

ZEBULON

NORTH CAROLINA

Gill Street Park

ENVIRONMENTAL ASSESSMENT

Agenda

- Introductions
- Park Update
- DEQ PRLF: Assessment Results
- DHHS: Lead Contamination
- Questions

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Introductions

WHAT TO EXPECT

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Park Update

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Existing Park Site









Established in the 1960s, Gill Street Park is Zebulon's second-oldest park, serving a 1.6-acre site with essential community amenities.

Currently Closed

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Gill Street Park



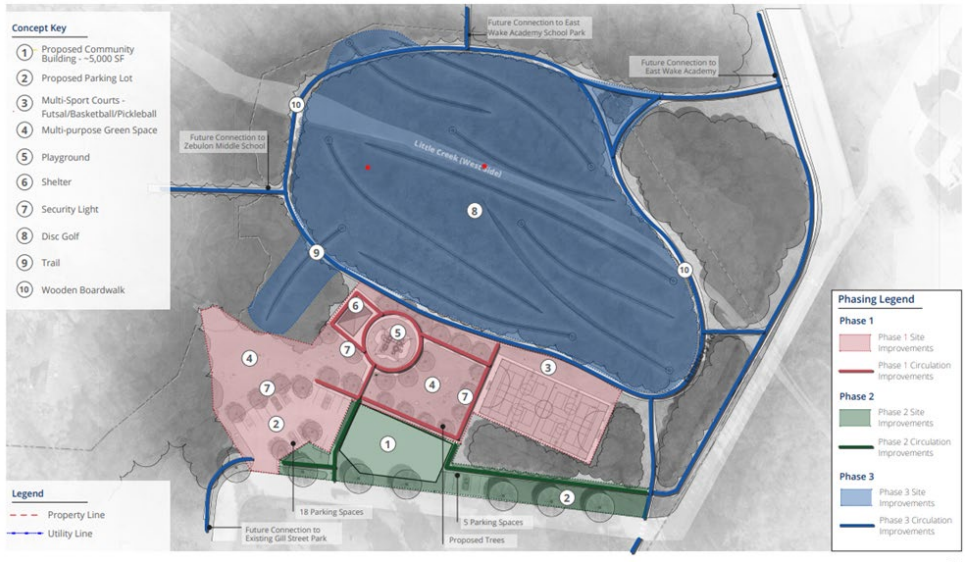


Park Expansion: Restoring Recreation

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- New Site: 5.7 acres
  - Borders 2 schools
- Outside of the landfill boundary
  - Phase 1: replace lost amenities



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Timeline

2024
- Plans
- DEQ Guidance
- Initial Testing
- Partial Closure
- Engaged PRLF

2025
- PRLF Assessments
- Park Master Plan

2026
- Phase 1 Designs New Site
- Assessment Results
- Park Closure

2027
- PRLF Reporting
- Phase I Construction: New Site*

2028 & After
- PRLF Action Plan
- Remediation*

* Pending Funding Availability

Department of Environmental Quality: Pre-Regulated Landfill Program

ASSESSMENT RESULTS



Department of Environmental Quality

Pre-Regulatory Landfill Program

Gill Street Park

ID# NONCD0000201



What is a Pre-Regulatory Landfill?





- Operated in communities across the state prior to regulations controlling disposal and management of waste.
  - 688 sites
- No landfill construction standards:
  - No landfill liners/barriers
  - No setbacks/buffers from roads, streams, etc.
  - No landfill closure requirements
- No disposal regulations
  - Hazardous/industrial waste
  - Medical waste
  - Asbestos containing material waste
- No reporting or long-term monitoring

What is the Pre-Regulatory Landfill Program?

- Collaboration between DEQ employees and consultants
  - DEQ geologists and engineers
  - Contracts with professional environmental consulting firms

- PRLF Program receives half of the state-wide solid waste disposal which is ~ $12 million per year to pay for:
  - Investigation (sampling to define waste extent and potential impacts)
  - Remedial action plan (plan to address waste and associated impacts)

- Annual income pays for approximately 2 remedial action plans per year

How Does the Pre-Regulatory Landfill Program Work?

