodologies for each matrix tested along with standard operating procedures references;
7. Field documentation procedures;
8. A list of all field instrumentation being utilized;
9. Inclusion of a reference to a standard operating procedure that describes the operation of all field instrumentation being utilized including:
- i. Calibration procedures;
  - ii. Calibration check procedures;
  - iii. Proper usage;
  - iv. Data recording;
  - v. Preventative maintenance; and
  - vi. A detailed description of field quality assurance/quality control procedures;
10. A detailed description of sample handling and chain-of-custody procedures;
11. A detailed description of field storage and transport procedures;

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12. A sample container/preservation/holding time table including:
  - i. Sample volumes to be collected per matrix;
  - ii. Sample containers used per matrix;
  - iii. Sample preservation required per method and matrix; and
  - iv. Sample holding times;
13. An analytical methods summary table listing all analytical methods to be used to analyze all samples;
14. Project compounds summary including:
  - i. List of compounds by method and matrix;
  - ii. Project action limits by method and matrix; and
  - iii. Project quantitation limits denoting analytical sensitivity requirements by method and matrix;
15. Measurement performance criteria and quality control samples to be used by method and matrix;
16. Quality assurance and quality control requirements for analysis;
17. Laboratory data deliverable formats to be used;
18. Procedure for review (verification and usability procedures) including data assessment versus stated data quality objectives of laboratory data;
19. A discussion of how corrective action procedures are to be implemented and documented relative to potential deviations to the project quality objectives;
20. A detailed description of the laboratories quality assurance/quality control procedures; and
21. Data and records management and archive procedures.

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### SUBCHAPTER 3. PRELIMINARY ASSESSMENT AND SITE INVESTIGATION

#### 7:26E-3.1 Preliminary assessment

(a) The purpose of a preliminary assessment is to determine whether contaminants are or were present at a site or have migrated or are migrating from a site, and thus whether additional remediation is necessary at a site due to the presence of any potentially contaminated areas of concern.

(b) The person responsible for conducting the remediation shall conduct a preliminary assessment when that person:

1. Is required to submit a completed Industrial Site Recovery Act General Information Notice to the Department pursuant to the Industrial Site Recovery Act, N.J.S.A. 13:1K-6 et seq., and its implementing rules at N.J.A.C. 7:26B;

2. Wants a final remediation document for the entire site;

3. Is remediating a site or portion of a site for use as a child care center, or for use as a public school, private school or charter school;

4. Is conducting an evaluation of a child care center pursuant to Department of Community of Affairs Act, N.J.S.A. 52:27D-130.4, and the Manual of Requirements for Child Care Centers, N.J.A.C. 10:122-5.2(i), as part of the license application or renewal for the child care center; or

5. Is ordered to do so by a court or the Department.

(c) The person responsible for conducting the remediation who is subject to (b) above, shall conduct a preliminary assessment, which shall include, at a minimum, the results of research conducted on the following topics:

1. A diligent search from the time the site was naturally vegetated to the present, including an investigation of all documents that are reasonably likely to contain information related to the site, which documents are in a person's possession, custody or control, or in the possession, custody or control of any other person from whom the person conducting the search has a legal right to obtain such documents;

2. Inquiries of current and former employees and agents whose duties include or included any responsibility for hazardous substances, hazardous wastes, or pollutants, and any other current and former employees or agents who may have knowledge or documents relevant to the inquiry;

3. An evaluation of site specific operational and environmental information, both current and historic collected pursuant to (c)1 and 2 above; and

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4. A site inspection to verify the above findings.

(d) If a potentially contaminated area of concern is identified during the preliminary assessment, the person responsible for conducting the remediation who is subject to (b) above shall conduct a site investigation pursuant to N.J.A.C. 7:26E-3.3 through 3.14.

(e) If no potentially contaminated area of concern is identified during the preliminary assessment, no further remediation is required; except that the person responsible for conducting the remediation who is subject to (b) above, shall submit to the Department a preliminary assessment report pursuant to N.J.A.C. 7:26E-3.2, with a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms) if:

1. The person responsible for conducting the remediation is required to submit a Industrial Site Recovery Act General Information Notice pursuant to the Industrial Site Recovery Act, N.J.S.A. 13:1K-6 et seq., and its implementing rules at N.J.A.C. 7:26B. The person responsible for conducting the remediation shall submit the preliminary assessment report and form within 90 days after the General Information Notice is required to be submitted to the Department; or

2. The provisions at (b)2 through 5 above apply.

#### 7:26E-3.2 Preliminary assessment report

(a) The person responsible for conducting the remediation to whom N.J.A.C. 7:26E-3.1(b) applies shall prepare a preliminary assessment report that includes:

1. A discussion of all the information identified and evaluated pursuant to N.J.A.C. 7:26E-3.1(c);

2. Scaled site plans detailing lot and block numbers, property and leasehold boundaries, current and historic structures, areas where fill has been brought on site, paved and unpaved areas, vegetated and unvegetated areas, all areas of concern and active and inactive wells;

3. Scaled historical site plans and facility as-built construction drawings, if available;

4. A summary of the data and information reviewed, which shall be compiled and presented by area of concern;

5. An evaluation to determine if there is an order of magnitude difference between the concentration of any contaminant in any area of concern and any remediation standard applicable at the time of comparison to the area of concern if there is a prior final remediation document for the area of concern. If there is an order of magnitude difference, then the person responsible for conducting the remediation shall evaluate the protectiveness of any existing engineering or institutional controls on the area of concern and otherwise

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determine whether additional remediation may be required at the area of concern to ensure the area of concern remains protective of the public health, safety and the environment; and

6. A recommendation for each area of concern identified at the site, supported by a written rationale, that either:

i. Additional remediation is necessary because:

(1) The area of concern is potentially contaminated; or

(2) There is an order of magnitude change in an applicable remediation standard and the prior remediation is no longer protective of the public health and safety and the environment because it is not in compliance with the standard applicable at the time of the comparison; or

ii. Additional remediation is not necessary because the area of concern is not suspected to contain contaminants at concentrations above any applicable remediation standard or criterion.

#### 7:26E-3.3 Site investigation

(a) The purpose of a site investigation is to determine if additional remediation is necessary because contaminants are present at the site or area of concern, or because contaminants have emanated or are emanating from the site or area of concern, above any applicable remediation standard or criterion.

(b) The person responsible for conducting the remediation shall conduct a site investigation when:

1. Any potentially contaminated area of concern is identified during a preliminary assessment required pursuant to N.J.A.C. 7:26E-3.1;

2. The person responsible for conducting the remediation is an owner or operator of an underground storage tank system that is required to conduct a site investigation pursuant to the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21 et seq., and the Underground Storage Tanks rules, N.J.A.C. 7:14B; or

3. A person is ordered to conduct a site investigation by a court or the Department.

(c) The person responsible for conducting the remediation to whom N.J.A.C. 7:26E-3.3(b) applies shall conduct a site investigation in accordance with this section and N.J.A.C. 7:26E-3.4 through 3.14, as applicable.

(d) The person responsible for conducting the remediation who is subject to (b) above shall:

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1. Compare all site data with all remediation standards and criteria;
2. Identify as contaminated areas of concern those areas where site data demonstrate that contaminant concentrations exceed any remediation standard or criterion; and
3. Determine if any immediate environmental concern exists.

#### 7:26E-3.4 Site investigation - soil

(a) The person responsible for conducting the remediation who is subject to N.J.A.C. 7:26E-3.3(b) shall conduct a site investigation of soil by sampling the soil in each potentially contaminated area of concern that includes soil to determine if any contaminants are present above any soil remediation standard, and shall:

1. Collect a sufficient number of soil samples to evaluate for the presence of soil contamination, biasing soil sampling to the suspected location of greatest contamination, both horizontally and vertically;
2. Use appropriate sample collection methods, but composite soil sampling shall not be used for site investigation sample collection; and
3. Use appropriate analytical methods.

(b) If the concentration of any contaminant in the soil exceeds any soil remediation standard, then the person responsible for conducting the remediation shall conduct a remedial investigation of the soil pursuant to N.J.A.C. 7:26E-4.2.

#### 7:26E-3.5 Site investigation - ground water

(a) The person responsible for conducting the remediation who is subject to N.J.A.C. 7:26E-3.3(b) shall evaluate all potentially contaminated areas of concern to determine if there is the potential that ground water has been contaminated. At an area of concern where there is a potential that ground water has been contaminated, the person responsible for conducting the remediation shall conduct ground water sampling as follows:

1. Collect a sufficient number of ground water samples to evaluate for the presence of ground water contamination, biasing ground water sampling to the suspected locations of greatest contamination, both horizontally and vertically;
2. Use appropriate sampling methods; and
3. Use appropriate analytical methods.



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(b) If the concentration of any contaminant in the ground water exceeds any ground water remediation standard, then the person responsible for conducting the remediation shall conduct a remedial investigation of the ground water pursuant to N.J.A.C. 7:26-4.3.

#### 7:26E-3.6 Site investigation - surface water and sediment

(a) If there is a potential that surface water has been impacted by the site, the person responsible for conducting the remediation who is subject to N.J.A.C. 3.3(b) shall determine if there is any evidence that contamination from the site has reached the surface water.

(b) If there is evidence that contamination from the site has reached the surface water, then the person responsible for conducting the remediation shall conduct a site investigation of surface water and sediment to determine if there is any exceedance of any aquatic or human health based surface water quality standard, ecological screening criterion, or residential direct contact soil remediation standard and shall:

1. Collect a sufficient number of surface water and sediment samples to evaluate for the presence of contamination, biasing the sampling to the suspected locations of greatest contamination, both horizontally and vertically;
2. Use appropriate sampling methods; and
3. Use appropriate analytical methods.

(c) The person responsible for conducting the remediation shall evaluate the results of the surface water and sediment site investigation as follows:

1. If any aquatic surface water quality standard or ecological screening criterion for surface water is exceeded, conduct a remedial investigation of ecological receptors pursuant to N.J.A.C. 7:26E-4.8;
2. If any human health based surface water quality standard is exceeded, conduct a remedial investigation of surface water pursuant to N.J.A.C. 7:26E-4.4;
3. If any ecological screening criterion for sediments is exceeded, conduct a remedial investigation of ecological receptors pursuant to N.J.A.C. 7:26E-4.8; and
4. If there is evidence of human exposure to the sediment, compare the sediment sample results to the residential direct contact soil remediation standard. If any residential direct contact soil remediation standard is exceeded, the person responsible for conducting the remediation shall conduct a remedial investigation of soil pursuant to N.J.A.C. 7:26E-4.2.

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7:26E-3.7 Site investigation - building interiors

(a) The person responsible for conducting the remediation who is subject to N.J.A.C. 7:26E-3.3(b) shall conduct a site investigation of a building interior in order to determine whether:

1. Contaminants inside the building have the potential to migrate to the environment outside the building; or
2. Contaminants outside the building have the potential to migrate into the building.

