

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, at 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
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 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 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 (b) above 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:

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; 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.

(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. 7:26E-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.

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 in the soil 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, a contaminant is found in ground water in excess of the ground water remediation standard, then the person responsible for conducting the remediation may investigate the extent to which the concentration of the contaminant in ground water 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;

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 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 N.J.A.C. 7:26E-1.6;
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; and
6. Findings and recommendations, including:
 - i. A discussion, by area of concern, of the specific findings of the site investigation analytical results; and
 - 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, 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, 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, for sites when:

- 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, at 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, 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, 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, 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, at N.J.A.C. 7:26C-3.2.

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.

(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 et seq.; 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;

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

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:

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 this subchapter.

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.

(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; and

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.

(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