

II. Receptor Evaluation

A receptor evaluation is a set of remediation requirements that are aimed at ensuring that people and ecological receptors are protected from exposure to hazardous substances at or near contaminated sites. The remediating party must begin to conduct the receptor evaluation when a discharge is confirmed and will continue to evaluate potential receptors throughout the remediation process. At several points in the remediation, the remediating party must submit the results of these evaluations to the Department on the Receptor Evaluation form. A copy of the completed Receptor Evaluation form must also be sent to the municipal clerk and local health official where the site is located.

The Technical Rules, at N.J.A.C. 7:26E-1.12 through 1.16, establish regulatory timeframes for the receptor evaluation. There is a mandatory timeframe for the submittal of the initial Receptor Evaluation established by the ARRCs rule at N.J.A.C. 7:26C-3.3.

The remediating party must ensure that each component of the Receptor Evaluation form is completed to accurately reflect conditions at and around the site, at the time that the report is submitted. The Receptor Evaluation form provides a snapshot in time that captures the results of the ongoing evaluation. If contamination from the site does not impact potable wells, indoor air or ecological resources, the Receptor Evaluation form must be completed to reflect that.

The receptor evaluation process and immediate environmental concern (IEC) conditions (N.J.A.C. 7:26E-1.11), are related to each other. The requirements to sample potable water or conduct a vapor intrusion investigation are triggered during the receptor evaluation. When sampling identifies contamination at levels in potable water that exceed Class II groundwater remediation standards or levels in indoor air that exceeds the Department's vapor intrusion rapid action level, that portion of the case becomes an IEC. When an IEC condition has been triggered, all related sampling, mitigation, reporting etc. are subject to the requirements of N.J.A.C. 7:26E-1.11.

An outline of the receptor evaluation quick reference guides is provided below to help put all these requirements in context:

Receptor Evaluation

1. General and Reporting Requirements (N.J.A.C. 7:26E-1.12)
2. Land Use (N.J.A.C. 7:26E-1.13)
3. Ground Water (N.J.A.C. 7:26E-1.14)
 - a. Potable water IEC condition
 - b. No potable water IEC condition
4. Vapor Intrusion (N.J.A.C. 7:26E-1.15)
 - a. Indoor air IEC condition is identified
 - b. Indoor air Vapor Concern (VC) is identified
 - c. No indoor air IEC condition is identified
5. Ecological (N.J.A.C. 7:26E-1.16)

1. General and Reporting Requirements (N.J.A.C. 7:26E-1.12)

Action	When	Forms	Other sources of info	N.J.A.C. Rule citations
Conduct a receptor evaluation pursuant to 7:26E-1.12 through 1.16 Note: Quick reference guides are provided for each rule section below.	Begin the receptor evaluation process when discharge is confirmed.	NA	Discharge notification to Hotline (1-877-WARNDEP) Confirmed Discharge Notification Instructions	7:26E-1.12
Submit an <u>initial</u> receptor evaluation	Within one year after the report of the discharge ¹	Receptor Evaluation form	For all cases submit to: NJDEP Bureau of Case Assignment & Initial Notice Mail Code 401-05H 401 East State Street PO Box 420 Trenton, NJ 08625-0420 Also submit copies to: Municipal Clerk and local health officer	7:26E-1.12(c) 7:26C-3.3
Submit an updated receptor evaluation report	With the submission of any of the following: <ul style="list-style-type: none"> • The IEC Source Control Report • The Remedial Investigation Report • The Remedial Action Report 	Receptor Evaluation form	For case w/LSRP and without Department oversight submit to: NJDEP Bureau of Case Assignment & Initial Notice Mail Code 401-05H 401 East State Street PO Box 420 Trenton, NJ 08625-0420 For case w/Department oversight submit to assigned DEP Case Manager Also submit copies to: Municipal Clerk and local health officer	7:26E-1.12(e) 7:26E-4.9 7:26E-5.7

Footnote:

1. The Initial Receptor Evaluation form is required to be submitted within one year after the date that the person is required to initiate remediation. These are regulatory timeframes established by the Technical Rules, N.J.A.C. 7:26E-1.12.