(b) If the concentration of any contaminant identified during this part of the site investigation exceeds any remediation standard outside the building, then the person responsible for conducting the remediation shall conduct a remedial investigation necessary for the impacted media pursuant to N.J.A.C. 7:26E-4.

7:26E-3.8 Site investigation - natural background investigation of soil and ground water

(a) If during the site investigation, any contaminant that may be naturally occurring is found in soil at any area of concern in excess of a soil remediation standard, then the person responsible for conducting the remediation may investigate the extent to which the concentration of the contaminant in soil may be due to natural background. This investigation shall be conducted by:

1. Collecting and analyzing a sufficient number of samples in appropriate locations of similar soil type on or near the site that have not been impacted by current or historical on-site or off-site activities to adequately determine that the concentration of the contaminant may be due to natural background;
2. Demonstrating that the distribution of the contaminant in the soil does not follow a concentration gradient indicative of a discharge; and
3. Demonstrating that the concentration of the contaminant in the soil is within ranges reported in appropriate references for soil background levels for New Jersey, if available.

(b) In lieu of conducting a natural background investigation of soil pursuant to (a) above, the person responsible for conducting the remediation may use a previously conducted natural background determination to establish natural background soil concentration provided:

1. The prior natural background determination was conducted consistent with (a) above; and
2. The prior natural background determination was conducted at a location near enough to the site such that it is appropriate to use the previous study for this purpose.

(c) If during the site investigation, contaminant is found in ground water in excess of the ground water remediation standard, then the person responsible for conducting the remediation

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may investigate the extent to which the concentration of the contaminant may be due to natural background. This investigation shall be conducted by:

1. Collecting and analyzing a sufficient number of samples in appropriate locations, both horizontally and vertically, on or near the site, that have not been impacted by current or historical on-site or off-site activities to adequately determine the concentration of the contaminant in the ground water is due to natural background;

2. Demonstrating the distribution of the contaminant in the ground water does not follow a concentration gradient indicative of a discharge; and

3. Demonstrating the concentration of the contaminant in ground water is within ranges reported in appropriate references for ground water background levels for New Jersey, if available.

(d) In lieu of conducting a natural background investigation of ground water pursuant to (c) above, the person responsible for conducting the remediation may use a previously conducted natural background determination to establish natural background ground water concentration provided:

1. The prior natural background determination was conducted in accordance with (c) above; and

2. The prior natural background determination was conducted at a location near the site such that it is appropriate to use the previous study for this purpose.

(e) To the extent that the person responsible for conducting the remediation concludes the presence of a contaminant in soil or ground water is due to natural background conditions, then no further remediation is necessary.

#### 7:26E-3.9 Site investigation - determination of off-site source of contamination in soil and ground water

(a) If during the site investigation, a contaminant is found in soil or ground water in excess of any remediation standard, then the person responsible for conducting the remediation may investigate the extent to which the contamination in soil or ground water is due to migration to the site from an off-site source. This investigation shall be conducted by:

1. Collecting and analyzing a sufficient number of samples in appropriate locations, both horizontally and vertically, at the property boundary or off site, if needed, in order to be upgradient of any on-site area of concern to adequately determine that there is an off-site source of the contaminant;

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2. Collecting and analyzing a sufficient number of samples to demonstrate a contaminant migration pathway exists from the off-site source of contamination to the area of concern; and

3. Conducting a preliminary assessment pursuant to N.J.A.C. 7:26E-3.1 and if necessary, a site investigation pursuant to N.J.A.C. 7:26E-3.3 to determine whether a source of the contaminant observed exists on site.

(b) The person responsible for conducting the remediation is not required to conduct further remediation of the contamination migrating onto the site.

#### 7:26E-3.10 Site investigation - determination of off-site source of contamination in surface water and sediment

(a) If during the site investigation, a contaminant is detected in surface water or sediment in excess of an aquatic or human health based surface water quality standard, an ecological screening criterion, or a residential direct contact soil remediation standard, then the person responsible for conducting the remediation may investigate the extent to which the contaminant concentration in surface water or sediment is due to an off-site source. This investigation shall be conducted by:

1. Collecting and analyzing a sufficient number of samples in appropriate locations to adequately determine that there is an off-site source of the contaminant; and

2. Conducting a preliminary assessment pursuant to N.J.A.C. 7:26E-3.1 and if necessary, a site investigation pursuant to N.J.A.C. 7:26E-3.3 to determine whether a source of the contaminant observed exists on site.

(b) The person responsible for conducting the remediation is not required to conduct further remediation of the contamination migrating onto a site.

#### 7:26E-3.11 Site investigation - landfills

(a) The person responsible for conducting the remediation who is subject to N.J.A.C. 7:26E-3.3(b) shall conduct a site investigation of any landfill at or suspected to be present at the site to determine whether a landfill is in fact present by:

1. Conducting a geophysical survey; and

2. Conducting a subsurface investigation.

(b) If a landfill is confirmed pursuant to (a) above, then the person responsible for conducting the remediation shall conduct a remedial investigation of the landfill and all

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contaminants that may be emanating or have emanated from the landfill pursuant to N.J.A.C. 7:26E-4.6.

(c) If a landfill and its location are known, then the person responsible for conducting the remediation shall conduct a remedial investigation of the landfill and all contaminants that may be emanating or have emanated from the landfill pursuant to N.J.A.C. 7:26E-4.6.

#### 7:26E-3.12 Site investigation - historic fill material

(a) If historic fill material is suspected to be present at a site, then the person responsible for conducting the remediation who is subject to N.J.A.C. 7:26E-3.3(b) shall determine whether historic fill material is present.

(b) If historic fill material is present, then the person responsible for conducting the remediation shall either:

1. Assume that the historic fill material is contaminated above the residential direct contact soil remediation standards and ground water is contaminated above the ground water remediation standards and conduct a remedial investigation pursuant to N.J.A.C. 7:26E-4.7; or

2. Sample the historic fill material to determine if it is contaminated above the residential direct contact soil remediation standards pursuant to N.J.A.C. 7:26E-3.4 and sample ground water pursuant to N.J.A.C. 7:26E-3.5 to determine if contamination is present above any ground water remediation standard.

(c) The person responsible for conducting the remediation shall conduct a remedial investigation of historic fill material pursuant to N.J.A.C. 7:26E-4.7 if contamination is identified above any remediation standard pursuant to (b) above.

(d) The person responsible for conducting the remediation who is subject to N.J.A.C. 7:26E-3.3(b) shall conduct, independently of the historic fill material, a site investigation of each area of concern located within historic fill material.

#### 7:26E-3.13 Site investigation report

(a) The person responsible for conducting the remediation who is subject to N.J.A.C. 7:26E-3.3(b) shall include the following in the site investigation report:

1. A presentation and discussion of all of the information identified or collected during the site investigation, pursuant to N.J.A.C. 7:26E-3.3 through 3.12;

2. The general reporting requirements referenced in 7:26E-1.6;

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3. A presentation and discussion of all of the information identified or collected, pursuant to N.J.A.C. 7:26E-1.10 through 1.16;
4. A description of each area of concern that was investigated, including its operational history;
5. A technical overview that presents a general profile of the site investigation results, including a summary of the overall nature of contamination identified, including, without limitation, the numbers of areas of concern requiring further remediation;
6. Findings and recommendations, including:
  - i. A discussion, by area of concern, of the specific findings of the site investigation analytical results;
  - ii. A discussion of the following items by area of concern:
    - (1) A detailed description, including dimensions, results of all sampling data and suspected source of the contamination; and
    - (2) Recommendations for either additional remediation or no further remediation.

#### 7:26E-3.14 Preliminary assessment and site investigation regulatory timeframes

(a) If no contaminated areas of concern are identified during the site investigation, no further remediation is required at the site, except that the person responsible for conducting the remediation shall submit to the Department:

1. A preliminary assessment report and a site investigation report, prepared pursuant to this subchapter, and a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), no later than one year after the applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 for sites being remediated pursuant to the Industrial Site Recovery Act, N.J.S.A. 13:1K-6 et seq., and the Industrial Site Recovery Act rules, N.J.A.C. 7:26B;
2. A site investigation report, prepared pursuant to this subchapter, and a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), no later than one year after the applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 for sites being remediated pursuant to the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21 et seq., and Underground Storage Tank rules, N.J.A.C. 7:14B;
3. A preliminary assessment report and a site investigation report, prepared pursuant to this subchapter, and a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), for sites when:

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- i. The person wants a final remediation document for the entire site;
  - ii. The person responsible for conducting the remediation is remediating a site or portion of a site for use as a child care center, or for use as a public school, private school or charter school;
  - iii. A person is conducting an evaluation of a child care center pursuant to Department of Community of Affairs Act, N.J.S.A. 52:27D-130.4, and the Manual of Requirements for Child Care Centers, N.J.A.C. 10:122-5.2(i), as part of the license application or renewal for the child care center; or
  - iv. A person is ordered by a court or the Department; or
4. A site investigation report, prepared pursuant to this subchapter, and a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), for all other sites when:
- i. The person wants final remediation document for the area of concern; or
  - ii. A person is ordered by a court or the Department.

(b) If a contaminated area of concern is identified during the site investigation, the person responsible for conducting the remediation shall conduct a remedial investigation pursuant to N.J.A.C. 7:26E-4, and shall submit to the Department:

1. A preliminary assessment report and a site investigation report, prepared pursuant to this subchapter, and forms found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), no later than one year after the applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 for sites being remediated pursuant to the Industrial Site Recovery Act, N.J.S.A. 13:1K-6 et seq., and the Industrial Site Recovery Act rules, N.J.A.C. 7:26B; or
2. A site investigation report, prepared pursuant to this subchapter, and form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), no later than one year after the applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 for sites being remediated pursuant to or the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21 et seq., and Underground Storage Tank rules, N.J.A.C. 7:14B.

(c) The person responsible for conducting the remediation may request an extension of the applicable regulatory timeframe in (a) and (b) above, pursuant to the procedure outlined in the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-3.2.

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#### SUBCHAPTER 4. REMEDIAL INVESTIGATIONS

##### 7:26E-4.1 Remedial investigation requirements

(a) The purpose of a remedial investigation is to:

1. Delineate the horizontal and vertical extent of contamination to the remediation standard, in each environmental medium at a contaminated site;
2. Delineate to the aquatic surface water quality standard and ecological screening criterion when contamination is observed:
  - i. In an environmentally sensitive natural resource; or
  - ii. In a contaminant migration pathway to an environmentally sensitive natural resource;
3. Update the receptor evaluation, pursuant to N.J.A.C. 7:26E-1.12, and determine if an immediate environmental concern or vapor concern exists;
4. Identify and characterize the migration pathways of contamination in air, soil, bedrock, sediment, ground water, surface water, structures and buildings at a contaminated site;
5. Collect and evaluate all data necessary to:
  - i. Evaluate the actual and potential ecological impacts of the contamination; and
  - ii. Identify any natural resource injury; and
6. Identify the need for any interim remedial measures necessary to remove, contain, or stabilize a source of contamination to prevent contaminant migration and exposure to receptors, pursuant to N.J.A.C. 7:26E-1.10.