- Determine the location and waste boundary
- Determine the extent of contamination beyond the waste boundary
  - Groundwater
  - Surface water
  - Landfill vapors
- Establish potential exposure/risk to receptors (humans and environment) for each landfill site, such as drinking water, contact with soil, breathing vapors
- Mitigate (reduce) and/or control risk to current or future receptors
  - Vapors entering structures
  - Drinking water treatment systems
  - Cover the waste with clean soil
  - Perpetual land use restrictions
  - Long-term monitoring of site

Resources Outside the Pre-Regulatory Landfill Program

- Waste and/or contamination found on private property
  - NC DEQ Contaminated Property: Issues and Liabilities Handout
  - Contact NC Real Estate Commission – (919) 875-3700

- Contact the following for health-related information:
  - County health department
  - North Carolina Department of Health & Human Services, Occupational & Environmental Epidemiology Branch – (919) 707-5900

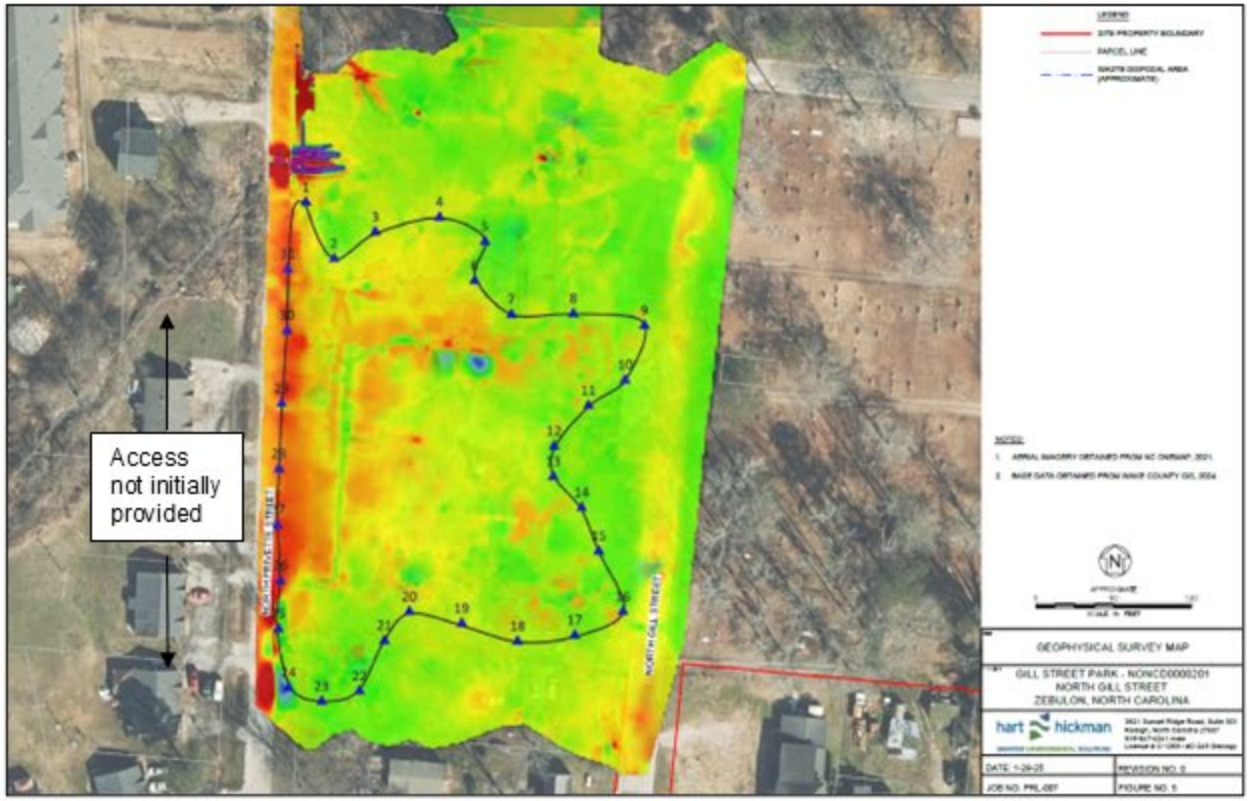
Gill Street Park (NONCD0000201)
600 N. Privette Street, Zebulon, NC