The corresponding mandatory timeframe for the Initial Receptor Evaluation is two years after the date that the person is required to initiate remediation. (N.J.A.C. 7:26C-3.3(a)). The person responsible for conducting the remediation may request an extension of regulatory or mandatory timeframes, pursuant to N.J.A.C. 7:26C-3.5, for good cause by submitting a [Remediation Timeframe Extension Request Form](#) to the Department.

FAQs on this topic:

1. Is the submission of a Receptor Evaluation form required for all cases?

No. A remediating party is not required to submit a Receptor Evaluation form when an unrestricted use remedial action is implemented at the site, a final remediation document is issued, within one year after initiating the remediation.

2. How do I fill out the Receptor Evaluation form if my site is very complex or the form does not seem to fit my site?

When the Receptor Evaluation form does not address your site-specific circumstances, you may include a short, concise narrative with the form that clearly explains the circumstances and describes how receptors are being protected. If you need assistance contact your case manager, if one is assigned, or a Site Remediation Program contact at http://www.state.nj.us/dep/srp/srra/srra_contacts.pdf .

2. Land Use (N.J.A.C. 7:26E-1.13)

Action	When	Forms	Other sources of info	N.J.A.C. Rule citations
Identify all current land use: <ul style="list-style-type: none"> • At the site; and • Within 200 feet of site boundary¹ 	Begin the Receptor Evaluation process when the person is required to initiate remediation	Receptor Evaluation form	See general and reporting requirements (N.J.A.C. 7:26E-1.12) above	7:26E-1.13(a)
Provide the address and map indicating the location of each of the following located within 200 feet of site boundary: <ul style="list-style-type: none"> • Residence • School • Child care center • Park, playground or other recreation area • Other sensitive population 				7:26E-1.13(a)
Identify and describe all proposed changes to land use at the site or within 200 feet of the site boundary			Local Planning and Zoning Board	7:26E-1.13(a)

FAQ

1. I have a very large site and only one small area of concern, do I still have to evaluate land use within 200 feet of the entire property boundary?

A: The decision to limit the evaluation of land use must be based on existing site data and conditions and on your professional judgment. The area around the site that must be evaluated can be reduced only in cases where the extent of contamination in soil and ground water, the direction of ground water flow, and the distance to potential receptors is known. Variances to the technical requirements must be documented pursuant to N.J.A.C. 7:26E-1.7.

3. Ground Water (N.J.A.C. 7:26E-1.14)

Action	When	Forms	Other sources of info	N.J.A.C. Rule citations
<p>Conduct a Receptor Evaluation for ground water (GW) when any contaminant in GW exceeds any Class II Ground Water Remediation Standard</p> <ul style="list-style-type: none"> • Conduct a well search • Conduct a door-to-door survey (as needed) • Identify information about all wells (except monitoring wells) • Generate a map of all well locations (except monitoring wells, borings and all non-pumping wells) • Document sources used to conduct well search • Determine if GW contamination is in a well head protection area 	Within 90 days after GW contamination is detected	Well Search Spreadsheet	<p>DEP Division of Water Quality, Bureau of Water Systems and Well Permitting</p> <p>County and local health departments</p> <p>DEP, NJ-GeoWeb Environmental Mapping Tool</p>	7:26E-1.14(a)1
Notify the Department if any potable or irrigation wells, identified in the well search and/or door-to-door survey, will be sampled.	7 days prior to sampling event	Potable Well/Indoor Air Sampling Notification Form	Send submissions as outlined in the general and reporting requirements (N.J.A.C. 7:26E-1.12) above	7:26E-1.14(a)2i
Sample all required wells	Within 120 days after GW contamination is detected	NA	Department's Field Sampling Procedures Manual	7:26E-1.14(a)2ii-iv
Update the well search	Every two years after the trigger date	NA	<p>DEP Division of Water Quality, Bureau of Water Systems and Well Permitting</p> <p>County and local health departments</p> <p>DEP, NJ-GeoWeb Environmental Mapping Tool</p>	7:26E-1.14(a)3