(b) The person responsible for conducting the remediation shall conduct a remedial investigation when:

1. The concentration of any contaminant exceeds any remediation standard;
2. The concentration of any contaminant exceeds any aquatic surface water quality standard or ecological screening criterion; or
3. A person is ordered to do so by a court or the Department.



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(c) The person responsible for conducting the remediation shall conduct the remedial investigation pursuant to the requirements of this subchapter and within the applicable regulatory timeframe listed in N.J.A.C. 7:26E-4.10.

(d) The person responsible for conducting the remediation shall prepare and submit to the Department a remedial investigation work plan for approval that describes all the actions to be conducted to fulfill the purpose of (a) above and the requirements of (c) above when the remediation is being conducted:

1. Partially or solely to satisfy the obligations under the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 et seq. and is a priority site under the Government Performance and Results Act, 40 U.S.C. §§ 11101 et seq.;
2. At a site on the National Priorities List pursuant to the Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. §§ 9601; or
3. At a Federal facility that seeks or is required to obtain the Department's remedial concurrence.

#### 7:26E-4.2 Remedial investigation of soil

(a) The person responsible for conducting the remediation shall conduct a remedial investigation of contaminated soil as follows:

1. Within the property boundary:

i. Delineate the horizontal and vertical extent of all soil contamination that is associated with a site-related area of concern in both the saturated and unsaturated soil to:

(1) The residential direct contact soil remediation standard; or

(2) The non-residential direct contact soil remediation standard if a remedial action will be implemented that will appropriately restrict the use of the entire property and the property owner has agreed to place a deed notice and engineering controls, as appropriate, on the property; or

ii. If the property owner has agreed to restrict the use of the entire property and to place a deed notice and an engineering control on the entire property, then delineation of the horizontal and vertical extent of all soil contamination associated with a site-related area of concern to a direct contact soil remediation standard is not required provided the requirements of (a)2 through 5 below are met;

2. Outside the property boundary, delineate the horizontal and vertical extent of all soil contamination associated with a site-related area of concern in both the saturated and unsaturated soil to the residential direct contact soil remediation standard;

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3. For soil contamination associated with a site-related area of concern, delineate the horizontal and vertical extent of all soil contamination in the unsaturated zone which contains contaminants above the impact to ground water soil remediation standard without regard to the property boundary;

4. Delineate the horizontal and vertical extent of free product and residual product in both the saturated and unsaturated zones without regard to the property boundary; and

5. Whenever historic fill material is present, conduct a remedial investigation of historic fill material pursuant to N.J.A.C. 7:26E-4.7.

(b) The person responsible for conducting the remediation shall conduct a remedial investigation of soil by:

1. Collecting a sufficient number of soil samples to delineate the horizontal and vertical extent of all soil contamination;

2. Collecting all soil samples using appropriate sampling methods; and

3. Analyzing all soil samples for the contaminants of concern using appropriate analytical methods.

(c) The person responsible for conducting the remediation may delineate soil contamination through post remedial action sampling, if appropriate.

#### 7:26E-4.3 Remedial investigation of ground water

(a) The person responsible for conducting the remediation shall conduct a remedial investigation of contaminated ground water by:

1. Determining the direction of ground water flow in each contaminated aquifer or water bearing zone;

2. Characterizing the hydrogeology of the site;

3. Delineating the extent of free product and residual product;

4. Delineating the horizontal and vertical extent of all ground water contamination to the ground water remediation standard;

5. Developing and implementing a ground water monitoring program that will effectively monitor the ground water contaminant plume;

6. Determining contaminant fate and transport in ground water; and

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7. Proposing a ground water classification exception area as part of the remedial investigation report pursuant to N.J.A.C. 7:26E-4.9(a)7;

(b) The person responsible for conducting the remediation shall conduct a remedial investigation of ground water by:

1. Collecting a sufficient number of ground water samples to delineate the horizontal and vertical extent of all ground water contamination;
2. Collecting all ground water samples using appropriate sampling methods; and
3. Analyzing all ground water samples using appropriate analytical methods.

#### 7:26E-4.4 Remedial investigation of surface water

(a) The person responsible for conducting the remediation shall conduct a remedial investigation of surface water by:

1. Determining the source of contamination and the contaminant migration pathway;
2. Collecting a sufficient number of surface water samples to delineate the extent of the observed contaminants to the human health based surface water quality standards;
3. Collecting all surface water samples using appropriate sampling methods; and
4. Analyzing all surface water samples using appropriate analytical methods.

#### 7:26E-4.5 Remedial investigation of building interiors

(a) The person responsible for conducting the remediation shall conduct a remedial investigation of building interiors by:

1. Delineating the extent of the contamination migrating to the environment from the building pursuant to N.J.A.C. 7:26E-4.1 through 4.4; and
2. For contaminants outside the building that have migrated into the building, obtaining all necessary data to remediate the contamination.

#### 7:26E-4.6 Remedial investigation of landfills

(a) The person responsible for conducting the remediation shall conduct a remedial investigation of a landfill by:

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1. Determining the physical extent, both horizontally and vertically, of the landfill contents without regard to the location of property boundaries;
2. Characterizing the landfill contents;
3. Determining the type, extent, and condition of the landfill cap or cover including chemical analysis of soil; and
4. Delineating contaminants in all media emanating from or that have emanated from the landfill pursuant to N.J.A.C. 7:26E-4.

#### 7:26E-4.7 Remedial investigation of historic fill material

(a) The person responsible for conducting the remediation shall conduct a remedial investigation of historic fill material by:

1. Determining the horizontal and vertical extent of the historic fill material to the boundary of the property being investigated; and
2. Characterizing the fill material by identifying the physical characteristics of the historic fill material.

(b) The person responsible for conducting the remediation shall establish the extent of ground water contamination from the historic fill material as follows:

1. For sites where the historic fill material extends beyond the property boundary, submit a proposed ground water classification exception area prepared pursuant to N.J.A.C. 7:26C-7.3, in the remedial investigation report prepared pursuant to N.J.A.C. 7:26E-4.9, using the footprint of the property as the boundaries of the ground water classification exception area; or
2. For sites where the extent of historic fill material is contained within the property boundaries, either:
  - i. Conduct a remedial investigation of the ground water pursuant to N.J.A.C. 7:26E-4.3 to identify the extent of the contaminant plume and submit a proposed ground water classification exception area prepared pursuant to N.J.A.C. 7:26C-7.3, in the remedial investigation report prepared pursuant to N.J.A.C. 7:26E-4.9, identifying the known extent of the ground water contamination associated with the historic fill; or
  - ii. Submit a proposed ground water classification exception area prepared pursuant to N.J.A.C. 7:26C-7.3, in the remedial investigation report prepared pursuant to N.J.A.C. 7:26E-4.9, using the footprint of the property as the boundaries of the ground water classification exception area.

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(c) The person responsible for conducting the remediation shall conduct a remedial investigation of each area of concern located within or situated upon the historic fill material independently of the remedial investigation of the historic fill material itself.

(d) If at any time during the remedial investigation of historic fill material the person responsible for conducting the remediation encounters any material that does not meet the definition of historic fill material because it includes material which is substantially chromate chemical production waste or any other chemical production waste or waste from processing of metal or mineral ores, residues, slag, tailings or is otherwise not historic fill material, then the person responsible for conducting the remediation shall conduct a remedial investigation of each such area as a separate area of concern.

#### 7:26E-4.8 Remedial investigation of ecological receptors

(a) The person responsible for conducting the remediation shall conduct a remedial investigation of ecological receptors by determining if a contaminant migration pathway exists from the site or area of concern to the environmentally sensitive natural resource.

(b) If a contaminant migration pathway has been identified pursuant to (a) above, the person responsible for conducting the remediation shall determine if contaminant concentrations in the contaminant migration pathway or environmentally sensitive natural resource exceed any ecological screening criterion or any aquatic surface water quality standard.

(c) If contaminant concentrations in the contaminant migration pathway or environmentally sensitive natural resource exceed any ecological screening criterion or any aquatic surface water quality standard, then the person responsible for conducting the remediation shall:

1. Delineate the horizontal and vertical extent of the contaminant concentrations in the contaminant migration pathway or environmentally sensitive natural resource to any applicable ecological screening criterion and aquatic surface water quality standard; and
2. Conduct an ecological risk assessment for each contaminant of ecological concern to determine:
  - i. The past, current and future impacts of the contamination on ecological receptors;
  - ii. The ecological risk-based remediation goals; and
  - iii. The risk management strategies to be implemented;
3. Not implement any remedial action without the Department's prior written approval of the final remediation goal if the final remediation goal is something other than the ecological screening criterion.

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(d) If a contaminant migration pathway is not identified or if contaminant concentrations in the contaminant migration pathway or environmentally sensitive natural resource do not exceed any ecological screening criterion or any aquatic surface water quality standard, no further ecological evaluation is required pursuant to this section.

#### 7:26E-4.9 Remedial investigation report

(a) The person responsible for conducting the remediation shall prepare a remedial investigation report that presents and discusses all of the information required to be identified or collected pursuant to N.J.A.C. 7:26E-4.1 through 4.8, and shall include the following:

1. The general reporting requirements referenced in N.J.A.C. 7:26E-1.6;
2. A presentation and discussion of all of the information identified or collected, pursuant to N.J.A.C. 7:26E-1.10 through 1.16 and an updated receptor evaluation on a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);
3. A description of each interim remedial measure implemented pursuant to N.J.A.C. 7:26E-1.10;
4. A description of each area of concern being investigated, including its operational history unless this information has already been provided;
5. A technical overview that presents a general profile of the remedial investigation results, including a summary of the overall nature of contamination on the site;
6. Findings and recommendations, which shall include;
  - i. A discussion, by area of concern, of the specific findings, including the remedial investigation analytical results;
  - ii. A discussion of the following items by area of concern:
    - (1) A detailed description, including dimensions, contaminants and suspected source of the contamination; and
    - (2) A determination whether remedial action is required for each area of concern;
7. A proposed ground water classification exception area prepared pursuant to N.J.A.C. 7:26C-7.3, for the area of the ground water contaminated by discharges at the site; and
8. The applicable regulatory timeframe for the remedial investigation.

(b) The person responsible for conducting the remediation shall submit to the Department a remedial investigation report, along with a form found on the Department's website at

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[www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), according to the applicable regulatory timeframe in N.J.A.C. 7:26E-4.10.