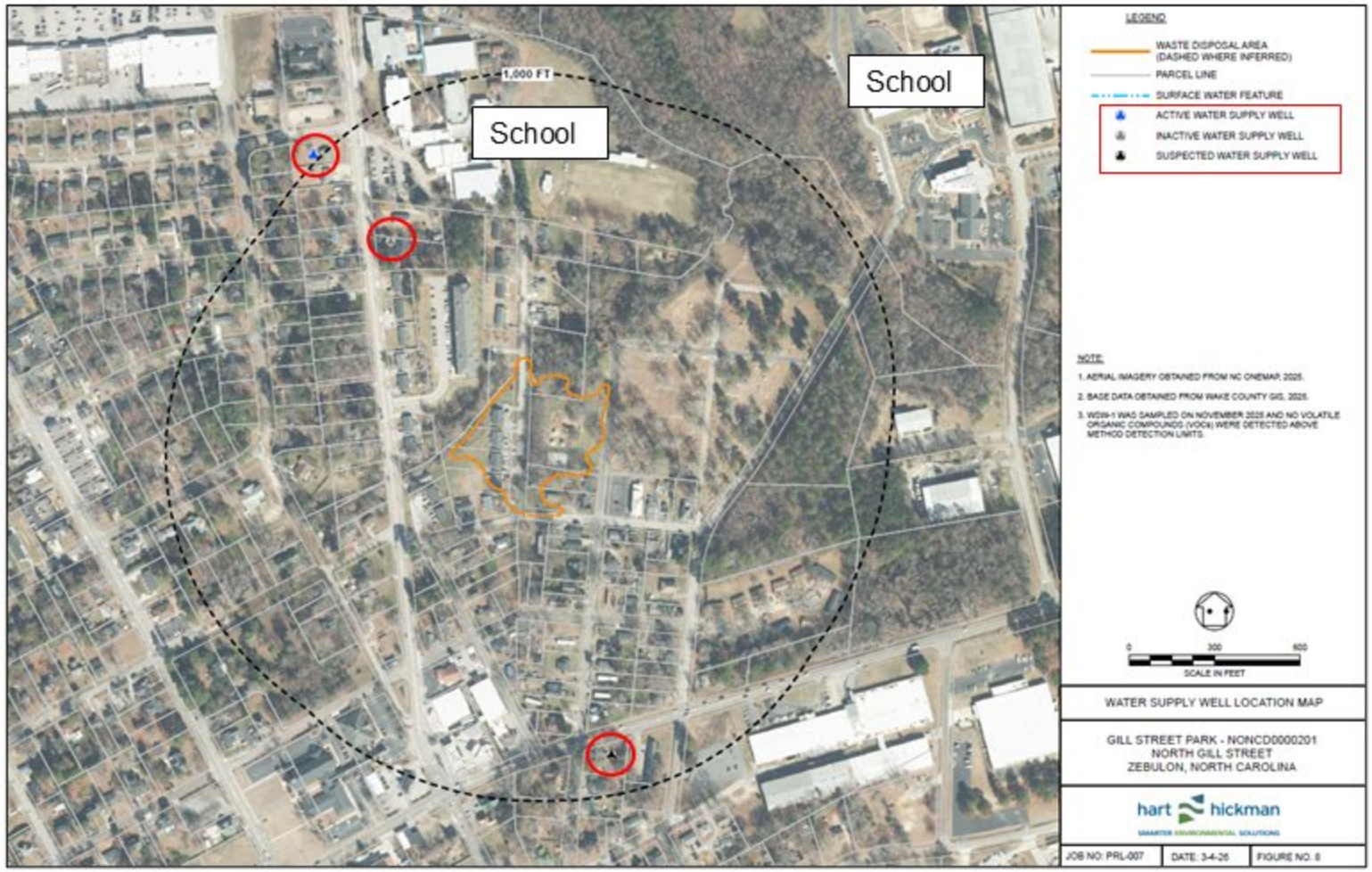
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Completed Task Orders – Gill Street Park

- Geophysical Investigation
  - Geophysical survey (instrument run over the land to find landfill waste beneath the soil surface) conducted to evaluate the horizontal extent of the waste disposal area (*where access was initially provided*)



Completed Task Orders – Gill Street Park



- Water Supply Well Information & Sampling
  - Three potential wells identified and one sampled
  - Residences connected to municipal water
  - Recent public mailing completed to identify any additional wells within 500 feet

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Completed Task Orders – Gill Street Park