Action	When	Forms	Other sources of info	N.J.A.C. Rule citations
a. If a contaminant concentration is detected in any potable well in excess of the Class II Ground Water Remediation Standard				7:26E-1.14(b)
Notify the Department of the IEC condition and conduct all required actions pursuant to 7:26E-1.11	Immediately after receiving sampling results (15 min)	NA	1-877 WARNDEP or 1-877-927-6773 Immediate Environmental Concern (IEC) Guidance	7:26E-1.14(b) 7:26E-1.11
b. If no contaminant concentration is detected in any potable well sample in excess of any Class II Ground Water Remediation Standard				7:26E-1.14(c)
Submit to the Department: <ul style="list-style-type: none"> • All analytical results with full laboratory deliverables for all potable well samples • Full deliverables form • A copy and explanation of the GW analytical results to each property owner, occupant (if applicable), local health department and the Department 	Within 30 days after receipt of the analytical results from the laboratory	Full Data Laboratory Deliverables form	Send submissions as outlined in the general and reporting requirements (N.J.A.C. 7:26E-1.12) above	7:26E-1.14(c)

FAQs on this topic:

1. Is a Potable Well/Vapor Intrusion Sampling Notification Form required to be submitted for ongoing sampling of the same potable wells or can the form be submitted on a one-time basis?

If the same wells are being sampled on a routine basis, then the form only needs to be submitted 7 days prior to the first sampling event. A Potable Well/Vapor Intrusion Sampling Notification Form is only required to be submitted when a well or a building is going to be sampled for the first time.

2. What information or data is required to be evaluated in a well search?

The minimum requirement of the initial well search is to identify: 1) all wells within ½-mile from ground water contamination and 2) all irrigation, industrial wells and wells with a water allocation permit within 1-mile from ground water contamination. Monitoring well information from adjacent contaminated sites is not required to be mapped or submitted for the receptor evaluation. However, this information should be maintained because it may be important later during the remedial investigation.

The purpose of collecting and analyzing this information is to ensure that potable wells are identified early in the ground water investigation and sampled when required. In addition, the location, well logs, and construction of production wells identified in the well search are used to understand the local hydrogeology, and develop a hydrogeologic framework for the surrounding area to help define the scope of the remedial investigation of ground water. See “[Ground Water Technical Guidance: Site Investigation, Remedial Investigation and Remedial Action Performance Monitoring](#)” or “Guidance on Vertical Delineation of Ground Water Plumes” *Site Remediation News*, May 2001 p. 6. (<http://www.nj.gov/dep/srp/news/2001/srn200105.pdf>)

The first step is to identify community and non-community public supply wells, well head protection areas, and service areas for the water purveyors. This information is available on the NJDEP’s GIS data coverage. Coverage can be accessed at <http://www.nj.gov/dep/gis/geoweb splash.htm>.

A search of all available Department, county and local government well records is required. The Department has significant information on permitted wells that can be obtained by conducting an electronic radial well search at http://www.state.nj.us/dep/watersupply/well/well_search.htm. It is critical to check with the county and local health and environmental officials because they may have local well records and information that is not in the Department’s well records or databases.

When conducting a well search to determine ground water use in a particular area, it is important to know that there is no one comprehensive source of information that can be relied on to determine whether wells are present. The use of private ground water wells can vary from community to community and sometimes from house to house. For instance, in many highly urbanized areas of the State, ground water has not been used for potable purposes for decades and local ordinances prohibit the installation of new wells. In other communities, waterlines may exist but not all residents are connected. You cannot assume that private wells do not exist just because an area is serviced by public water lines. Therefore, multiple sources of information must be used to effectively evaluate water use in a particular area including Department well records, purveyor service area and detailed waterline information, NJDEP GIS resources, and municipal and county environmental records.