#### 7:26E-4.10 Remedial investigation regulatory timeframes

(a) Except as provided in (d) below, or as lengthened under (b) and (c) below, the person responsible for conducting the remediation shall complete the remedial investigation and submit to the Department a remedial investigation report prepared pursuant to N.J.A.C. 7:26E-4.9 by the earliest applicable regulatory timeframe as follows:

1. The person responsible for conducting the remediation who is remediating the industrial establishment pursuant to the Industrial Site Recovery Act, N.J.S.A. 13:1K-6 et seq., and the Industrial Site Recovery Act rules, N.J.A.C. 7:26B, shall complete the remedial investigation and submit a remedial investigation report as follows:

i. For the remediation of an industrial establishment with only soil contamination:

(1) By March 1, 2015, where the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred between May 7, 1999 and March 1, 2010; or

(2) Within three years after the earliest applicable requirement to submit a preliminary assessment and site investigation report pursuant to N.J.A.C. 7:26E-3.14(b)1 where the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred on or after March 2, 2010;

ii. For the remediation of an industrial establishment with contaminants in soil and/or any other medium:

(1) By March 1, 2017, where the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred between May 7, 1999 and March 1, 2010;

(2) Within five years after the earliest applicable requirement to submit a preliminary assessment and site investigation report pursuant to N.J.A.C. 7:26E-3.14(b)1 where the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred on or after March 2, 2010; or

iii. As ordered by a court or the Department;

2. The person responsible for conducting the remediation who is remediating a discharge from the underground storage tank pursuant to the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21 et seq., and Underground Storage Tank rules, N.J.A.C. 7:14B, shall complete the remedial investigation and submit a remedial investigation report as follows:

i. For the remediation of an UST discharge that only resulted in soil contamination:

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- (1) By March 1, 2015, where the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred between May 7, 1999 and March 1, 2010; or
    - (2) Within three years after the earliest applicable requirement to submit a site investigation report pursuant to N.J.A.C. 7:26E-3.14(b)2 where the earliest requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred on or after March 2, 2010; and
  - ii. For the remediation of an UST discharge with contaminants in soil and/or any other medium:
    - (1) By March 1, 2017, where the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred between May 7, 1999 and March 1, 2010; or
    - (2) Within five years after the earliest applicable requirement to submit a site investigation report pursuant to N.J.A.C. 7:26E-3.14(b)2 where the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred on or after March 2, 2010; or
  - iii. As ordered by a court or the Department; or
3. For all other contaminated sites not included in 1 and 2, above, the person responsible for conducting the remediation shall complete the remedial investigation and submit a remedial investigation report as follows:
- i. For the remediation of a discharge that only resulted in soil contamination:
    - (1) By May 7, 2015, when the earliest requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred between May 7, 1999 and May 7, 2012; or
    - (2) Within three years after the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 when the earliest applicable requirement to remediate occurred on or after May 7, 2012;
  - ii. For the remediation of a discharge with contaminants in soil and/or any other medium:
    - (1) By May 7, 2017 when the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 occurred between May 7, 1999 and May 7, 2012; or
    - (2) Within five years after the earliest applicable requirement to remediate pursuant to N.J.A.C. 7:26C-2.2 when the earliest applicable requirement to remediate occurred on or after May 7, 1999; or
  - iii. As ordered by a court or the Department.



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(b) The person responsible for conducting the remediation may lengthen the regulatory timeframe established pursuant to (a) above based on the site conditions associated with the site undergoing remediation without prior Department approval as follows:

1. For each of the following complexity factor groups that exist at the contaminated site, the regulatory timeframe for completing the remedial investigation and submitting a remedial investigation report established pursuant to (a) above, may be lengthened by one year to a maximum of three years:

i. Access to real property, that is not owned or controlled by the person responsible for conducting the remediation, is required, or contamination has impacted an environmentally sensitive natural resource;

ii. Ground water contamination exists in a consolidated aquifer or a dense non-aqueous phase liquid exists in ground water; or

iii. Ground water contamination exists in more than one aquifer or there are two or more distinct ground water contaminant plumes; and

2. When the person responsible for conducting the remediation seeks a final remediation document for an entire site that is not required to be remediated pursuant to the Industrial Site Recovery Act, N.J.S.A. 13:1K-6 et seq., and the Industrial Site Recovery Act Rules, N.J.A.C. 7:26B, the regulatory timeframe for completing the remedial investigation and submitting a remedial investigation report that is listed at (b)2 and 3 above, may be lengthened by one year.

(c) If the person responsible for conducting the remediation lengthens the submittal date for the remedial investigation report pursuant to (b) above, the person responsible for conducting the remediation shall notify the Department at least 30 days prior to the submittal date for the remedial investigation report established pursuant to (a) above, using a form available on the Department's website on [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms). Information to be supplied by filling out the form includes:

1. Site identification information;

2. Reason to lengthen the timeframe;

3. The name of the responsible entity and a certification statement; and

4. The name of the licensed site remediation professional and a certification statement.

(e) Any person responsible for conducting remediation that is not subject to liability under N.J.S.A. 58:10-23.11g and is one of the following, is exempt from the regulatory timeframes outlined in (b) above:

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1. A non-profit organization that meets the definition set forth at 26 U.S.C. §501(c)3, unless that organization is established by or funded by another person that is subject to liability under N.J.S.A. 58:10-23.11g for that site; or

2. A governmental entity that is exempt from liability pursuant to N.J.S.A. 58:10-23.11g.d(4).

(f) The person responsible for conducting the remediation may request an extension of the applicable regulatory timeframe in (b) above, pursuant to the procedure outlined in the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-3.2.

## SUBCHAPTER 5. REMEDIAL ACTION

### 7:26E-5.1 Remedial action requirements

(a) The purpose of a remedial action is to implement a remedy that removes, treats, or isolates contamination, and that is protective of the public health, safety and the environment.

(b) The person responsible for conducting the remediation shall implement a remedial action when:

1. The concentration of any contaminant exceeds any applicable remediation standard;
2. The concentration of any contaminant exceeds any aquatic surface water quality standard or any ecological screening criterion; or
3. That person is ordered to do so by a court or the Department.

(c) The person responsible for conducting the remediation shall conduct the remedial action within the applicable regulatory timeframe listed in N.J.A.C. 7:26E-5.8 by:

1. Implementing all remedial actions required to address the contamination at a site, pursuant to the requirements of this subchapter;
2. Submitting a remedial action report for all remedial actions at the site to the Department pursuant to N.J.A.C. 7:26E-5.7; and
3. Insuring that a licensed site remediation professional submits a final remediation document to the Department pursuant to the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-6.2.

(d) The person responsible for conducting the remediation shall ensure that each remedial action:

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1. Is protective of public health, safety and the environment;
2. Uses any required engineering and institutional controls in conjunction with a remedial action permit, whenever a restricted use remedy or a limited restricted use remedy is implemented to remediate a site;
3. Does not in itself cause an uncontrolled or unpermitted discharge or transfer of contaminants from one medium to another;
4. Complies with all applicable remediation standards in effect at the time the remedial action workplan was approved by the Department or a licensed site remediation professional, provided, however, that if an applicable numeric remediation standard decreases by an order of magnitude or more prior to the issuance of a final remediation document for the site being remediated, the person responsible for conducting remediation shall conduct all additional remedial action necessary to comply with the revised remediation standard;
5. Complies with applicable Federal, State, and local laws and regulations, including, without limitation, the provisions of the Pinelands Protection Act, P.L. 1979, c.111 (N.J.S.A. 13:18A-1 et seq.), any rules promulgated pursuant thereto, and the provisions of section 502 of the National Parks and Recreation Act of 1978, 16 U.S.C. § 4711; and
6. Does not in itself cause a natural resource injury.

(e) The person responsible for conducting the remediation shall treat or remove free product and residual product to the extent practicable, or contain free product and residual product when treatment or removal is not practicable. Monitored natural attenuation of free product and residual product is prohibited.

(f) The person responsible for conducting the remediation shall submit a remedial action workplan prepared pursuant to N.J.A.C. 7:26E-5.5 or a corrective measures study work plan prepared pursuant to the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 et seq., to the Department for approval when the remediation is being conducted:

1. Partially or solely to satisfy the obligations under the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 et seq. and is a priority site under the Government Performance and Results Act, 40 U.S.C. §§ 11101 et seq.;
2. At a site on the National Priorities List pursuant to the Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. §§ 9601; or
3. At a Federal facility that seeks or is required to obtain the Department's remedial concurrence.

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7:26E-5.2 Specific remedial action requirements

(a) The person responsible for conducting the remediation shall:

1. Select a remedial action that will prevent further exposure of any receptor to any residual contamination;

2. Develop and implement a monitoring program that will effectively monitor the performance of the remedial action;

3. Demonstrate compliance with the remediation standard or ecological risk-based remediation goal established pursuant to N.J.A.C. 7:26E-4.8 by:

i. Collecting a sufficient number of samples in appropriate locations to confirm the effectiveness of the remedial action:

ii. Collecting samples using appropriate sampling methods; and

iii. Analyzing samples for the contaminants of concern using appropriate analytical methods;

4. File a deed notice pursuant to N.J.A.C. 7:26C-7.2 when implementing a soil remedial action where the residual contaminant concentrations remaining will exceed the residential direct contact soil remediation standards; and

5. Obtain and comply with a remedial action permit pursuant to N.J.A.C. 7:26C-7 for a restricted use or limited restricted use remedial action.

(b) The person responsible for conducting the remediation may incorporate alternative fill from an off-site source into a remedial action at an area of concern provided that:

1. The contaminants present in the alternative fill are also present at the receiving area of concern;

2. The maximum contaminant concentration in the alternative fill imported is less than the 75th percentile of the contaminant concentrations at the receiving area of concern; and

3. No alternative fill is imported in excess of the volume required for the remedial action without the prior written approval of the Department.

(c) The person responsible for conducting the remediation may use alternative fill from an on-site source as part of a remedial action at an area of concern provided that the contaminants present in the alternative fill are also present at the receiving area of concern.

(d) The person responsible for conducting the remediation shall ensure that all clean fill material meets the definition of clean fill pursuant to N.J.A.C. 7:26E-1.8.

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(e) The person responsible for conducting the remediation shall not import hazardous waste as fill material.

(f) The person responsible for conducting the remediation shall not use any fill containing free liquid.

(g) The person responsible for conducting the remediation shall prepare a fill use plan whenever alternative fill or clean fill is proposed as part of a remedial action and shall submit the fill use plan to the Department as part of the remedial action workplan required pursuant to N.J.A.C. 7:26E-5.5.

#### 7:26E-5.3 Remedial action requirements for residences, schools, and child care centers

(a) For any remediation initiated on or after May 7, 2010, when new construction of, or a change in use to, a residence, a school, or child care center will occur, the person responsible for conducting remediation shall implement at that area of concern:

1. An unrestricted use remedial action;
2. A presumptive remedy consistent with (b) below, and Table 5-1 below; or
3. An alternative remedy.

(b) The person responsible for conducting the remediation shall implement a presumptive remedy that is an unrestricted use remedial action in the following two situations:

1. A discrete area discharge; and
2. Widespread polychlorinated biphenyl contamination where the planned use is Residential Type I.