- Waste Disposal Area Delineation
  - Based on the geophysical study, soil borings were advanced to outline the waste boundary
  - Distinguished surface debris and landfill waste beneath the surface from clean fill and native soil
  - Approximately 3.64+ acres
  - Additional waste disposal area delineation needed south of E. Stronach Avenue (*pending access*)



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Completed Task Orders – Gill Street Park

- Vapor Assessment and Monitoring
  - Permanent and temporary landfill gas/soil gas sampling locations installed across site
  - Volatile organic compounds (VOCs – chemicals that may be released into the air from products, soil, or water) are present but do not exceed applicable standards at residential properties
  - Quarterly landfill gas/soil gas monitoring on-going

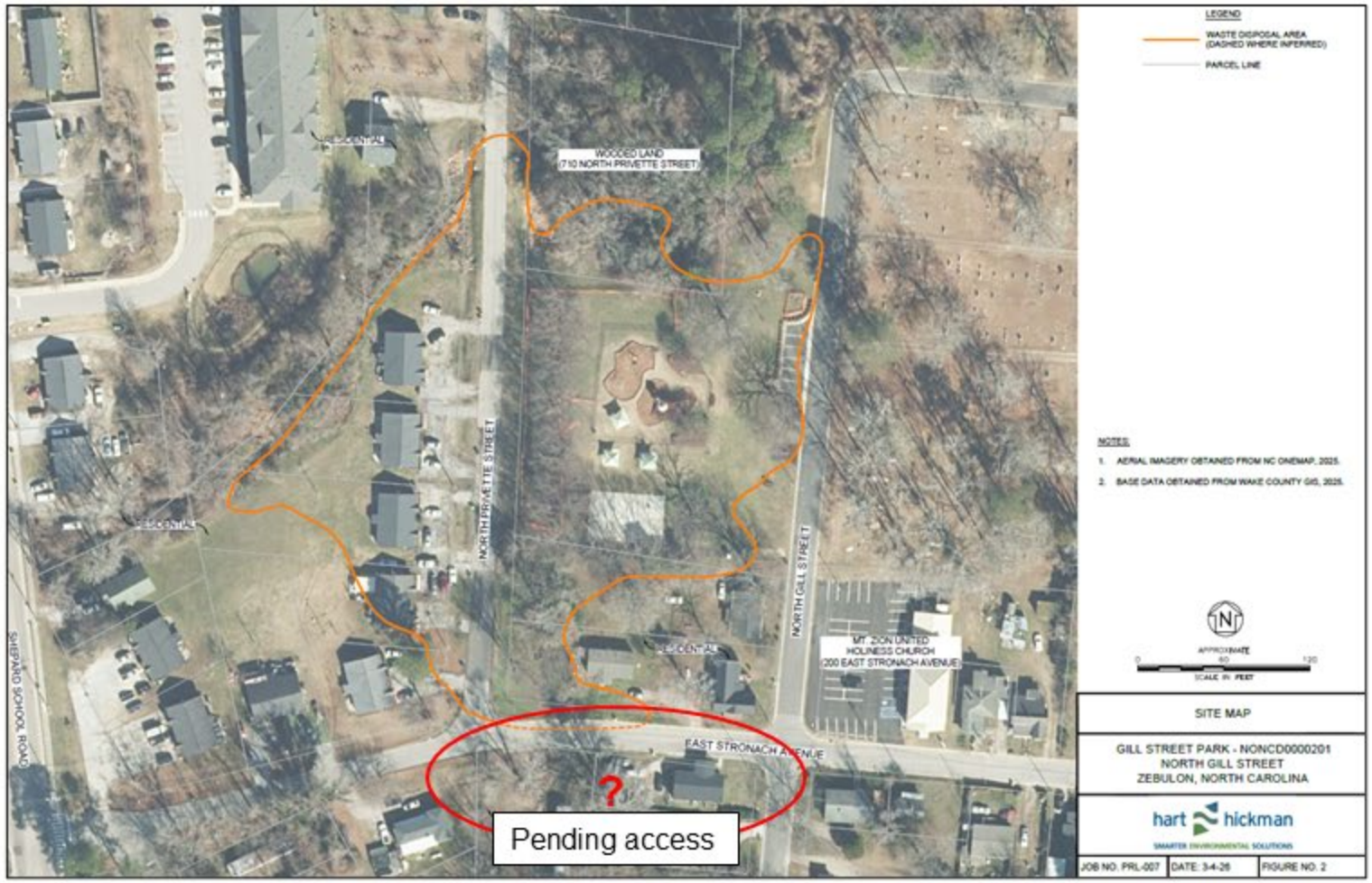
- Groundwater Investigation
  - A network of five monitoring wells installed/sampled to-date
  - Limited VOCs, semi-VOCs, and metals exceeded DEQ Groundwater Quality Standards
  - No ingestion risk (i.e., drinking wells) on-site or near the site
  - Quarterly groundwater monitoring on-going