Mapping waterline and hookup information from the local purveyor or local government can also be an efficient way to determine areas or homes that are not supplied with public water. As noted above, the availability of public water does not necessarily mean that homes do not have wells in use.

4. What information needs to be submitted for a well search?

The well search must include the following:

- A map of all wells (except monitoring wells, borings and non-pumping wells) identified in the ½-mile and 1- mile radius searches.
- A spreadsheet of all wells identified and all the sources of records used to construct the search, including local or county health departments. **The template spreadsheet** can be downloaded at <http://www.nj.gov/dep/srra/forms>.

5. When is a door-to-door survey required?

A door-to-door survey is required when potable wells are identified in a well search based on the ½-mile well search. If there is any doubt if ground water is being used by nearby residents in a known contaminated ground water area, a door-to-door survey should be conducted when, in an area with waterlines, after checking with the water purveyor, it is determined that not everyone is receiving a water bill. Multiple sources must be used to eliminate the need for a door-to-door survey in an area with contaminated ground water. It is important to note that active private wells are often found in areas currently serviced by purveyors unless there was a specific local ordinance that requires people to close their wells before they are allowed to hookup to waterlines.

The scope of the door-to-door survey is 250 feet upgradient, 500 feet sidegradient and 500 feet downgradient of the known extent of ground water contamination when ground water flow direction is known. If ground water flow direction is not known, conduct a door-to-door survey within a 500-foot radius of the known extent of ground water contamination.

6. Based on the well search, which wells must be sampled and when should they be sampled?

The initial potable well sampling must include all potable wells within 500 feet unless the ground water flow direction is known and the sampling may then be limited to 250 feet upgradient, 500 feet side gradient and 500 feet downgradient of the ground water contamination. This sampling is required to be conducted within 120 days after ground water contamination is confirmed. If contamination above the ground water remediation standard is found in a potable well, it is an IEC condition and the remediating party must comply with the Department's IEC requirements at N.J.A.C. 7:26E1.11 and follow the [Department's IEC guidance](#). The remediating party must continue to “step out” and sample additional potable wells until clean potable wells are found.

Irrigation wells should be sampled when they may be used to water food crops or for recreational purposes. Samples from potable and irrigation wells shall be analyzed in accordance with N.J.A.C. 7:26E-2.1(c)2.

When it is obvious that people within 500 feet of the ground water contamination are using ground water for drinking or irrigation, such as when no waterlines are available in the area, the remediating party should proceed with sampling promptly rather than waiting for well search records.

7. How and when do you update a well search?

Once a thorough radius well search, pursuant to N.J.A.C. 7:26E- 1.14, has been completed the well search can be updated quickly and by using the same procedures that are used for CEA biennial certification. The procedures are outlined in the [CEA Biennial Certification guidance](#).

All well searches, including those performed for CEAs, are required to be updated every two years. The exceptions for updates to the well search are if a local ordinance exists to prevent new wells or the plume is fully delineated and entirely on site. In addition, the investigator should be cautious and reevaluate the well search in the area if there is any new building construction in areas without waterlines.

3. Vapor Intrusion (N.J.A.C. 7:26E-1.15)

Action	When	Forms	Other sources of info	N.J.A.C. Rule citations
<p>Conduct a vapor intrusion (VI) investigation when any of the following conditions exist:</p> <ul style="list-style-type: none"> • Volatile organic (VO) petroleum hydrocarbon based contamination in GW at a concentration greater than any VI ground water screening level (GWSL) within 30 feet of a building • VO contamination in GW (not petroleum based) at a concentration greater than any VI GWSL within 100 feet of a building • Free product is identified within 100 feet of a building and it is not petroleum hydrocarbon based ¹ • Free product is identified within 30 feet of a building and it is petroleum hydrocarbon based • Soil gas or indoor air contamination is detected at concentrations that exceed the applicable vapor intrusion soil gas or indoor air screening level • A wet basement or sump contains free product or GW containing VO contamination • Methane generating conditions are present that may cause an oxygen deficient or explosive environment • Any other information indicates that human health and safety may be impacted through the VI pathway 	<p>Begin VI investigation when site conditions noted in the Action column at left are present.</p>	<p>NA</p>	<p>Vapor Intrusion Technical Guidance</p>	<p>7:26E-1.15(a)</p>