(c) When the person responsible for conducting the remediation determines not to use an unrestricted use remedial action or a presumptive remedy, the person responsible for conducting the remediation shall:

1. Propose an alternative remedy by preparing and submitting to the Department for approval a remedial action workplan pursuant to N.J.A.C. 7:26E-5.5 that includes the following information:

- i. An analysis describing how:

- (1) The presumptive remedy is impractical due to site conditions; or

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(2) The alternative remedy would be equally protective over time as the presumptive remedy;

ii. A detailed description of the alternative remedy including specifications for engineering and institutional controls and a plan for monitoring of such controls; and

iii. An explanation of how the alternative remedy is protective of public health, safety and the environment; and

2. Obtain the Department's written approval prior to implementation of the alternative remedy.

(d) The person responsible for conducting the remediation shall submit a remedial action workplan pursuant to N.J.A.C. 7:26E-5.5 and obtain the Department's written approval at any area of concern:

1. Containing unexploded ordnance, polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans, hexavalent chromium, or landfills; or

2. When treatment or removal of free product or residual product is not practicable.

(e) The construction of single family residences, schools, or child care centers is prohibited on a landfill that undergoes a remediation if engineering controls are required for the management of landfill gas or leachate.

Table 5-1  
Presumptive Remedies for Soil Contamination at  
Schools, Child Care Centers, and Residences

Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
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Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Play Areas - Loose Fill Surface (e.g., mulch, sand, etc.)	Restricted Use	<p>Option #1.</p> <p><i>Barrier</i> - Minimum of one (1) foot clean loose fill material;</p> <p><i>Buffer</i> - Minimum of one (1) foot clean loose fill material;</p> <p><i>Demarcation</i> - Geotextile fabric; and</p> <p><i>Inspection</i> - Quarterly.</p> <p>Option #2.</p> <p><i>Barrier</i> - Minimum of two (2) feet clean loose fill material;</p> <p><i>Buffer</i> - Minimum of two (2) feet clean loose fill material;</p> <p><i>Demarcation</i> - Visible contamination boundary marker or geotextile fabric; and</p> <p><i>Inspection</i> - Semi-annual.</p>	<p>Same engineering control requirement as Schools, Child Care Centers and Type II Residential</p>

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Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Play Areas - Unitary Material Surface (e.g., Tile, Rubber Mat, Artificial Turf)	Restricted Use	<p>Option #1.</p> <p><i>Barrier</i> - Proposed surface of unitary material and a minimum of six (6) inches crushed stone;  <i>Buffer</i> - Minimum of six (6) inches crushed stone;  <i>Demarcation</i> - Geotextile fabric; and  <i>Inspection</i> – Annual.</p> <p>Option #2.</p> <p><i>Barrier</i> - Proposed surface of unitary material and a minimum of four (4) inches of concrete or asphalt;  <i>Buffer</i> - Four (4) inches of sub base;  <i>Demarcation</i> - Visible contamination boundary marker; and  <i>Inspection</i> - Annual.</p> <p>Option #3.</p> <p><i>Barrier</i> - Proposed surface of unitary material and a minimum of one (1) foot clean fill;  <i>Buffer</i> - Minimum of one (1) foot clean fill;  <i>Demarcation</i> - Visible contamination boundary marker; and  <i>Inspection</i> - Annual.</p>	<p>Remedial Action - Type I Residential</p> <p>Same engineering control requirement as Schools, Child Care Centers and Type II Residential</p>



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Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Play Areas - Other Unpaved Playing Surfaces (e.g., athletic fields)	Restricted Use	<p>Option #1.</p> <p><i>Barrier</i> - Vegetative cover with a minimum of one (1) foot clean fill;  <i>Buffer</i> - Minimum of one (1) foot clean fill;  <i>Demarcation</i> - Geotextile fabric; and  <i>Inspection</i> - Annual.</p> <p>Option #2.</p> <p><i>Barrier</i> - Vegetative cover with a minimum of two (2) feet clean fill;  <i>Buffer</i> - Minimum of two (2) feet clean fill;  <i>Demarcation</i> - Visible contamination boundary marker; and  <i>Inspection</i> - Annual.</p>	Same engineering control requirement as Schools, Child Care Centers and Type II Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Concrete or Asphalt Surfaces (e.g., Driveways, Roadways, Parking, Walkways, Bicycle Paths, etc.)	Restricted Use	<p><i>Barrier</i> - Minimum of four (4) inches of concrete or asphalt;  <i>Buffer</i> - Minimum of four (4) inches of sub base;  <i>Demarcation</i> - Visible contamination boundary marker; and  <i>Inspection</i> - Annual.</p>	Same engineering control requirement as Schools, Child Care Centers and Type II Residential

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Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Building Footprint - New Construction	Restricted Use	<p>Option #1.</p> <p><i>Barrier</i> - Minimum of four (4) inches of concrete;  <i>Buffer</i> - Minimum four (4) inches of sub base;  <i>Demarcation</i> - Visible contamination boundary marker; and  <i>Inspection</i> -Annual</p> <p>Option #2 (for crawl spaces).</p> <p><i>Barrier</i> - Minimum of one (1) foot clean fill and vapor barrier;  <i>Buffer</i> - Minimum of one (1) foot clean fill;  <i>Demarcation</i> - Visible contamination boundary marker; and  <i>Inspection</i> - Semi-annual.</p>	<p>Remedial Action - Type I Residential</p> <p>Same engineering control requirement as Schools, Child Care Centers and Type II Residential</p>

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Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Building Footprint - Existing Construction	Restricted Use	<p>Option #1.</p> <p><i>Barrier</i> - Minimum of four (4) inches of concrete; <i>Buffer</i> - Minimum four (4) inches of sub base; <i>Demarcation</i> - Not required ; and <i>Inspection</i> – Annual.</p> <p>Option #2 (for crawl spaces and basements with a dirt floor).</p> <p><i>Barrier</i> - Minimum of one (1) foot clean fill and vapor barrier; <i>Buffer</i> - Minimum of one (1) foot clean fill; <i>Demarcation</i> - Visible contamination boundary marker; and <i>Inspection</i> - Semi-annual.</p>	<p>Same engineering control requirement as Schools, Child Care Centers and Type II Residential</p>

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Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Vegetative Cover (e.g., Lawn Areas)	Restricted Use	<p><i>Barrier</i> - Vegetative cover with a minimum of six (6) inches of clean fill;</p> <p><i>Buffer</i> - Minimum of six (6) inches of clean fill;</p> <p><i>Demarcation</i> - Visible contamination boundary marker; and</p> <p><i>Inspection</i> - Semi-annual.</p>	<p>Option #1.</p> <p><i>Barrier</i> - Vegetative cover with a minimum of one (1) foot clean fill;</p> <p><i>Buffer</i> - Minimum of one (1) foot clean fill;</p> <p><i>Demarcation</i> - Geotextile fabric; and</p> <p><i>Inspection</i> - Quarterly.</p> <p>Option #2.</p> <p><i>Barrier</i> - Vegetative cover with a minimum of two (2) feet clean fill;</p> <p><i>Buffer</i> - Minimum of two (2) feet clean fill;</p> <p><i>Demarcation</i> - Visible contamination boundary marker or geotextile fabric; and</p> <p><i>Inspection</i> - Semi-annual.</p>

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Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Landscaped Areas	Restricted Use	<p>Option #1.</p> <p><i>Barrier</i> - Minimum of one (1) foot clean fill;*</p> <p><i>Buffer</i> - Minimum of one (1) foot clean fill;*</p> <p><i>Demarcation</i> - Geotextile fabric; and</p> <p><i>Inspection</i> - Semi-annual.</p> <p>Option #2.</p> <p><i>Barrier</i> - Minimum of two (2) feet of clean fill;*</p> <p><i>Buffer</i> - Minimum of two (2) feet clean fill;*</p> <p><i>Demarcation</i> - Visible contamination boundary marker; and</p> <p><i>Inspection</i> - Semi-annual.</p> <p>* Trees and shrubs can be planted within barrier and/or buffer layer(s), but must maintain a minimum of one (1) foot clean fill on all sides and below the extent of planted root ball of larger plant materials.</p>	<p>Remedial Action - Type I Residential</p> <p>Same engineering control requirement as Schools, Child Care Centers and Type II Residential</p>
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Maintenance Areas/Dumpsters and Compactor Pad/Other Areas Restricted to Workers	Restricted Use	<p><i>Barrier</i> - Minimum of four (4) inches of concrete or asphalt;</p> <p><i>Buffer</i> - Minimum of four (4) inches of sub base;</p> <p><i>Demarcation</i> - Visible contamination boundary marker; and</p> <p><i>Inspection</i> - Annual.</p>	Not Applicable.

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Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Underground Utility Corridors	Restricted Use	<p>Piping &amp; Conduits Placed in Trenches:</p> <p><i>Barrier</i> - Clean fill from surface down to utility (minimum of one (1) foot);  <i>Buffer</i> - Minimum of one (1) foot of clean fill below and around the sides of the utility;  <i>Demarcation</i> - Visible contamination boundary marker along the bottom and sides of the trench; and  <i>Inspection</i> - Annual.</p> <p>Burial Cable may be installed within barrier and/or buffer layer(s) but a minimum of one foot clean fill must be maintained on sides and below installation.</p>	Same engineering control requirement as Schools, Child Care Centers and Type II Residential
Historic Fill and/or all other discharged contaminants not otherwise excluded in N.J.A.C. 7:26E-5.3	Contamination at depths greater than 10 feet with 10 feet of clean material covering the contamination	Restricted Use	<p><i>Barrier</i> - Minimum of five (5) feet clean material;  <i>Buffer</i> - Minimum of five (5) feet clean material;  <i>Demarcation</i> - None Required; and  <i>Inspection</i> - Annual.</p>	Same engineering control requirement as Schools, Child Care Centers and Type II Residential

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Contamination type	Subcategories/ Scenarios	Presumptive Remedy/ Remediation Goal	Remedial Action - Schools, Child Care Centers, and Type II Residential	Remedial Action - Type I Residential
Widespread PCBs	Any Use	Unrestricted Use or Restricted use	<p>Remove and/or treat all PCB contamination to a minimum of 10 mg/kg.</p> <p>For any PCB contamination greater than 0.2 mg/kg and less than or equal to 10 mg/kg apply Option # 1 or Option # 2:</p> <p>Option #1.  <i>Barrier</i> - Minimum of six (6) inches asphalt or concrete;  <i>Buffer</i> - Minimum of 18 inches clean fill;  <i>Demarcation</i> - Visible contamination boundary marker; and  <i>Inspection</i> - Annual.</p> <p>Option #2.  <i>Barrier</i> - Minimum of 18 inches of clean fill;  <i>Buffer</i> - Minimum of 10 inches of compacted soil pursuant to 40 CFR 761.61(a)7;  <i>Demarcation</i> - Geotextile fabric; and  <i>Inspection</i> - Semi-annual</p>	Remove and/or treat to unrestricted levels pursuant to N.J.A.C. 7:26E-5.3(b)2

7:26E-5.4 Remedial action requirements for historic fill material

(a) Notwithstanding the presumptive remedies for residences, schools, and child care centers required pursuant to N.J.A.C. 7:26E-5.3(a), there is a rebuttable presumption pursuant to N.J.S.A. 58:10B-12h that the remedial action for soil contamination associated with historic fill material is the establishment of engineering and institutional controls pursuant to N.J.A.C. 7:26C-7.