Completed Task Orders – Gill Street Park



- Soil Cover Evaluation
  - Evaluated the soil above landfill waste (soil cover)
  - Areas identified with less than 12 inches of soil above waste (inadequate soil cover)
  - Identified areas of lead concentrations greater than 200 milligrams per kilogram or parts per million (residential standard)
  - Impacted properties notified

Next Steps – Gill Street Park



- Further waste disposal area delineation
  - April/May 2026
- Quarterly groundwater, surface water, and landfill gas/soil gas monitoring
  - April/May 2026 through January 2027

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Next Steps – Gill Street Park

- Remedial Investigation (RI) Summary Report (~Q2/Q3 2027)
  - Once all media (groundwater, soil, vapor, surface water) have been evaluated in accordance with DEQ guidelines, a RI Report will be prepared to summarize all activities completed to-date

- Preparation of draft Remedial Action Plan (~Q1/Q2 2028)
  - Recordation of land use restrictions & notice of environmental contamination for all affected properties
  - Installation of protective soil cover system (12 inches of soil covering landfill waste), where feasible
  - Public comment period for community input

Thank you

- PRLF Unit Project Manager
  - Zi-qiang Chen – (919) 707-8347; zi-qiang.chen@deq.nc.gov
- H&H Project Manager
  - Carlin Slusher – (919) 723-2517; cslusher@harthickman.com
- Additional contacts – see handout

Department of Health and Human Services

LEAD CONTAMINATION







NC Department of Health and Human Services

NC Public Health

Gill Street Park – Reducing Exposures to Lead

Dr. Arlinda Ellison

April 21, 2026

Disclaimer

- This presentation was made possible by a cooperative agreement program # CDC-RFA-TS-23-0001 from the Agency for Toxic Substances and Disease Registry (ATSDR). Its contents are solely the responsibility of the author and do not necessarily represent the official views of the ATSDR, or the U.S. Department of Health and Human Services.

The Basics About Lead

What is it?

- Metal naturally found in certain rocks and soil
- Also found in various consumer products toys, jewelry, fishing and hunting supplies, imported candy and spices, keys

How can it affect your health?

- Sensitive populations
  - Infants, children and pregnant women
    - Increase risk for miscarriage
    - Cause the baby to be born too early or too small
    - Harm the baby's brain, kidneys, and nervous system
    - Cause the child to have learning or behavior problems
- Adults – higher occupational exposures can be of concern
  - Headaches
  - Increased blood pressure
  - Stomach pain
  - Kidney damage

How to Reduce Exposure

You can take steps to limit your exposure to lead.

- Adhere to signs indicating where to not enter the park.
- Prevent tracking of lead dust into the home
- Change air filters in the house regularly
- Wash hands and face before eating and drinking

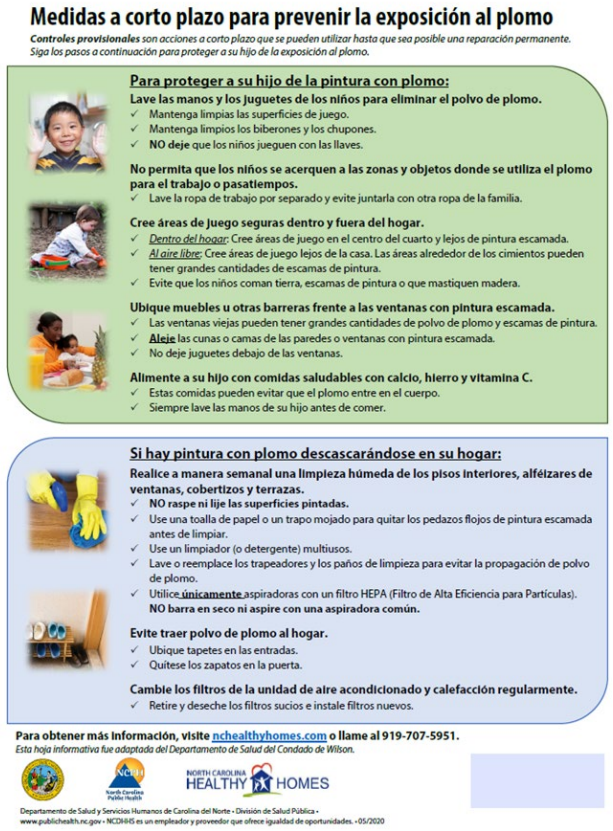
If you are concerned about you or your child's lead exposure talk with your healthcare provider to determine potential next steps.