<p>Conduct a VI investigation:</p> <ul style="list-style-type: none"> • Identify all buildings and subsurface utilities located within VI trigger distances (see above) • Determine the use and construction of each building identified above • Determine information regarding subsurface utilities • Identify if a landfill is present on or adjacent to the site and whether methane generating conditions are present • Determine shallow GW flow direction pursuant to N.J.A.C. 7: 26E-4.3 • Determine if free product is present pursuant to 7:26E-2.1(a)14 	<p>Within 60 days after determining need to conduct a VI investigation</p>	<p>NA</p>	<p>DEP Field Sampling Procedures Manual</p> <p>Vapor Intrusion Technical Guidance</p>	<p>7:26E-1.15(b)</p>
<p>Notify the Department of the VI sampling (indoor air or sub-slab)</p>	<p>No later than 7 days prior to sampling event</p>	<p>Potable Well/Indoor Air Sampling Notification form</p>	<p>Send submissions as outlined in the general and reporting requirements (N.J.A.C. 7:26E-1.12) above</p>	<p>7:26E-1.14(c)1</p>
<p>Conduct the required sampling:</p> <ul style="list-style-type: none"> • Collect appropriate number of samples at appropriate locations • Evaluate the results by assessing the multiple lines of evidence • Determine if the pathway is complete for each building 	<p>Within 150 days after determining the need to conduct the VI investigation</p>	<p>NA</p>	<p>Vapor Intrusion Technical Guidance</p>	<p>7:26E-1.15(c)</p>

<p>Submit to the Department:</p> <ul style="list-style-type: none"> All analytical results with full laboratory deliverables A copy of the results table and cover letter explaining the VI analytical results to each property owner, occupant (if applicable), local health department and the Department 	<p>Within 30 days after receipt of the analytical data</p>	<p>Full Data Laboratory Deliverables form</p>	<p>Send submissions as outlined in the general and reporting requirements (N.J.A.C. 7:26E-1.12) above</p> <p>Vapor Intrusion Technical Guidance</p>	<p>7:26E-1.5(d)</p>
<p>Submit to the following in electronic format directly to the NJ Department of Health (NJDOH):</p> <ul style="list-style-type: none"> Method TO-15 Unit Conversion Tables all indoor/ambient air (and sub-slab gas results if collected with indoor air) Maps and figures related to the vapor intrusion sampling A sample location spreadsheet 	<p>Within 14 days of receipt of analytical data</p>	<p>NA</p>	<p>Send to:</p> <p>LSRPIA_Submission@doh.state.nj.us</p> <p>DO NOT mail hard copies to the NJDOH</p>	<p>7:26E-1.15(h)</p>
<p>a. If the results are greater than any VI indoor air screening levels but less than or equal to VI rapid action levels (i.e., vapor concern)</p>				<p>7:26E-1.15(e)</p>
<p>Submit:</p> <ul style="list-style-type: none"> Notification of exceedances to the Department All VI analytical results, maps, figures, full data deliverables and form A copy of the results table and cover letter explaining the of the VI analytical results to each property owner, occupant (if applicable), local health department and the Department 	<p>Within 14 days after receipt of the analytical results</p>	<p>Vapor Concern (VC) Response Action Form</p> <p>Full Data Laboratory Deliverables form</p>	<p>NA</p>	<p>7:26E-1.15(e)1</p>
<p>Submit plan to address exposure and form describing proposed actions and monitoring plan (VC Mitigation Plan)</p>	<p>Within 60 days after receipt of the analytical results</p>	<p>Vapor Concern (VC) Response Action Form</p>	<p>Vapor Intrusion Technical Guidance</p>	<p>7:26E-1.15(e)2</p>