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(b) The ground water classification exception area established pursuant to N.J.A.C. 7:26E-4.7(b) shall remain effective indefinitely. However, a ground water remedial action permit is not required for the ground water classification exception area.

#### 7:26E-5.5 Remedial action workplan requirements

(a) The person responsible for conducting the remediation shall prepare and submit to the Department, at least 60 days prior to implementation, a remedial action workplan for each area of concern requiring a remedial action, unless a final remediation document for unrestricted use is filed with the Department within one year after the earliest applicable requirement to remediate, pursuant to N.J.A.C. 7:26C-2.2.

(b) The person responsible for conducting the remediation shall include the following in each remedial action workplan for each area of concern:

1. A summary of the findings and recommendations from the remedial investigation report prepared pursuant to N.J.A.C. 7:26E-4.9;
2. A description of any interim remedial measures previously implemented;
3. The identification of each area of concern where the remedial action will be implemented, including:
  - i. The horizontal and vertical extent of the area to be remediated correlated to the extent of contamination; and
  - ii. The volume of the contamination to be treated or removed for each environmental medium;
4. A detailed description of the remedial action and the remedial technology to be used for the area of concern, including the results of any bench scale, pilot test or design studies;
5. Identification of all applicable remediation standards;
6. A plan to evaluate the effectiveness of the remedial action;
7. A perimeter air monitoring and action plan to be implemented during a remedial action, if applicable, designed to monitor and control off-site excursion of dust, vapor and odors;
8. A list of all required permits;
9. A fill use plan that complies with N.J.A.C. 7:26E-5.2, if applicable;
10. A plan to restore the site after implementing the remedial action, if applicable; and



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11. The proposed completion date of the remedial action and a schedule of the remedial action for the initiation and completion of each remedial action task, pursuant to the required regulatory timeframe at N.J.A.C. 7:26E-5.8.

(c) The person responsible for conducting the remediation shall submit a revised remedial action workplan or remedial action workplan addendum prepared pursuant to this section:

1. When a remedial action does not perform as designed; or
2. To upgrade or change the selected remedial action.

#### 7:26E-5.6 Permit identification and requirements for discharge to ground water proposals

(a) The person responsible for conducting remediation shall apply for and obtain all required permits prior to initiating the activity requiring the permit, permit modification, or certification.

(b) For each discharge to ground water that is subject to the New Jersey Pollutant Discharge Elimination System rules at N.J.A.C. 7:14A-7.5(b), the person responsible for conducting the remediation shall submit a discharge to ground water proposal with a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), that shall include the following:

1. A summary of the remedial investigation of contaminated ground water, including the ground water flow direction and the nature and extent of contamination;
2. The concentrations of all contaminants expected to be present in the recovered ground water, prior to any treatment;
3. The type, location, volume and duration of the proposed discharge to ground water, and the potential effect that the proposed discharge would have on ground water or any other receptor;
4. A detailed description of how the discharge to ground water would comply with the Ground Water Quality Standards, N.J.A.C. 7:9C, and the Surface Water Quality Standards, N.J.A.C. 7:9B, as applicable;
5. The chemical content of all fluids and substances to be discharged or placed into, or onto the ground to implement a remedial action;
6. Specifications for the design of an underground injection system pursuant to N.J.A.C. 7:14A-8, as applicable;
7. A proposal to establish a ground water classification exception area for the area where the permitted discharge will exceed the Ground Water Quality Standards, N.J.A.C. 7:9C, outside of any existing ground water classification exception area, if applicable; and

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8. A monitoring plan, including but not limited to, the monitoring wells to be sampled, the frequency of sampling for wells, and if applicable, monitoring of the fluid to be discharged, a list of all the analytes to be monitored, and a schedule for the submission of sampling results.

(c) When the discharge to ground water will exceed 180 days, the person responsible for conducting the remediation shall:

1. Prepare a public notice using the format in Appendix B;

2. Prior to publishing a public notice, the person responsible for conducting the remediation shall provide a copy of the discharge to ground water proposal prepared pursuant to (b) above and the public notice prepared pursuant to (c)1 above to:

- i. The Department;
- ii. The clerk for each municipality in which the contaminated site is located;
- iii. The designated local health official for each municipality in which the contaminated site is located; and
- iv. The Pinelands Commission, if the contaminated site is located within its jurisdiction as defined pursuant to N.J.S.A. 13:18A, at the address specified at N.J.A.C. 7:26E-1.5(i)4;

3. Publish the public notice of the discharge to ground water in a daily or weekly newspaper of general circulation in the vicinity of the contaminated site, at least 45 days prior to the proposed startup date of the ground water discharge; and

4. Submit to the Department proof of publication for the public notice within 15 days after the notice is published, and provide the names and addresses of everyone that was sent a copy of the public notice and discharge to ground water proposal pursuant to (c)2 above.

(d) The Department shall hold a public hearing on the discharge to ground water proposal if the Department determines that there is a significant degree of public interest in favor of holding a public hearing. The Department may hold a public hearing if it determines that a hearing is likely to clarify legal or factual issues regarding the discharge to ground water proposal and that oral testimony is essential to adequately express all issues and concerns. If the Department decides to hold a public hearing on the proposed discharge to ground water, the Department shall:

1. Publish a notice of a public hearing in a daily or weekly newspaper of general circulation in the vicinity of the contaminated site at least 30 days prior to the hearing; and

2. Extend the public comment period to the close of the public hearing;

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(e) The Department will consider comments received during the public comment period and the public hearing, respond to the comments when it issues the written decision to approve or reject the discharge to ground water proposal, and provide a copy of the decision to each commenter and to each person or entity to whom the notice was sent pursuant to (c) above.

#### 7:26E-5.7 Remedial action report requirements

(a) The person responsible for conducting the remediation shall implement the remedial action and submit to the Department a remedial action report, along with a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms), pursuant to (b) below, and according to the applicable regulatory timeframe in N.J.A.C. 7:26E-5.8.

(b) The person responsible for conducting the remediation shall present and discuss in the remedial action report all of the information identified or collected pursuant to N.J.A.C. 7:26E-5.1 through 5.6, along with all of the following:

1. The general reporting requirements in N.J.A.C. 7:26E-1.6;
2. A presentation and discussion of all of the information identified or collected, pursuant to N.J.A.C. 7:26E-1.10 through 1.16 and an updated receptor evaluation on a form found on the Department's website at [www.nj.gov/dep/srp/srra/forms](http://www.nj.gov/dep/srp/srra/forms);
3. A summary of the findings and recommendations for each area of concern from the remedial investigation report prepared pursuant to N.J.A.C. 7:26E-4.9;
4. A description, by area of concern, of each remedial action implemented;
5. A list, by remedial action, of the remediation standards that apply to each remedial action;
6. Documentation, by area of concern, that each remedial action is effective in protecting the public health and safety and the environment by:
  - i. Providing an overview of the data to establish the remedial action is operating as designed; or
  - ii. Demonstrating compliance with the applicable remediation standards;
7. A remedial action permit application prepared pursuant to N.J.A.C. 7:26C-7, if applicable;
8. "As-built" diagrams for any permanent structures associated with the remedial action including, without limitation, caps or other structures associated with the remedial action and engineering controls, if applicable;

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9. A detailed description of site restoration activities, if applicable;
10. The total remediation costs through the implementation of the remedial action;
11. Documentation of all types and quantities of waste generated by the remedial action, including copies of fully executed manifests or bill(s) of lading documenting any off-site transport of waste;
12. Documentation of the source, type, quantities, and location of each alternative fill and clean fill used as part of the remedial action at the site; and
13. A description of each permit required and obtained to implement the remedial action.

#### 7:26E-5.8 Remedial action regulatory timeframes

(a) The person responsible for conducting the remediation shall complete the implementation of the remedial action, within the applicable regulatory timeframe listed in (b) below, by:

1. Implementing all remedial actions required to address the contaminated site, pursuant to the requirements of this subchapter;
2. Submitting a remedial action report for all remedial actions at the contaminated site to the Department pursuant to N.J.A.C. 7:26E-5.7; and
3. Ensuring that a licensed site remediation professional submits a final remediation document to the Department pursuant to the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-6.2.

(b) The person responsible for conducting the remediation shall complete the implementation of the remedial action for a contaminated site within the following timeframes:

1. For the remediation of a discharge that only resulted in soil contamination, within three years after the earliest applicable regulatory timeframe in N.J.A.C. 7:26E-4.10 to submit a remedial investigation report; or
2. For the remediation of all other contamination, within five years after the earliest applicable regulatory timeframe in N.J.A.C. 7:26E-4.10 to submit a remedial investigation report.

(c) Any person responsible for conducting remediation who is not subject to liability under N.J.S.A. 58:10-23.11g and is one of the following, is exempt from the regulatory timeframes outlined in (b) above:

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1. A non-profit organization that meets the definition set forth at 26 U.S.C. §501(c)3 unless that organization is established by or funded by another person who is subject to liability under N.J.S.A. 58:10-23.11g for that site; or

2. A government entity that is exempt from liability pursuant to N.J.S.A. 58:10-23.11g.d(4).

(d) The person responsible for conducting the remediation may request an extension of the applicable regulatory timeframe in (b) above, pursuant to the procedure outlined in the Administrative Requirements for the Remediation of Contaminated Sites, N.J.A.C. 7:26C-3.2.

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APPENDIX A - Laboratory data deliverables formats

I. Full Laboratory Data Deliverables are required for the following analytical data:

(a) Potable water data are to be submitted according to data deliverables listed in the version of the Professional Laboratory Analytical Services contract for potable water issued by the New Jersey Department of Treasury, Division of Purchase and Property in effect as of the date of sample analysis by the laboratory.

(b) Air (including sub-slab, indoor and ambient) analyzed by NJDEP Method LLTO-15 or USEPA Method TO-15.

Data are to be submitted according to the most recent update of the NJDEP-SRWM Low Level USEPA Method TO-15 (NJDEP-LL TO-15-3/2007 for Ambient Air, NJDEP Regulatory Data Report Format - Appendix 1 March 2007) in effect as of the date of sample analysis by the laboratory with the following exceptions and additions:

1. Additional deliverables for NJDEP Method LLTO-15 or USEPA Method TO-15:

i. The terms "Laboratory Control Sample" and "Blank Spike" may be used in addition to "Reporting Limit Laboratory Control Sample";

ii. The paper copies contained in the extended data report (deliverable package) must not be reduced in size from its original format (Appendix 1, Section 2.4.6);

iii. The laboratory sample numbers must be in increasing sequential order with regards to laboratory identification (ID) number (Appendix 1, Section 4.2.8);

iv. In the sample data summary, the laboratory shall place sample packages in order of increasing sample number considering laboratory ID numbers (Appendix 1, Section 6.0);

v. The laboratory shall report all compounds detected other than those noted in Table 1 of Appendix 1 as Tentatively Identified Compounds (TICs) for all samples, blanks and clean canister certification data (Appendix 1, Section 6.11); and

vi. For TO-15 analyses only, the instrument run log for the continuing calibration shall start with the injection of the continuing calibration verification standard and end with the last sample analyzed within the 24 hour sequence (Appendix 1, Section 10.3).