- You can be tested for lead to determine if the level of lead in your body is a health concern.

Available Handouts

Available in English.

Disponible en Español



Medidas a corto plazo para prevenir la exposición al plomo

Controles provisionales *son acciones a corto plazo que se pueden utilizar hasta que sea posible una reparación permanente. Siga los pasos a continuación para proteger a su hijo de la exposición al plomo.*

Para proteger a su hijo de la pintura con plomo:

Lave las manos y los juguetes de los niños para eliminar el polvo de plomo.
- ✓ Mantenga limpias las superficies de juego.
- ✓ Mantenga limpios los biberones y los chupones.
- ✓ **NO deje** que los niños jueguen con las llaves.

No permita que los niños se acerquen a las zonas y objetos donde se utiliza el plomo para el trabajo o pasatiempos.
- ✓ Lave la ropa de trabajo por separado y evite juntarla con otra ropa de la familia.

Cree áreas de juego seguras dentro y fuera del hogar.
- ✓ *Dentro del hogar*: Cree áreas de juego en el centro del cuarto y lejos de pintura escamada.
- ✓ *Al aire libre*: Cree áreas de juego lejos de la casa. Las áreas alrededor de los cimientos pueden tener grandes cantidades de escamas de pintura.
- ✓ Evite que los niños coman tierra, escamas de pintura o que mastiquen madera.

Ubique muebles u otras barreras frente a las ventanas con pintura escamada.
- ✓ Las ventanas viejas pueden tener grandes cantidades de polvo de plomo y escamas de pintura.
- ✓ **Aleje** las cunas o camas de las paredes o ventanas con pintura escamada.
- ✓ No deje juguetes debajo de las ventanas.

Alimente a su hijo con comidas saludables con calcio, hierro y vitamina C.
- ✓ Estas comidas pueden evitar que el plomo entre en el cuerpo.
- ✓ Siempre lave las manos de su hijo antes de comer.

Si hay pintura con plomo descascarándose en su hogar:

Realice a manera semanal una limpieza húmeda de los pisos interiores, alféizares de ventanas, cobertizos y terrazas.
- ✓ **NO raspe ni lije las superficies pintadas.**
- ✓ Use una toalla de papel o un trapo mojado para quitar los pedazos flojos de pintura escamada antes de limpiar.
- ✓ Use un limpiador (o detergente) multiusos.
- ✓ Lave o reemplace los trapeadores y los paños de limpieza para evitar la propagación de polvo de plomo.
- ✓ Utilice **únicamente** aspiradoras con un filtro HEPA (Filtro de Alta Eficiencia para Partículas). **NO barra en seco ni aspire con una aspiradora común.**

Evite traer polvo de plomo al hogar.
- ✓ Ubique tapetes en las entradas.
- ✓ Quítese los zapatos en la puerta.

Cambie los filtros de la unidad de aire acondicionado y calefacción regularmente.
- ✓ Retire y deseche los filtros sucios e instale filtros nuevos.

Para obtener más información, visite nchealthyhomes.com o llame al 919-707-5951.

Esta hoja informativa fue adaptada del Departamento de Salud del Condado de Wilson.