Implement the VI Mitigation plan	Within 120 days after receipt of the analytical data	NA	NA	7:26E-1.15(e)3
Submit the VI response action report to the Department (VC Mitigation Report)	Within 180 days after the receipt of the analytical data	Vapor Concern (VC) Response Action Form	Vapor Intrusion Technical Guidance	7:26E-1.15(e)4
Provide routine updates on the progress of the case as requested by the Department's case manager	NA	NA	NA	7:26E-1.15(e)5
Identify and sample all buildings within 100 feet of the impacted building and any other buildings at risk ("step out" approach)	NA	NA	Vapor Intrusion Technical Guidance	7:26E-1.15(e)6
b. If the results are greater than any the VI rapid action levels				7:26E-1.15(f)
Notify the Department of the IEC condition and conduct all required actions pursuant to 7:26E-1.11	Immediately (15 min)	NA	1-877 WARNDEP or 1-877-927-6773	7:26E-1.15(f)1 7:26E-1.11
c. If the results are greater than any the Department of Health notification levels for indoor air				7:26E-1.15(g)
Notify the Department of the IEC condition and conduct all required actions pursuant to 7:26E-1.11 Immediately notify the NJDOH, Consumer and Environmental Health Services and Indoor Air Environments Program	Immediately (15 min)	NA	1-877 WARNDEP or 1-877-927-6773 609-826-4950 Health Department Notification Levels Table 2 Vapor Intrusion Technical Guidance	7:26E-1.15(g) 7:26E-1.11
If potentially explosive conditions are identified in a building or subsurface utility, immediately notify: •911 •The Department •The NJDOH, Consumer and Environmental Health Services and Indoor Environments Program	Immediately (15 min)		911 1-877-WARNDEP or 1-877-972-6337 609-826-4950	7:26E-1.15(i)

Footnote

1. A vapor intrusion investigation is not required when #2 fuel oil or diesel oil is identified in ground water as free product within 100 feet of a building. In this case a ground water sample should be collected at a location between the known extent of the free product and the building. A vapor intrusion investigation will be required when volatile contaminants are present in the dissolved phase at concentrations that exceed the vapor intrusion ground water screening level within 30 feet of a building.

5. Ecological (N.J.A.C. 7:26E-1.16)

Action	When	Forms	Other sources of info	N.J.A.C. Rule citations
<p>Determine any environmentally sensitive natural resources (ESNR) are:</p> <ul style="list-style-type: none"> • Present on the site or AOC • Adjacent to the site or AOC • May be, have been, or are impacted by contamination from the site or AOC <p style="text-align: center;">AND</p> <p>Determine if contamination is present at the site or AOC in excess of any ecological screening criterion or aquatic surface water quality standard</p>	<p>See reporting timeframes in general and reporting requirements (N.J.A.C. 7:26E-1.12) above</p>	<p>Receptor Evaluation form</p>	<p>Guidance for Sediment Quality Evaluation</p> <p>Ecological Evaluation Technical Guidance</p> <p>DEP Field Sampling Procedures Manual</p>	<p>7:26E-1.16</p>
<p>If an ESRN is identified and contamination is present conduct a RI</p>		<p>Remedial Investigation Report form</p>		<p>7:26E-1.16(b)</p> <p>7:26E-4.8</p>

FAQ on this topic:

1. Do I have to redo the ecological evaluation when I submit an updated receptor evaluation with the remedial investigation report or the remedial action report?

Because there is limited information at the end of the site investigation when the ecological evaluation is initially conducted, the Department believes that it is important that the remediating party re-evaluate potential ecological receptors as more information is collected during the later phases of remediation. Often ecological receptors are identified during the remedial investigation when contamination is delineated. The updated Receptor Evaluation form should reflect this continuing evaluation.

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