2. For TO-15 analysis only, the following do not need to be included:

i. Initial Calibration Verification Sample Standard Summary (Appendix 1, Section 7.1.2);

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- ii. Initial Calibration Verification Sample Standard Form Summary and Raw Data (Appendix 1, Section 7.2);
- iii. The Closing Continuing Calibration Verification analysis (Appendix 1, Section 7.3);
- iv. Initial Calibration Verification Sample Standard Summary (Appendix 1, Section 9.1.6);
- v. Standards Data- Initial Calibration Verification Sample Standard Summary and Closing Continuing Calibration Verification Summary (Appendix 1, Table 2); and
- vi. Clean Canister Certification Data- Initial Calibration Verification Sample Standard Summary and Closing Continuing Calibration Verification Summary (Appendix 1, Table 2).

(c) Air (including sub-slab, indoor and ambient) analyzed by methods other than NJDEP Method LLTO-15 or USEPA Method TO-15.

Deliverables are to be those as defined in I.(b) above where appropriate based on method specific procedures.

(d) Polychlorinated dibenzo-p-dioxins/Polychlorinated dibenzofurans (PCDDs/PCDFs)

Data are to be submitted according to the data deliverables defined in Section 2 - Reporting Requirements and Deliverables for each of the following method specific USEPA Region 2 Standard Operating Procedures (SOPs) incorporated herein by reference ([www.epa.gov/region02/qa/documents.htm](http://www.epa.gov/region02/qa/documents.htm)):

1. USEPA Method 1613B Region 2 SOP HW-25 Revision 3;
2. USEPA SW-846 Method 8290 Region 2 SOP HW-19 Revision 1; and
3. USEPA SW-846 Method 8280 Region 2 SOP HW-11 Revision 2.

(e) Hexavalent Chromium

The following information shall be provided. If data are contained in a laboratory notebook, instrument print out and/or chromatogram, then a copy of the pertinent laboratory note book page, instrument print out and/or chromatogram is to be submitted.

1. Date of sampling;
2. Date of digestion;
3. Date of analysis;

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4. Sample weight/volumes for all samples, initial calibration standards, calibration check standards, calibration blanks, preparation blanks/method blanks, pre-digestion (for soluble and insoluble) spike samples, post-digestion spike samples, duplicate analyses, and if performed, laboratory control samples;

5. pH of the sample digestate and standards, from both the preparative and analytical protocols;

6. Percent moisture log;

7. Digestion log (digestion temperature at 30 minutes and 60 minutes of at least one sample must be monitored and recorded) and color of digestates;

8. Absorbance readings for all samples, initial calibration standards, calibration check standards, calibration blanks, preparation blanks/method blanks, pre-digestion spike samples, post-digestion spike samples, duplicate analyses, and if performed, laboratory control samples;

9. Background readings for all samples, initial calibration standards, calibration check standards, calibration blanks, preparation blanks/method blanks, pre-digestion spike samples, post-digestion spike samples, duplicate analyses, and if performed, laboratory control samples;

10. All calibration curves (including a blank as one point of the curve) listing the concentration of the standards with their absorbance and the correlation coefficient calculated;

11. Calibration check standards results including the true values and the percent recoveries calculated;

12. Calibration blank results;

13. Preparation blank/method blank results;

14. If required, the pre-digestion spikes (for soluble and insoluble) analyses including the spike amount used and the spike recoveries;

15. Post-digestion spike analysis results including the spike amount used and the spike recoveries;

16. Duplicate analysis results including the relative percent difference;

17. Laboratory Control Sample (LCS) results including the true value and the calculated percent recovery;



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18. Eh-pH graph from Method 3060A for all nonaqueous samples plotting the pH and Eh data for each sample with each sample clearly labeled on the graph; and

19. Final concentrations corrected for percent moisture.

(f) USEPA/CLP Analyses

Data deliverables are defined in each Statement of Work offered by the USEPA. ([www.epa.gov/superfund/programs/clp/](http://www.epa.gov/superfund/programs/clp/)) As such, data are to be submitted according to the data deliverables listed in the Statements of Work used by the laboratory and in effect as of the date of sample analysis by the laboratory. Additionally, mass spectral negative proofs<sup>1</sup> are required where applicable, "clean" soil method blanks<sup>2</sup> for nonaqueous samples are not permitted, and laboratory internal chain of custody documentation is required.

<sup>1</sup> A negative proof is a mass spectrum offered as evidence to support an analyst's decision to negate the presence of a contaminant which has been qualitatively identified and reported by the instrument's data system.

<sup>2</sup> Method blanks for nonaqueous samples shall consist of performing the entire analytical procedure without any actual sample being present. The appropriate amount of sodium sulfate as specified in the current Statements of Work for Organics would be substituted as the "sample" for the semivolatile and pesticide/aoclor fractions.

(g) Extractable Petroleum Hydrocarbons

Data are to be submitted according to data deliverables listed in the Department's Extractable Petroleum Hydrocarbon Methodology, "Analysis of Extractable Petroleum Hydrocarbon Compounds (EPH) in Aqueous and Soil/Sediment/Sludge Matrices" in effect as of the date of sample analysis by the laboratory. ([www.nj.gov/dep/srp/guidance/srra/eph\\_method.pdf](http://www.nj.gov/dep/srp/guidance/srra/eph_method.pdf))

(h) Methods other than (a) through (g) above:

In the absence of a method-defined data deliverable, the laboratory may use the applicable deliverables of a USEPA Statement of Work that is procedurally similar to the method employed.

## II. Reduced Laboratory Data Deliverables

(a) General Requirements

1. The data deliverable package shall be bound and paginated with margins, bindings and of reproduction quality such that all pages are legible;

2. Title/Cover Page:

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The format for quality assurance/quality control (QA/QC) documentation shall be simplified as much as possible for ease of review and reference. The report shall begin with a cover page that includes the laboratory certification number, if applicable, main laboratory phone number, signature of laboratory director, facility name, address and date of report preparation and date of sampling and receipt. The report shall include a summary table that cross-references the field ID number to the laboratory ID number for each sample;

3. Table of Contents;
4. Chain of Custody;
5. Methodology Review:

The Methodology Review shall list method numbers and revision, with a detailed discussion of any method modification;

6. Laboratory Chronicle:

The laboratory chronicle shall detail actual sample holding times and specify the sample condition upon receipt at the laboratory (including sample temperature and pH when pH adjustment is required);

7. Conformance/Non-Conformance Summary:

A conformance/non-conformance summary shall be completed and signed by the laboratory. This summary shall state that the laboratory has reviewed the QA/QC measures for sample analysis and has identified any deviations from the acceptable performance criteria or results.

(b) Gas chromatography/mass spectrometry (GC/MS) Requirements for each analytical fraction

1. Analytical Results Summary Form - An analytical results summary form shall be submitted for each sample and for each GC/MS analytical fraction (i.e., volatiles and semi-volatiles). Each form shall contain the following information: date sample collected, date sample received, date sample extracted, date sample analyzed, sample weight/volume/units, sample ID numbers, sample delivery group (SDG), sample matrix, level, sample moisture content, dilution factor, GC column used, list of analytes, method detection limit, practical quantitation level and detected analyte concentrations;

2. Tentatively Identified Compound (TIC) Summary - Each TIC shall be identified by compound name or class (if it can be determined) and Chemical Abstract Service (CAS) number along with its retention time and estimated concentration;

3. Tuning Results Summary Form - Tuning results for all initial and continuing calibrations that are associated with all samples shall contain the following information:

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laboratory file ID, instrument ID, injection date and time, the m/e (mass to ion charge) listing for the key ions, the reported ion relative abundance, the ion abundance criteria and a listing of all standards, blanks, QC samples and field samples (including date, lab file ID and time of analysis) associated with the tune;

4. Method Blank Results Summary Form - An analytical results form shall be submitted for all method blanks associated with all field samples for all analytical fractions. Each form shall contain the information listed in Section II (b) 1 above, as well as a listing of all field and QC samples associated with each method blank. In addition, a separate form for TICs shall be submitted which contains the information listed in Section II(b)2 above;

5. Calibration Summary - A summary of all initial and continuing calibrations that are associated with all samples and blanks shall be submitted for each GC/MS analytical fraction. The following information shall be provided for each initial calibration: instrument ID, calibration date and time, listing of standard concentrations used, laboratory file ID for each calibration standard, listing of all associated field samples, QC samples and blanks, retention times for each target analyte and surrogate compound, listing of the relative response factor (RRF) for each target analyte and surrogate compound, the average RRF for each target analyte and surrogate compound, and percent relative standard deviation for each target analyte and surrogate compound. The following information shall be provided for each continuing calibration: instrument ID, calibration date and time, date and time of the associated initial calibration, the standard concentration used, the laboratory file ID for the calibration standard, listing of all associated field samples, QC samples and blanks, retention times for each target analyte and surrogate compound, the average RRF for each target analyte and surrogate compound from the associated initial calibration, the RRF for each target analyte and surrogate compound from the continuing calibration and the percent difference for each target analyte and surrogate compound;

6. Surrogate Compound Recovery Results Summary - If required by the analytical method, a summary form shall be submitted which contains the following information for all field samples, method blanks and QC samples for each GC/MS analytical fraction: sample ID number, sample matrix, surrogate compound names, concentration of surrogate compounds used, surrogate compound recoveries and QC limits for each surrogate compound;

7. Matrix Spike/Matrix Spike Duplicate Results Summary - If required by the analytical method, a summary form shall be submitted for each sample matrix and each GC/MS analytical fraction which contains the following: sample ID number for the sample selected for spiking, list of compounds being spiked, concentration of each spiked compound, matrix spike concentration, matrix spike percent recovery, matrix spike duplicate concentration, matrix spike duplicate percent recovery, relative percent difference and QC limits for percent recovery and relative percent difference;

8. Internal Standard Summary - A summary form shall be submitted which contains the following information for all standards, field samples, method blanks and QC samples for each analytical fraction: sample ID number, ID of laboratory calibration standard, internal standard compound names, concentration of internal standards compounds, retention times of

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each internal standard, area of each internal standard, and QC criteria (where applicable) for internal standard areas and retention times;

9. Chromatograms - The total ion chromatograms for all field samples and method blanks shall be submitted. All peaks on the chromatograms shall be identified as either an internal standard, surrogate compound, target compound or non-target compound. All peaks on a chromatogram shall also be associated with retention times, either directly on the chromatogram or identified and cross-referenced in tabular form.