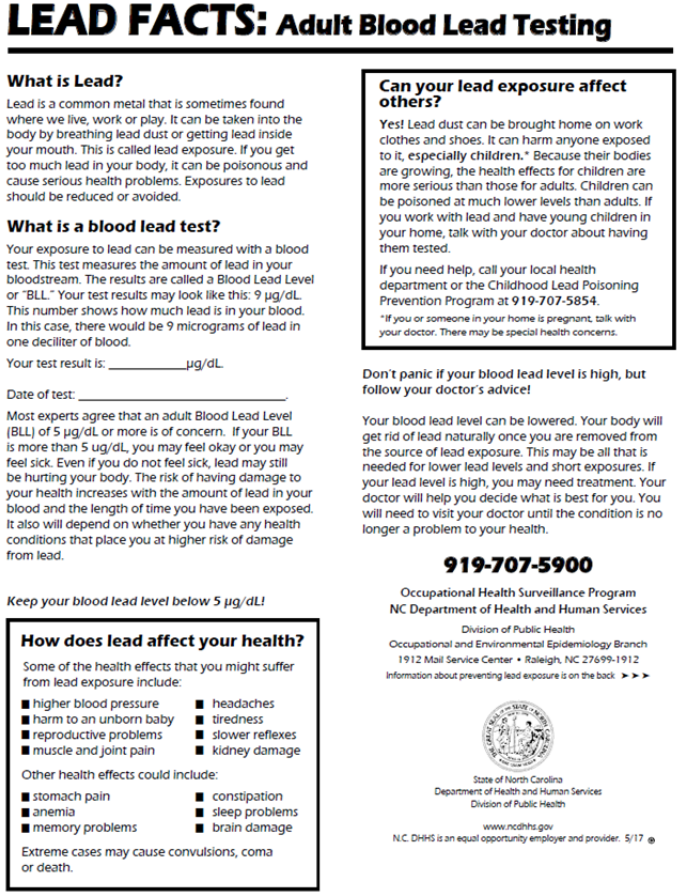
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Available Handouts

Available in English.

Disponible en Español



LEAD FACTS: Adult Blood Lead Testing

What is Lead?

Lead is a common metal that is sometimes found where we live, work or play. It can be taken into the body by breathing lead dust or getting lead inside your mouth. This is called lead exposure. If you get too much lead in your body, it can be poisonous and cause serious health problems. Exposures to lead should be reduced or avoided.

What is a blood lead test?

Your exposure to lead can be measured with a blood test. This test measures the amount of lead in your bloodstream. The results are called a Blood Lead Level or "BLL." Your test results may look like this: 9 µg/dL. This number shows how much lead is in your blood. In this case, there would be 9 micrograms of lead in one deciliter of blood.

Your test result is: _____µg/dL.

Date of test: _____.

Most experts agree that an adult Blood Lead Level (BLL) of 5 µg/dL or more is of concern. If your BLL is more than 5 ug/dL, you may feel okay or you may feel sick. Even if you do not feel sick, lead may still be hurting your body. The risk of having damage to your health increases with the amount of lead in your blood and the length of time you have been exposed. It also will depend on whether you have any health conditions that place you at higher risk of damage from lead.

Keep your blood lead level below 5 µg/dL!

How does lead affect your health?

Some of the health effects that you might suffer from lead exposure include:

- higher blood pressure
- harm to an unborn baby
- reproductive problems
- muscle and joint pain
- headaches
- tiredness
- slower reflexes
- kidney damage

Other health effects could include:

- stomach pain
- anemia
- memory problems
- constipation
- sleep problems
- brain damage

Extreme cases may cause convulsions, coma or death.

Can your lead exposure affect others?

Yes! Lead dust can be brought home on work clothes and shoes. It can harm anyone exposed to it, **especially children.*** Because their bodies are growing, the health effects for children are more serious than those for adults. Children can be poisoned at much lower levels than adults. If you work with lead and have young children in your home, talk with your doctor about having them tested.

If you need help, call your local health department or the Childhood Lead Poisoning Prevention Program at **919-707-5854**.

*If you or someone in your home is pregnant, talk with your doctor. There may be special health concerns.

Don't panic if your blood lead level is high, but follow your doctor's advice!

Your blood lead level can be lowered. Your body will get rid of lead naturally once you are removed from the source of lead exposure. This may be all that is needed for lower lead levels and short exposures. If your lead level is high, you may need treatment. Your doctor will help you decide what is best for you. You will need to visit your doctor until the condition is no longer a problem to your health.

919-707-5900

Occupational Health Surveillance Program
NC Department of Health and Human Services
Division of Public Health
Occupational and Environmental Epidemiology Branch
1912 Mail Service Center • Raleigh, NC 27699-1912

Information about preventing lead exposure is on the back ➤➤➤

State of North Carolina
Department of Health and Human Services
Division of Public Health

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Questions

Thank You!

MOVING FORWARD TOGETHER.