(c) GC Requirements

1. Analytical Results Summary - An analytical results form shall be submitted for each sample. Each form shall contain the information contained in Section II(b)1 above;

2. Method Blank Results Summary - An analytical results form shall be submitted for all method blanks as well as a listing of all field and QC samples associated with each method blank. Each form shall contain the information contained in Section II(b)4 above;

3. Standards Summary - A summary form containing GC standards information for all associated samples shall be submitted for both primary and confirmation (if applicable) analyses. This summary shall contain the following information: instrument ID number, GC column used and notation if primary or confirmation analysis, date and time of standard(s) analysis, listing of all associated field, QC and method blank samples, listing of target compounds, retention time windows of each target compound and calibration factor for each target compound;

4. Surrogate Compound Recovery Results Summary - If required by the analytical method, a summary form shall be submitted which contains the following information for all field samples, method blanks, and QC samples: sample ID number, sample matrix, surrogate compound names, concentration of surrogate compounds used, surrogate compound recoveries and QC limits for each surrogate compound;

5. Matrix Spike/Matrix Spike Duplicate Results Summary - If required by the analytical method, a summary form shall be submitted for each sample matrix which contains the information contained in Section II(b)7 above;

6. Retention Time Shift Summary - If required by the analytical method, a summary form containing retention time shift results shall be submitted for both the primary and confirmation (if applicable) analyses. The form shall contain the following information: instrument ID number, GC column used and notation if primary or confirmation column analysis, name of retention time shift marker compound, list of all field samples, method blanks and QC samples, date and time of analysis of all field samples, method blanks and QC samples, percent difference of the retention time shift and QC limits for the retention time shift;

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7. Chromatograms - The primary analysis chromatograms and confirmation analysis chromatogram (when applicable) for all field samples and method blanks shall be submitted. All peaks on the chromatogram attributable to target and surrogate compounds shall be identified as such along with the retention time for each peak. The reference standard chromatogram for all multi-peak target compounds (e.g., toxaphene, PCBs) for both the primary and the confirmation analysis (when applicable) shall also be submitted.

(d) Metals Requirements

1. Analytical Results Summary - An analytical results form shall be submitted for each sample. Each form shall contain the following information: sample ID number (laboratory and/or field ID), laboratory SDG number, sample matrix, date sample collected, date sample received, date sample analyzed, sample moisture content, dilution factor (if any), list of target analytes, detected analyte concentrations and method detection limits;

2. Blank Results Summary - A blank results form shall be submitted for all instrument calibration blanks and reagent blanks associated with all field and QC samples. Each form shall contain the following information: a list of all target analytes, matrix of the reagent blank, concentration units of the reagent blank, reported concentration of all target analytes found in all calibration and reagent blanks and method detection limits;

3. Calibration Summary - A calibration summary shall be submitted for all initial calibration standards and continuing calibration standards associated with field samples, blanks and QC samples. Each form shall contain the following information: laboratory SDG number, initial and continuing calibration source, list of all target analytes, the true concentration for the initial and continuing calibration standards, the reported (or found) concentrations for the initial calibration standards and continuing calibration standards, the percent recovery for each initial calibration standard and continuing calibration standard and the percent recovery QC limits for each target analyte. In addition, this form shall also list the method detection limit and instrument detection limit for each target analyte;

4. ICP Interference Check Sample Results Summary - If metals analysis is being conducted by ICP methodology, results of the interference check samples analysis shall be reported. The following information shall be reported: laboratory SDG number, interference check sample source, instrument ID number, list of all target analytes in the interference check sample, the true concentration of analytes in the interference check sample, the reported concentrations of analytes found in the interference check sample for both the initial and final check samples analyses, the percent recovery of the target analytes found in the initial and final check samples analyses and the QC control limits for percent recovery values;

5. Spike Sample Results Summary - A summary of the spike sample analysis shall be submitted. The following information shall be reported: laboratory SDG number, ID number of the sample chosen for spiking, sample matrix, percent solids, the concentration of each spiked target analyte, the results of the unspiked sample analysis, the results of the spiked

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sample analysis, the percent recovery for each spiked analyte and the QC limit for percent recovery for each spiked analyte;

6. Duplicate Sample Results Summary - A summary of the duplicate sample analysis shall be submitted. The following information shall be reported: laboratory SDG number, ID number of the original sample and the duplicate samples, sample matrix, percent solids, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference of each target analyte for the original duplicate sample analyses and the QC limit for relative percent difference for each target analyte;

7. Laboratory Control Sample Results Summary - When specified by the analytical method, the results of the laboratory control (quality control) sample shall be submitted. The following information shall be reported: laboratory SDG number, control sample matrix, list of all target analytes, the true concentration for each analyte in the control sample, the reported concentration for each target analyte in the control sample, the percent recovery for each target analyte and the QC limit for percent recovery for each target analyte;

8. Serial Dilution Summary - If required by the analytical method, a summary of the serial dilution results shall be submitted. The following information shall be reported: laboratory SDG number, ID number of the original sample and the serial dilution sample, sample matrix, results of the original sample analysis, results of the serial dilution sample analysis, the percent difference of each target analyte compared to the original target analyte results and the QC limit for percent difference for each target analyte;

9. Internal Standard Summary - A summary form shall be submitted for each ICP/MS analytical run which contains the following information: laboratory SDG number, date analyzed, method reference, sample ID number, ID of laboratory calibration standard, calibration and method blanks ID, QC sample ID, internal standard compound names, percent recoveries of internal standard compounds, and QC criteria for internal standard areas;

10. Analysis Run Log - The following information shall be reported: laboratory SDG number, instrument ID number, date and time of sample analysis, any dilution factors used, the analytical run sequence of all samples, standards and blanks and the list of all target analytes;

11. Digestion Log - The following information shall be reported: date of sample digestion, laboratory SDG number, batch number, matrix, sample numbers, initial weight/volume, final volume and digestion method.

(e) General Chemistry Requirements

1. Analytical Results Summary - An analytical results form shall be submitted for each sample. Each form shall contain the following information: sample ID number (laboratory and/or field ID), sample matrix, date sample collected, date sample received, date sample

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analyzed, sample moisture content, dilution factor (if any), list of target analytes and detected analyte concentrations and method detection limits;

2. Calibration Summary - A calibration summary shall be submitted for all initial calibration standards and check standards associated with field samples, blanks and QC samples. Each form shall contain the following information: list of all target analytes, the true concentration for the initial calibration standards and check standards, the reported (or found) concentrations for the initial calibration standards and check standards, the percent recovery for each initial calibration standard and check standard and the percent recovery QC limits for each target analyte;

3. Blank Results Summary - A blank results form shall be submitted for all method blank samples associated with all field and QC samples. Each form shall contain the following information: list of all target analytes, matrix of the method blank, concentration units of the method blank, reported concentration of all target analytes found in all method blanks;

4. Spike Sample Results Summary - A summary of the spike sample analysis shall be submitted. The following information shall be reported: ID number of the sample chosen for spiking, sample matrix, the concentration of each spiked target analyte, the results of the unspiked sample analysis, the results of the spiked sample analysis, the percent recovery for each spiked analyte and the QC limit for percent recovery for each spiked analyte;

5. Duplicate Sample Results Summary - A summary of the duplicate sample analysis shall be submitted. The following information shall be reported: ID number of the original sample and the duplicate sample, sample matrix, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference of each target analyte for the original duplicate sample analyses and the QC limit for relative percent difference for each target analyte;

6. Laboratory Control Sample Results Summary / Quality Control Check Standard Summary - When specified by the analytical method, the results of the laboratory control (quality control check) sample shall be submitted. The following information shall be reported: control sample matrix, list of all target analytes, the true concentration for each analyte in the control sample, the reported concentration for each target analyte in the control sample, the percent recovery for each target analyte and the QC limit for percent recovery for each target analyte.

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APPENDIX B - Model public notice for a discharge to ground water proposal

The model public notice in this appendix contains blanks and matter in brackets []. These blanks shall be replaced with the appropriate information prior to publication in appropriate local newspapers. As provided at N.J.A.C. 7:26E-5.6(c), the wording of this model public notice shall not be otherwise changed or modified.

Public Notice

Take notice that, as part of the remediation of [Site Name] at [street address], Block: \_\_\_\_\_ Lots: \_\_\_\_\_, in [Municipality], [\_\_\_\_\_] County, a proposal has been submitted to the New Jersey Department of Environmental Protection (Department) to discharge to ground water in accordance with a permit issued pursuant to the provisions of the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., its implementing regulations the New Jersey Pollutant Discharge Elimination System, N.J.A.C. 7:14A; the Ground Water Quality Standards, N.J.A.C. 7:9C; and the Technical Requirements for Site Remediation, N.J.A.C. 7:26E. The Department's Site Remediation Program is reviewing the proposal to discharge to ground water for the purpose of remediating a contaminated site with the program interest # [\_\_\_\_\_].

Brief description of the proposed discharge: [Include a description of the site including the remedial action, type of discharge (e.g., treated ground water or in situ bioremediation), discharge unit (e.g., injection well, overland flow, lagoon, etc.) and treatment proposed and the name and description of the formation receiving the discharge]. A copy of this public notice has been sent to the Municipal Clerk and designated local health official for [Municipality, County or region].

A copy of the discharge to ground water proposal is available from the person responsible for conducting the remediation [include the name and address of the person conducting the remediation], or as part of the administrative record which is on file at the offices of the Department, Site Remediation Program, located at 401 East State Street, Trenton, Mercer County, New Jersey [or add alternate location]. The file may be reviewed under the New Jersey Open Public Records Act ("OPRA"), N.J.S.A. 47:1A-1 et seq. Information regarding the OPRA procedures is available at [www.state.nj.us/dep/opra/oprainfo.html](http://www.state.nj.us/dep/opra/oprainfo.html).

Interested persons may submit written comments regarding the discharge to ground water proposal to the Department at the address listed below and to the owner or operator of the facility at [name and address of person/contact submitting discharge to ground water proposal]. All comments shall be submitted within 30 calendar days after the date of this public notice, or the end of any public hearing that the Department may schedule that occurs after that date. All persons who believe that the discharge to ground water proposal is inappropriate, must raise all reasonably ascertainable issues and submit in writing to the Department all reasonably available arguments and factual grounds supporting their position, including all supporting material, by the close of the public comment period. The Department will consider all public comments that relate to the discharge to ground water proposal, provided that the Department receives the comments by the close of the public comment period. After the close of the public comment period, the Department will render a decision regarding the proposed discharge to ground water.



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The Department will respond to all significant and timely comments with its decision regarding the discharge to ground water proposal. Each person who has submitted written comments will receive notice of the Department's decision.

Any person may request in writing that the Department hold a non-adversarial public hearing on the discharge to ground water proposal. This request shall state the nature of the issues to be raised in the proposed hearing and shall be submitted within 30 calendar days of the date of this public notice to the address cited below. A public hearing will be conducted whenever the Department determines that there is a significant degree of public interest in the discharge to ground water decision. If a public hearing is held, the public comment period in this notice shall automatically be extended to the close of the public hearing.

Comments and written requests for a non-adversarial public hearing shall be sent to:

NJ Department of Environmental Protection  
Site Remediation Program  
Bureau Case Assignment and Initial Notice  
Mail Code 401-05H  
401 East State Street  
P.O. Box 420  
Trenton, NJ 08625-0420  
ATTN: DGW proposal